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Section 1

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Building sustainability in an Indigenous family owned SME in northern Australia: Overcoming operational barriers in a housing construction venture

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Abstract

Identifying pathways for small to medium sized enterprises (SMEs), as potential entrants to the international market place, encourages evaluation how entrepreneurial activity can overcome encountered barriers to economic development. In an expression of commitment to improving the socio economic welfare of Indigenous people the Australian Government is encouraging Aboriginal involvement in entrepreneurial ventures, and integrating this notion in a local housing construction business has potential to improve the persistent poor living conditions in remote Australian Aboriginal communities. This paper describes an accommodation building programme initiated by the Yolngu people of East Arnhem Land of Australia, and with illustrations shows location and achievements. Revealing how the literature specified barriers to Australian Indigenous entrepreneurship were overcome provides a pathway worthy of consideration by rural Indigenous communities intending to engage in entrepreneurship, with vision to extend the life cycle of the firm into international markets.

Keywords: Indigenous; entrepreneurial; Aboriginal; housing; Australia; Internationalisation,

Introduction

Entrepreneurship, small and medium sized enterprises (SMEs), and international business are inextricably bound. The entrepreneurship literature has focussed on individual aspects (Brockhaus, 1980; Kirzner, 1979), while international business has concentrated on the company in traditional approaches (e.g., Uppsala model, Johanson and Vahlne, 1977; innovative based model, Cavusgil, 1980; internalisation theory, Rugman, 1980; eclectic paradigm, Dunning 1980; industrial network approach, Johanson and Mattsson, 1986) to provide assumptions about market conditions and competitive advantage. Emergence of the world economy has rapidly promoted interest in international entrepreneurship to better understand how firms are to acquire superior financial performance in perspectives that are refuting the applicability of the traditional frameworks (McDougall, Shane and Oviatt, 1994; Oviatt and McDougall, 1994). Indeed, connections between SMEs and their contribution to the free market economy and productivity are being observed in arrangements significantly different to the extent literature (OECD, 2005; Kukoc and Regan, 2008; Stringfellow and Shaw, 2008). The progression of SMEs in environments of accelerating product volatility and competitive change oblige hastening of design and productive processes in the pursuit of new customers (Nummela, Saarenketo and Puumalainen, 2004; Lutz, Kemp and Dijkstra, 2010). But operating in these domains compels SMEs to innovate, and acquire knowledge, skills and abilities by engaging talented employees as a source of competitive advantage (Hartmann, Feisel and Schober, 2010; Lewis and Heckman, 2006). Sustainability in the new market conditions is concomitant on capability and resources, and acquiring them can become a substantial barrier for SMEs in a globalised world.

Despite a proliferation of interest in investigating SME entrepreneurial behaviour for coping with the complexities of entry to globalised markets the evidence shows the process is precarious. In fact, there is only a

generalised understanding how SMEs pathway through experienced market entry barriers (Coviello and Jones, 2004, Dijkstra, Kemp and Lutz, 2006, Stringfellow and Shaw, 2008). Evaluating a great deal of research from the 1980s, has led commentators to identify barriers that can hamper entry of entrepreneurial firms to the market as structural (McAfee, Mialon and Williams, 2004), and strategic (Robinson and McDougall, 2001). Lutz, et al. (2010) found this too blunt an instrument and in a study with 1170 SMEs were able to identify 23 items, which were factor reduced to the seven most important dimensions (i.e., capital, distribution, strategic action, research and development, advertising, government regulations and product differentiation), that are likely to hamper the entry of a SME to the market. Other scholars (Oviatt, Shrader and McDougall, 2004; Zahra and George, 2002) earlier proposed the prime factors determining the rate of global market entry are contained in the three dimensions of environmental influences, organisational attributes, and the personal characteristics of the entrepreneurs. Other attempts (McElwee and Warren, 2000; Ram and Carter, 2003) to precisely identify market barriers have specified staff training, insufficient infrastructure, limited social and economic capital, strategic planning and business acumen. The relationship between entrepreneurial activity and national economic growth (Van Stel, Carree and Thurik, 2005; Acs and Storey, 2004) provides strong incentive to determine if some of the numerous overlapping identified barriers can be reduced in number. Dacin and colleagues (2010) succinctly state this view when they write "... entrepreneurship researchers and practitioners could benefit from a stronger dialogue and understanding of entrepreneurial failure." (p. 51).

The phenomenon of the increasing rate of internationalisation of SMEs challenges the different viewpoints of the traditional theories of international entrepreneurship. Barriers to market entry constitute an important issue in entrepreneurship, and relevance for the salient dimensions might be availed in the considerable work that has been done by scholars in the Australian Indigenous entrepreneurship literature. This information has potential to yield valuable insights how entrepreneurs of SMEs might better understand the distinct elements that place their firm at a disadvantage when operating in the international sphere.

The primary purpose of this paper is to report the achievements of an Indigenous building construction programme. The pursuit of this vision is through the medium of a fledgling business venture that amalgamates the milling of timber and an inaugural house construction business venture by the Yolngu clan, who are the Indigenous people in the remote region of East Arnhem Land in the Northern Territory (NT) of Australia. Detail is given about the venture partners together with identified barriers to Australian Indigenous enterprises that were surmounted by the participants to facilitate the Indigenous entrepreneurial project.

The manuscript is presented in seven parts. After the Introduction (the first part) is highlighted key core elements of the entrepreneurial building programme. The third section of the paper presents with text and a table indicators of socio economic inequality (the forecasted drivers of entrepreneurial activity), Australian government strategies for addressing Indigenous disadvantages, the literature identified barriers to Australian Indigenous entrepreneurial venturing, and how these obstacles were circumvented by the Yolngu Gumatj clan. In the fourth part of the manuscript the programme context is described, and this is followed by the results as text and illustrations. The final sections (six and seven) draw out some of the prominent features of the regional impending entrepreneurial activities and the forces that have played a central role in formulating the local operational framework.

Pillars of the enterprise

The intensity of Australian Indigenous entrepreneurship is a function of political, personal and contextual criteria. Australian Aboriginal affairs policy shifted focus from assimilation to a policy construct of self determination during the late 1960s by the Holt Coalition Government (Smith, 2006). This radical departure, from the previous Colonial policy of assimilation (Anderson, 2007), was adopted in 1972, to lessen Indigenous Colonial dependency, to install within the Aboriginal people a degree of political autonomy, and to introduce new arrangements for an opportunity for self management by Indigenous people. The legislation, which was pivotal in removing the previously imposed harsh restrictive controls on Indigenous commercial activity (Sanders, 2002), had been preceded by the Commonwealth Capital Fund for Aboriginal Business Enterprises. This funding initiative, which was devised by

Coombs (1993) in 1968 to alleviate Indigenous rural unemployment, enabled government agencies to provide finance for Aboriginal enterprises. Subsequent Commonwealth political actions have directed attention to recognition of self determination and self management of Australian Aboriginal people. Notable, was the establishment of Indigenous Business Australia (*Australian Government, 2007*), which was a political endeavour to demonstrate commitment to facilitating Indigenous entrepreneurial partnerships with Australian business. Practical endeavours by the government to successfully develop Australian Indigenous enterprises can be found in reports (*Submission, 2001; Cape York, 2005*), the publication of brochures advising how to initiate a business as well as rebranding employment facilities (e.g., Indigenous Training Employment Centre) to give assistance in generating Indigenous business proposals. Despite these various political initiatives there is scant literature about successful Indigenous Australian entrepreneurs (Martin and Liddle, 1997; Foley, 2006a; Whitford and Ruhanen, 2010).

There is substantial evidence from Western based studies providing intuitive appeal that personal attributes are likely drivers of entrepreneurial behaviours (Shaver and Scott, 1991; Pearson and Chatterjee, 2001; Dana, 2007). In spite of these findings their relevance is restricted in Australian contexts as most Indigenous adults in remote regions of Australia do not articulate well in English literature, as their spoken English can be a second or third language, while their numeracy competencies are also extremely lower than non Indigenous Australians, particularly in the NT (Bradley et al., 2007; Elliott, 2009; Hughes, 2009). And although there is a deficit of evidence about outcomes of Australian Indigenous business ventures (Foley, 2003; Furneaux and Brown, 2007), Russell-Mundine (2007) has reported the success rate of Indigenous tourism enterprises, which is one of the more popular and prominent forms of Australian Indigenous businesses (*Open for Business, 2008*), is abysmal. Consequently, understanding how to facilitate entrepreneurship with Indigenous Australians might be better served by examining anecdotal or historical information where success in Indigenous entrepreneurial activity has been recorded, and this approach is adopted by outlining the business activity that has been undertaken by the Australian Indigenous Yolngu people across hundreds of years. Currently, the Gumatj clan of the Yolngu people of East Arnhem Land of the NT of Australia are one of the contemporary leading Indigenous entrepreneurial groups (e.g., Yothu Yindi international musicians). Later, in the paper, is described how their forebearers, who occupied the land some 50,000 years ago, were undoubtedly, the first Australian international traders. The personal attributes that link the historical periods of past and present may be a legacy of commitment to secure better living conditions by engaging in entrepreneurial action.

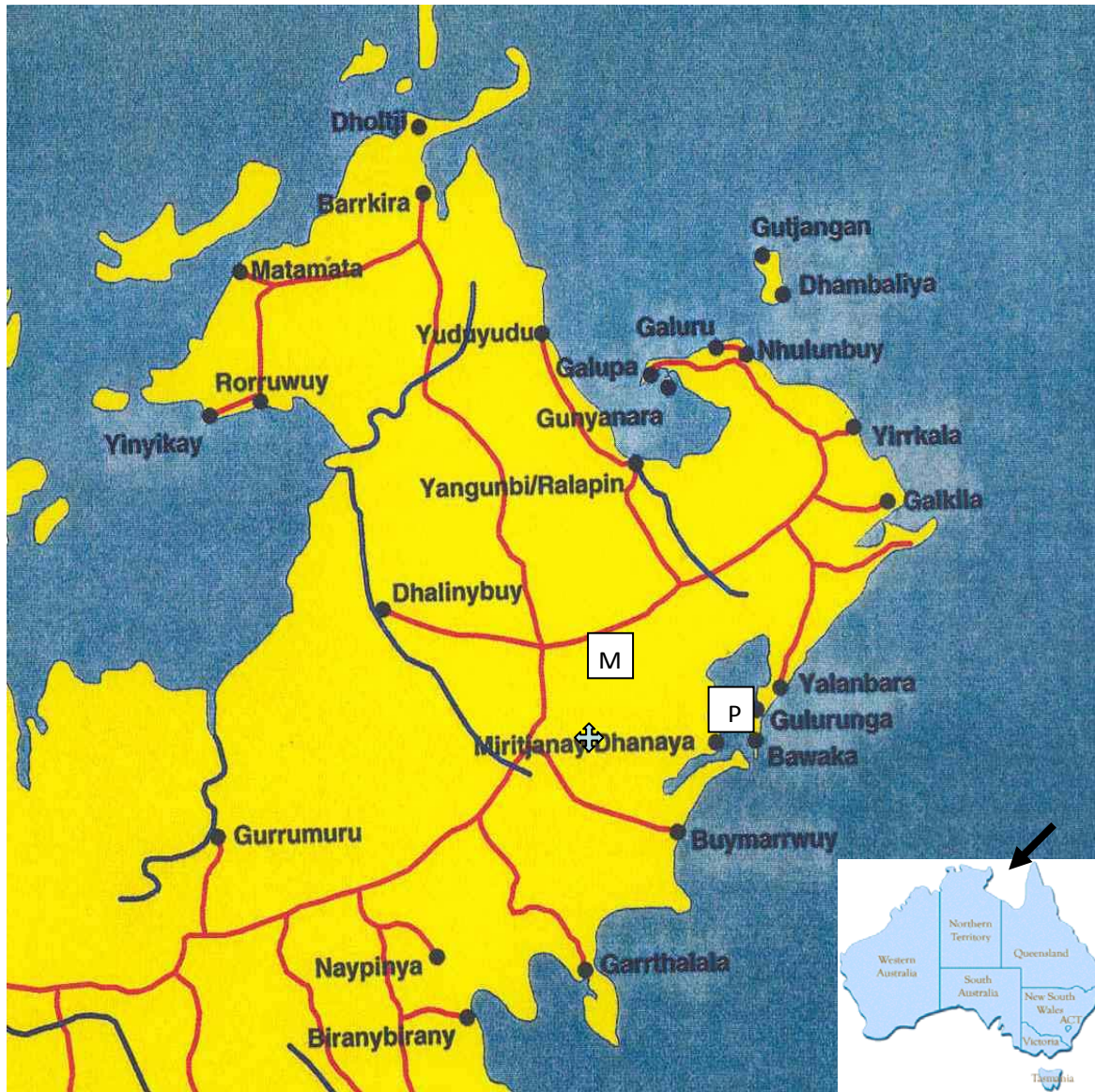
Despite widespread support for Australian governments to reduce the inequality between Indigenous and non Indigenous Australians limited progress is often recorded. For instance, some evidence (Altman, Biddle and Hunter, 2005; 2008) has been presented to show improvement across some socio economic indicators, but other concerns have been raised about monitoring techniques (Pholi, Black and Richards, 2009) or how 'closing the gap' is affected by variations in social and economic conditions (Hunter, 2009a). There are also structural impediments (e.g., layers of bureaucracy) that appear to have strangled the strategic Indigenous Housing and Infrastructure Programme that was an initiative from the 2007 Intervention (Maddison, 2008). An ambitious \$A 672 million project, that was to address chronic housing problems of Indigenous people in remote communities of the NT became an embarrassment to the current Australian government (Mercer, 2009) as while 10 to 20 percent of the funds had been consumed in administrative arrangements a minimal amount of the house construction programme was completed by the close of 2009 (Toohey, 2009). Understandably, this presents an opportunity for Yolngu people to undertake entrepreneurial engagement in housing construction and reduce their dependency on government welfare.

Creating the entrepreneurial business of housing construction, by the Gumatj people, who are one of the prominent 13 Yolngu clans in East Arnhem Land, is embedded in existing social structures and cultural connections with the country. The process of forming a business group within the arrangement of the clans aligns nicely with the concept of community based enterprise as defined by Peredo and Chrisman (2006: 309) as "... a new enterprise embedded in existing social structures.". And while the immediate goal of the business is to pursue economic benefits and regular skilled employment for the participants there is also opportunity to yield substantial advantages to others (both within the clan and the wider community) who may live in the constructed dwelling. However, an overt focus on economic features to the detriment of "socio cultural and environmental issues" (Whitford and Ruhanen, 2010: 491) may account for the failure of many Indigenous entrepreneurial ventures (Peredo and McLean,

2010). An important feature of the Yolngu entrepreneurial business venture is an opportunity for the Indigenous people to work on their ancestral lands, with which the clan has maintained strong and religious connections (Altman, 2003; Yunupingu, 2009) for over 55,000 years. Harvesting the timber for the housing construction is done by the Yolngu, not by employing modern 'efficient' clear felling methods, but by the selective removal of mature trees and allowing adjacent trees to mature. The reoccupation of their land and undertaking the entrepreneurial activity within the savannah forest employs a core business strategy of integrating conservation development and ecological sustainability.

It is widely recognised that certain concepts are linked with business success. Some of these concepts, such as the management of people, access to funding, linkages with industry, appropriate production processes as well as effective systems for sales and marketing might be conveniently grouped into a construct of business acumen. A lack of acumen, creativity, vision and innovation has often been associated with the failure of Australian small business and particularly Indigenous endeavours (Ivory, 1999; *Submission*, 2001; Flamsteed and Golding, 2005; Foley, 2006a). To optimise a successful outcome for the Indigenous business endeavour of housing construction the Gumatj Corporation adopted a strategy that accommodated a diverse set of macro environmental conditions, social arrangements and cultural values that are vital for fostering entrepreneurial activity (Tsang, 1996; Rahman, 1999; Morris, 2000). For instance, industry links were made with Forestry Tasmania to provide training and instruction in the timber production processes, the Architectural School of the University of Tasmania provided construction drawings and milled timber lists initially for the bunk house (and subsequently for a four bedroom home), political support was sought from the three levels of government (Federal, State, Local) to ensure provision of field service and a reduction in bureaucratic procedures, and Fairbrother Builders as specialists in building and construction supervised the building of the bunk house, while the Gumatj Corporation provided most of the funding from mining royalties. There were some subsidies from the Commonwealth government's Jobnet work programme. Furthermore, the land on which the venture was undertaken was owned by the Gumatj clan.

A latent dimension of the entrepreneurial enterprises is contemporary Yolngu hold a business legacy from their traditional society. There is historical evidence the Dutch explorer Jan Van Carstens, explored the shoreline of East Arnhem Land in 1623, to be followed by a notable Australian seafarer Abel Tasman in 1644, and later in 1803 the British explorer Mathew Flinders engaged with the Indigenous people of Arnhem Land. Business activity was heightened in the 17th century when the Macassarese, from Malaysia, Indonesia, and Sulawesi (Celebes) traded with the local Yolngu clans (Worsely, 1955; Rose, 1987; Trudgen, 2000), in addition to regional trade between the clans (Berndt and Berndt, 1999). Clearly, the Yolngu employed business concepts long before the management/business texts were written, and international trade only ceased in 1907 by direction of Australian governments (Ivory, 1999; Anderson, 2007). Nearly a century later particular arrangements of entrepreneurial activity have emerged, predictably as forecasted by Dana (1995), who contended Indigenous communities respond quite differently to traditional entrepreneurial frameworks when an opportunity is presented. The business enterprise being undertaken by the Yolngu is in a remote region of Australia, and geographical points of interest, that will be nominated in the paper, are shown on the map, that is presented as Figure 1.




Note: Locations  = Garrathiya, P = Port Bradshaw, and M = Milling site.

FIG.1: REGION OF THE CASE STUDY AND PLACES OF INTEREST

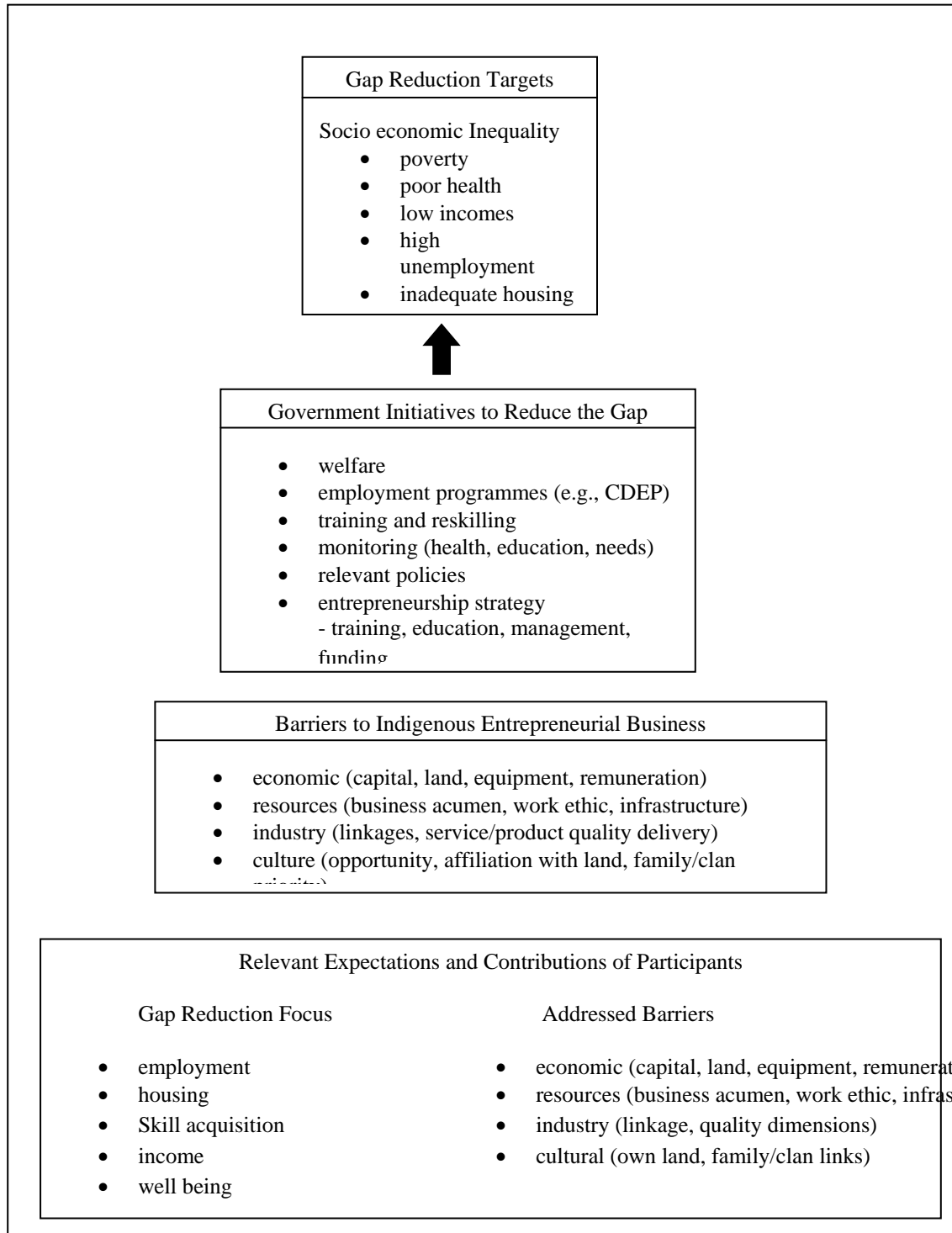
Australian Indigenous entrepreneurial barriers

Indigenous entrepreneurship operates in a setting of three contextual sectors. A primary contextual sector is the notion of closing the gap in socio economic disadvantage of Indigenous Australians (Altman, 2009; Pholi et al.,

2009). In this sector is contained the persistent manifestations in Indigenous communities (Gray and Hunter, 2002; Altman et al., 2005) of lower incomes, higher unemployment rates, extreme poverty, poor health quality, inadequate housing, relatively low levels of formal education and high incarceration rates, which are states the Australian government is committed to improve (Hunter, 2009a). The second sector represents the initiatives that demonstrate the Australian government's commitment to close the gap in Indigenous disadvantage in the broad fields of health (e.g., child mortality, life expectancy), education, and employment. The government agenda to address the inequalities between Indigenous and non Indigenous Australians, which is contained within policy formulation, performance monitoring and reporting (*Indigenous Education*, 2007; Pholi et al., 2009), can be articulated as welfare, employment and training programmes incorporating entrepreneurial support as well as indicators to assess the effects of these interventions. A third important sector is the barriers that are encountered by programmes that are installed to reduce the socio economic inequality experienced by Indigenous citizens. These barriers have been regularly specified in the literature (*Submission*, 2001; *Cape York*, 2005; *Open for Business*, 2008).

Commitment by the Australian Federal Government to encouraging Indigenous entrepreneurship is driven by a belief financial independence will provide relief from a number of endemic disadvantages. This notion has recently attracted a flood of discourse about 'closing the gap' in socio economic disadvantage between Indigenous and non Indigenous Australians, and the material embraces a wide range of issues. For instance, higher rates of poverty (Altman, 2000, Hunter, 2009b), poorer health (McDonald et al., 2008; Pholi et al., 2009), inequality in income and employment (Hunter and Taylor, 2001, Hunter, 2009a), fewer job opportunities (*Cape York*, 2005; Cutcliffe, 2006), inadequate housing and infrastructure (Tripcony, 2000; Altman and Jordan, 2009; Toohey, 2009), and inequality in education and training (Hughes, 2009; Wallace et al., 2009) are listed in the top rectangle of Figure 2. These dimensions, which reveal the inequality between Indigenous and non Indigenous Australians, provide what Peredo and colleagues (2004) contend are the initiators or motivators for Indigenous people to improve themselves beyond economic circumstances and align with "... the larger agenda of rebuilding their communities and nations and reasserting their control over their traditional territories." (pp.5). A pragmatic assumption of the Australian government is the differences in these indicators, between Indigenous and non Indigenous society are likely to be reduced by a variety of policies that can generate employment opportunities. The major streams of this notion are shown in the second from top rectangle of Figure 2. The focus of this paper is on the entrepreneurship strategy.

FIG. 2: A FRAMEWORK FOR THE GAP REDUCTION WITH AN INDIGENOUS HOUSING CONSTRUCTION BUSINESS VENTURE



Despite a range of initiatives to stimulate Australian Indigenous owned and operated businesses few are successful. Indeed, Buultjens and colleagues (2010) state Indigenous tourism, the most prevalent of all Australian Aboriginal small businesses, is "... extremely fragile and tenuous." (pp. 598), with the majority not surviving for five years. Delineation for their likely failure is provided by Russell-Mundine (2007) who tabulated the four dominant barriers; 1) economic (capital, land), 2) resources (business acumen, work motivation), 3) industry (industry requirements versus delivery capacity), and 4) cultural values. Identification of these obstacles to successful entrepreneurship, sharpened by evidence of Australian Indigenous chronic poverty as well as knowledge these people are often deprived from improving their lifestyles, relevant policies and programmes have been installed by Australian governments to encourage and support Aboriginal entrepreneurship. Currently, the Australian government provides resources in terms of training, industry assistance and access to finance under conditions of stringent commercial eligibility (Foley, 2006b; *Australian Government*, 2007) to Indigenous communities, and especially those in remote areas. But many of the people lack personal and contextual attributes, that are vital for governance and compliance with regulatory requirements (Foley, 2003; 2006b; Furneaux and Brown, 2007; Buultjens et al., 2010). A summary of the inhibitors are presented in the third rectangle of Figure 2.

In the fourth (bottom) rectangle of Figure 2 is outlined the entrepreneurial strategy for balancing Indigenous expectations of gap reduction and overcoming the barriers in their Indigenous setting. In the left hand side of the rectangle is captured the gap reduction targets that were the focus when the Gumatj Indigenous people undertook modern dwelling construction systems in their natural homelands. The right hand side of the rectangle shows the barriers they were able to overcome. Some barriers were reduced through political connections and industry affiliations through the leadership given by the clan leader Galarrwuy Yunupingu. Other barriers were sidestepped by importing external resources that provided specific expertise for the duration of the project. Some barriers, such as capital (financial and social) were provided by the Gumatj Corporation, and clan members, or natural resources (land, timber) were available, and more specific details follow.

Methodology

Site

The construction site of the five room bunkhouse is at the Garrathiya cattle station. This location is just over 100 km by road south, south west of Nhulunbuy, and 20 km west of Port Bradshaw. The harvesting of the timber for the construction of the bunk house was undertaken in the savannah forest some 10 km north of Garrathiya. However, access between the two destinations was by the unsealed East Arnhem Road and a bush track (and across creek beds) for a distance of some 20km.

Participants

There were four key groups of participants. Forestry Tasmania provided on site personnel who gave instruction, training and supervision how to operate the Lucas mills, and how to size and grade the sawn timber. The second key group was the School of Architecture, of the University of Tasmania, that designed and prepared the construction plans as well as the quantity list of timber sizes for the bunk house. Subsequently, the School of Architecture has completed a set of plans for the construction of a timber four bedroom house. The third group was Fairbrother Builders, a Tasmanian firm that specialises in building and construction. Fairbrother Builders supervised the construction of the bunk house and provided training and guidance for the 18 Gumatj workers at the project site. The fourth set of participants was the Gumatj people. There was one group of 10 Yolngu people who selected and felled the trees and milled the logs for timber that was used in the construction of the bunk house. There was a second group of 18 Yolngu people who intermittently worked at Garrathiya constructing the bunk house.

Apparatus

The milling of the timber was undertaken by a team of 10 Yolngu people. One group of four members felled the trees (two are certified timber fellers), dragged the 13 metre logs by end loader to a docking station where

the ends were trimmed square and the log was cut into two logs each one of 6.1 metres length. These logs were then transported by the front bucket by the end loader to one of two Lucas mills. Each Lucas mill is operated with a team of three Yolngu people. These people debark the log, fasten the log to the bed of the Lucas mill with wooden wedges and then mill the log to the required size (e.g., 150mm× 75mm, 75mm× 25mm). The sawn timber is stacked for drying and the stacks are bound with steel strap for transporting to the construction site.

A Lucas mill has a number of favourable features. The mill is manufactured in Australia for a price of about \$19,000, so it is readily available for a reasonable price. A second feature is a Lucas mill can be dismantled in about 20 minutes, transported on a motor truck to a new location where it can be reassembled in about 30 minutes. Another aspect is a Lucas mill can saw logs up to 6.1 metres in length, and mills can be coupled in line to cut longer length logs. The relative ease of adjusting the circular saw blade horizontally and vertically is a fourth desirable feature. Rotating the blade is undertaken with a small joy stick and the depth or width of the saw cuts is done by the team members adjusting moveable parts.

Sawing the log requires the operator to walk the length of the log pushing a horizontal bar. On this bar is the motor and the saw blade assembly. The horizontal bar has wheels at the ends, and these wheels are guided to run on beams that run the length of the Lucas mill. Figure 3 shows these components as an operator mills a log. After the log is debarked it is fastened to the bed of the Lucas mill with timber wedges. The operator makes horizontal or vertical cuts by setting the blade and walking the length of the Lucas mill pushing the horizontal bar. When the scantling (scrap) or timber planks are cut the two assistants remove the sawn material.

FIG. 3: OPERATING A LUCAS MILL IN THE SAVANNAH FOREST OF EAST ARNHEM LAND



The timber being milled is *Encalyptus Tetradonta*. This timber, which comprises most of the savannah forest of East Arnhem Land, has the tradename of NT stringy bark. The timber is relatively dense at 1.4 tonnes per cubic metre when 'green'. When cut the timber is a deep red chocolate brown, similar to the heart wood of Western Australian jarrah, and dries to a deep brown colour. Mature trees grow to about 0.3 metre diameter at the bowl, the distance to the first branch is about 15 metres, and as the trunk only tapers slightly the sawn timber is knot free and there is little wastage.

Results

The five room bunk house (with verandahs) at Garrathiya (translated as the land of the cycads, which abound in the area) was constructed in two and one half months. On the morning of the 25th May the first footing was set, and the building was officially unveiled on the 7th August 2009, to an audience of a variety of stakeholders. In addition to Federal and local members of government, with representatives of their Departments (e.g., Families and Housing Community Services and Indigenous Affairs, Department of Employment Education and Workplace Relations), there were columnists of the National and State media, the business partners, and a number of invited guests, which included the Gumatj representatives and employees who harvested the timber and built the carbon neutral timber dwelling of 20 tonnes. Both authors were present on the first day and at the official opening, while the second author visited the building site a number of times during the construction period. Figure 4 shows the building on the opening day.

FIG. 4: THE BUNK HOUSE AT GARRATHIYA



Additionally to the bunk house the Yolngu employees at Garrathiya earlier completed a six room dormitory, the associated kitchen, and the ablution block. These three units, which are connected by concrete pathways, and are about 200 metres from the bunk house, were commenced in early 2009. These separate sets of structures were undertaken with an arrangement with the Jack Thompson Foundation. The buildings are of a timber internal structure clad with colour bond, and have a capacity for 12 residents. This accommodation will attain greater significance when the Garrathiya cattle station, which has Braham cattle, begins production of cryovaced beef products for the nearby outstations.

The bunk house was constructed for a modest cost of less than \$ 200,000 despite the immaculate presentation of an extremely high quality residence. Site construction of contemporary accommodation or houses in the East Arnhem Land region is normally undertaken by non Indigenous non local companies. Often the framework, including the roof structure, is galvanised steel members and the cladding is various types of factory sheeting. Hence, as almost all of the resources are non local the construction cost of a four bedroom house is of the order of \$800,000. The Yolngu employees who constructed the bunk house (and completed the dormitory complex) are preparing to commence the construction of two four bedroom houses at Dhanaya, which is in close proximity to Port Bradshaw. These two houses are programmed to be completed by mid 2010, each for a price of \$325,000. It is then intended to move the building team to the outskirts of Nhulunbuy and construct four more of these types of houses on Yolngu land at Gunyangara (Ski Beach).

In addition to the building construction less tangible achievements have emerged. One of the construction workers (Russell), who left his truck driver position on a Community Development Employment Projects to work at Garrathiya, said when interviewed "I feel very happy and proud to be building in our country." While Samuel made some toys for his children from 'off cuts' of the building materials. Moreover, the Gumatj Corporation has a contract for milling mature trees on the next Rio Tinto Alcan mining tenement of over 800 hectares, which is a substantially novel approach as previously the forest was bulldozed into windrows and burned. And the attaining of on the job skills and knowledge in sustainable harvesting, milling and building construction is expected to realise further business opportunities. Finally, potential exists for entrepreneurial ventures in the collection and sale of seeds and bark for painting, the sale of sawn timber to the Nhulunbuy and adjacent communities, processing of timber for veneers and furniture as well as carbon credits.

Discussion

The evidence of this case study reveals the involved Aboriginal people pragmatically embraced entrepreneurship. Their motivation to engage in a business venture was driven more by the need to provide better accommodation rather than an emphasis on formulating a project strategy aligned with business models or commercial undertakings as identified in the relevant literature. At the core of the venture was a goal to build quality accommodation for five clan members who worked at the Garrathiya cattle station. These Yolngu people had been living in 30 year old sea containers, which would have been unbearably hot in the summer 40°C temperatures. From interviews with the timber millers and those Yolngu who constructed the bunk house it became evident they sat easily with the separation of commercial objectives and cultural features. The employees perceived their community position as the workers and willingly abdicated commercial challenges to the clan leader. At the periphery of the core aim of the project was the attainment of economic rewards, an opportunity to work on their own ancestral lands with their clan members, the circumstance of being able to readily go hunting or fishing, the chance to gain valuable job skills as well as being able to enjoy a variety of cultural specific benefits. Seldom are these prevailing features the foundation of non Indigenous business ventures that have become dominated by modernisation theory as outlined by Peredo and colleagues (2004). For example, rather than a monetary bonus at the completion of the building of the bunk house all members went hunting and fishing for two weeks before commencing the two house construction project. Collectively, these generalisations may provide a better understanding of the motivations and the salient strategies

for Indigenous entrepreneurship. This knowledge extends the boundaries of the paradigm of *perceptions of risk* being a driver of entrepreneurship as promoted by Dana (2007).

It should not be construed that the Yolngu people do not entertain planning. On the official opening day of the bunk house discussions with some of the members revealed they had identified a vital key component of the construction business. The proposal to build two houses at Dhanaya, and a further four at Gunyangara was dependent on a supply of milled timber, but there were only two certified timber fellers and one qualified end loader operator. And there was also the contract with Rio Tinto Alcan to remove marketable logs from the 800 hectares mining tenement during the next two years. While engaging an endloader operator from within the community was not seen as a major problem finding other clan members who would be prepared to undertake a technical training course to become responsible certified timber fellers was a more difficult undertaking. There was consensus this was to be resolved by the clan leader. Clearly, there was partitioning of levels of formality. Observing the timber milling and working on the bunk house construction showed the Yolngu people operated in an informal climate. Once the task was understood supervision was distant, and despite a total of 18 Yolngu members being identified as the bunk house construction cadre seldom was more than nine on site. Yet the bunk house was completed in the planned time, which is an expression of formality. And there were other formal dimensions of the project, that were performed by the clan leader Galarrwuy Yunupingu (as a former Australian of the year [1978], and was Chairman of the powerful Northern Land Council for two decades), who had political connections, access to resources and was the pivotal leader – manager of the community. McAdam et al. (2008) distinctly identified the role of leadership is vital for the introduction of new products.

Endeavours by Australian governments to improve Aboriginal housing have been elusive. Some of the numerous reasons for the prolonged failure to provide suitable living conditions of Aboriginals have been presented as inadequate maintenance, intergenerational living and overcrowding, low levels of tenant upkeeping responsibility, a lack of property rights, low socio economic power, a reliance on welfare and an awareness how to gain support from political and Church groups (Tripcony, 2000). Frustration with the inability of the Australian Federal government and the NT administration to deliver suitable Aboriginal housing the Yolngu clan leaders have established a *Dilak* that would operate as a ‘Yolngu Parliament’ for direct dialogue with the governments to close the gap in Aboriginal disadvantage, and in particular housing (Robinson, 2009; Rothwell, 2009). Potentially, the Gumatj Corporation could construct houses for their clan in the Nhulunbuy region at a considerably lower cost than external contractors, with the added advantages of local meaningful job creation, and a likelihood these dwellings will be more responsibly administered by the tenants and the Gumatj Corporation. Furthermore, this entrepreneurial model may be adopted for similar or other projects. For instance, the Rirritjingu clan has ambitions to provide better housing at Wallaby Beach (where some of the original mining houses of 1972 are now occupied by Yolngu people), and dwellings at the now pristine Galura (East Woody Beach), through their Bunuwal Industrial Corporation, that is now headquartered at Yirkala. Although these endeavours may only resolve the chronic housing problem and some of the social inequalities of the Aboriginal people of East Arnhem Land other Indigenous people in remote areas may become encouraged to walk the path of self determination in their acclaimed style of entrepreneurship.

Conclusion

The business venture model employed by the Gumatj Corporation in the remote region of East Arnhem Land is a novel and promising framework for Australian Indigenous entrepreneurship. A partnership of important stakeholders had prioritised redressing of a chronic community housing situation in contrast to economic development paradigms that have key elements of monetary income and economic growth. But how the supporting partners will be rewarded in the future is yet to be disclosed, as the Gumatj Corporation is resource rich and other capitalistic arrangements may evolve. An additional line of enquiry of tenant commitment to reducing degradation of dwellings provided by government programmes, and reluctance to maintain presentable home sites attracts attention by the frequent reporting of squalid conditions of Aboriginal housing in remote areas of Australia. Such investigation may disclose why government provided housing is perceived as an instrument of assimilation to wean Indigenous people from

cultural values, and the accumulated debris is not of their making, but *white man's rubbish*. Insights into this rationale may arise when Indigenous people build houses with materials from their traditional homelands for tenants of Aboriginal people. Although the findings of research might contribute to less criticism of Australian Aboriginal housing the evidence may lead to a better understanding of the relativity of transactional opportunity and cultural priorities within the framework of Indigenous entrepreneurial enterprise, which is recognised as the foundation for socio economic development of remote regions of the nation.

A salient observation was the Gumatj Corporation employed an entrepreneurial organisational arrangement governed by community based ideals. Reducing the chronic dwelling disadvantage of the local Indigenous was approached by preserving the secondary economic conditions within a framework for the more important cultural and environmental values. The normative literature advanced in leading Western business schools suggests small businesses are informal, have few rules and regulations, with ad hoc budgeting systems and small cadres of clerical support. Furthermore, these entities often evolve into larger organisations by transforming sequentially through relatively predictable development stages (e.g., pre bureaucratic, midlife to maturity). These periods of change involve variations in organisational rules and activities. Few of these characteristics were observable in the Gumatj dwelling construction programme. Instead, the Gumatj leader reconstituted the fabric of the clan workforce into three satellite entities with external supervisors who were responsible for 1) preparing the dwelling plans and inventory lists, 2) supervising of the dwelling construction team, and 3) training and supervision of the timber milling group. When the tasks were completed the external supervisors were shed and the Yolngu workers returned to the main labour pool, later to be assigned to small group projects (e.g., fencing construction, furniture making). The inaugural entrepreneurial business entity was not required to transform to a more complex organisation with features of written rules, manuals and procedures and job descriptions, an unsuitable framework for the oral culture of Yolngu society where few people have the necessary English reading competencies. Also, the simple structure enabled the maintenance of the dominant familial priority which endorses decision making authority to remain with the clan leader. While further research is warranted the evidence of this case study demonstrates the prevailing Western business/management assumptions may not capture how Australian Indigenous entrepreneurial venturing develops.

The results of this study reveal the importance of competencies to overcome market entry barriers for SMEs. A prominent aspect is the Gumatj SME as a social hybrid commercial venture was pursuing critical community benefits. Thus, the focus was in contrast to the traditional SME, which typically operates in a competitive market place when endeavouring to facilitate economic development activities. The extant literature advances a perspective, that competitive markets normally impose sanctions on entrepreneurship and SMEs and obtaining profits, reducing unemployment while increasing dynamics in the economy are the only relevant issues. But these factors were not the fundamental goals of the Gumatj SME, but rather social entrepreneurial purpose. Specifically, the key objectives were to reduce a substantive social problem that was not being satisfactorily resolved by government and public resources, and achievements were not for the personal economic benefit of the employees. Yet with these goals the Gumatj SME overcome entry barriers with leadership, familialism, and social capital. Although these mechanisms might be associated with structural characteristics of resource allocation, technological usage, and market advantage; or strategic dimensions of exploiting internal strengths, responding to environmental opportunity, and developing a sustainable competitive advantage they were evolutionary. The dominant social community enterprise, without conscious design employed mechanisms for market entry serendipitously overcame market barriers that have been identified as structural and strategic typologies.

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Analysis of Food Security Situation In An Oil And Gas Producing Environment: Evidence From Warri And Environs, Delta State, Nigeria

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Abstract

This study attempts to investigate whether there could be food insecurity incidence in an ‘oil city’ of Warri, Nigeria. The paper also examines the determinants of food insecurity among the households studied. The socio-economic characteristics of 260 households were collected by means of a structured questionnaire. A food insecurity index was constructed and was used to assess household food insecurity incidence. The results obtained were analysed by means of tables and percentages and found that on the average the incidence of food insecurity is high in the study area, implying that the benefits of oil and gas activities in Warri do not actually benefit all in the communities studied. Also, a logit model was specified and tested to determine the factors that affect food insecurity in the study area. The results of the two approaches used in this study reveal that the age of household heads, sex of household heads, the type of occupation of household heads and dependency ratio all exacerbate food insecurity in the study area. The level of educational attainment of household heads, the nature of occupation of household heads and income of household heads tend to reduce the probability of households being food insecure. The study recommends food aid and food subsidy to the vulnerable in the area. It also recommends expanded educational facilities to enable inhabitants attain higher levels of education.

Key Words: Food security, Logit model, food security index, Warri, Nigeria

Introduction

Food in adequate quantity and quality is to humans as petrol and oil is to the combustion engine. Food is necessary to sustain life, stimulate growth and keep humans healthy. As food digestion takes place within the human body the nutrients from the food are derived, used or stored in the human body. Food nutrients provide the human body with power which could be converted to work. Work creates wealth and wealth determines the rate and character of development of a nation. There is therefore a positive link between availability and access to good food and the level and pace of development of a people.

Food is necessary for healthy living and a pleasurable living conditions. Good food in adequate supply provides all the nutrients needed for an active living. This in turn reduces ill-health, work stoppages and consumption expenditure on health at the household and national levels. It could be argued therefore that adequate supply of good food would reduce national budget on health care delivery thereby freeing more resources for the development of the other sectors of the economy.

Given these linkages between food security and development of nations, the global concern over food security is easily understood. In Nigeria the concern over food security has recorded several dimensions. First, there is the phenomenon of rising food import bills in the past three decades (Omojimite, 2010), necessitating the allocation of high levels of foreign exchange to food imports. Second, there is the concern over the problem of malnutrition. The World Health Organization (FAD) proposed minimum daily intake of basic nutrients per capita. Meeting these minimum requirements, especially in the rural communities and the urban poor, remains a challenge till date. Third, over reliance on external sources to meet domestic food demand may actually diminish domestic efforts in local food production. Besides there may be real danger if the food exporters fail to supply or if the level of inflation rises in food exporting countries.

Several studies have investigated the food insecurity problem in Nigeria (Olayemi 1996; Makinde, (2000), Adeyeye (1992), Omonona et al (2007). Most of the earlier studies focused on the quantitative measurement of food security by using consumption expenditures. Apart from Omonona et al (2007) attempts to study the food security phenomena on a case by case basis is sparse. This study aims at filling such gaps by focusing on the food security situation among household in an oil and gas producing environment in Nigeria. Warri harbours a large number of oil workers whose wages are usually higher than those in other professions. The consumption behavior of workers whose wages are relatively higher has spill over effects on others living within the same environment. This in turn would have implications for the food security situation in such environments. The findings of this study would therefore be of benefit to food policy makers in designing differential food policies for such environments. The objective of this paper therefore is to empirically analyze the impact of the oil and gas production on the food security situation in Warri and environs in Delta State, Nigeria. The remainder of the paper is structured as follows. Following this introduction section 2 presents the conceptual framework and literature review. Section 3 describes the methodology adopted for the study. Section 4 analyses and discusses the results while section 5 concludes.

2: Conceptual Framework / Literature Review.

Although the concept “food security” is not a new phenomenon in many countries, it has commanded a global attention within the past three decades. According to the World Food Summit in 1996, “food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life” Gurkan (1995) defined food security as a “state of affairs where all people at all times have access to safe and nutritious food to maintain a healthy and active life. The description above clearly brings out three main components of food security namely food availability, food access and food utilization. At the national level, food is available if it is physically present from all sources including cultivation, processed, manufactured or imported. Food import is widespread in Nigeria, suggesting that domestic food production lags behind domestic demand for food. Food access refers to “the way in which different people obtain available food” according to the International Federation of Red Cross and Red Crescent Societies (2002). Some of the channels through which food is accessed includes but not limited to: home production, purchase, barter food aid. According to the International Federation (2002), food utilization refers to the way people use food such as the method of preparation, storage facilities and the health status of the individuals concerned.

Food availability is determined by several factors including climatic conditions which affect agricultural outputs. It is also affected by the availability of foreign exchange for food imports and food aids especially to developing countries. From the above, food availability depends on both internal and external factors. Very often the concept is used at the national or regional levels. Nevertheless it could also be used in reference to household food security situations.

Food access concerns the demand for food. Food demand is affected by economic as well as consumer preferences. Food must first of all be available before access to it. The key in food access is affordability. For the household the quantum of resources available determines the overall access. Food access could also be enhanced by physical and social infrastructures such as good network of roads and storage facilities. These facilities facilitate the distribution of food items from one region to another as well as permit the preservation of food for a longer period of time.

Food utilization varies from one community to another. It refers to the manner in which persons prepare their food and feeding practices. It is determined by the quantity, quality and a variety of dietary intake and general health conditions.

According to Omonona et al (2007), the food security situation in a country is a measure of the strength or weakness of the agricultural sector. For example in Nigeria food insecurity problems have been attributed to several factors (Olayemi 1996). These include inadequate budgetary provisions to the agricultural sector especially during the military regimes, bottlenecks in distribution, storage and marketing. It is also argued that the advent of petroleum oil as a major revenue earner shifted attention away from agriculture that led to declining productivity in the agricultural sector.

Nwaniki(2008) observed that the root cause of food insecurity in developing countries is the inability of people to gain access to food due to poverty. Nigeria is ranked one of the poorest nations of the world. The poverty level is aggravated by high level official corruption, widespread unemployment and natural resource constraints.

Again, Omonona et al (2007) noted that poverty limits economic access not only in monetary terms but also in terms of access to land, credit facilities, good health facilities all of which affect the food security status at the aggregate level.

Idachaba (1989) noted that the growth rate of population is higher than the growth rate of food production thereby creating a shortage in food supply. This has led to rising prices of food items which has reduced access to adequate food especially in the rural areas. Also inflationary pressures in food exporting countries has sparked off domestic inflation that has made food increasingly inaccessible to the vulnerable groups.

3: Research Methodology

3.1 Area of Study

The area selected for this study is Warri metropolis and the adjoining towns all in Delta State of Nigeria. Warri is often regarded as “oil city” because, together with the adjoining towns of Ekpan, Ogonu, Effurun, Warri DSC/ Aladja, Okumagba layout, Enerhen and Agbara, harbours a large number of oil and gas workers. The combined population of the eight settlements is put at about 480,000 of which about 11,000 people are directly or indirectly employed in the oil and gas industry.

3.2 The Data

In generating, the data for this study 300 households were randomly selected from the eight communities listed above. The number selected from each community depended on the population of each of the communities. The streets in each community were clearly marked out and equal number of households were randomly selected from each street. A structured questionnaire was the instrument used to generate the data. A pilot study was successfully carried out using thirty copies of the instrument in the neighbourhood of the study area to enable us validate the instrument. The instrument was distributed to a total of 300 households in the eight communities (see table 1). 260 questionnaires were recovered. The questionnaires were administered by 8 assistants. The instrument (questionnaire) enabled us to collect information on household monthly income, monthly expenditure, occupation, age, and sex of household heads and household dependency ratio. Secondary data on food production and intake were obtained from the Nigerian Bureau of Statistics.

Table 1: Distribution of Questionnaires

Location	Distributed	Recovered	% Recovered
Ekpan	45	38	84.44
Ogonu	40	36	90.00
Effurun	35	28	80.00
Warri urban	35	31	99.60
Dsc/ Aladja	30	27	90.00
Okumagba L/Out	40	36	90.00
Enerhen	40	33	82.50
Agbasa Warri	35	31	88.60
Total	300	260	

Source: Compile from field survey 2010.

3.3 Method of Data Analysis

The responses on the questionnaires were sorted into the socio-economic groups as indicated earlier. Two approaches were used in carrying out this study. First, to enable us determine the food security situations in each socio-economic group, in the study area a food security index was constructed using the following formula.

$$Fi = \frac{\text{per capital food expenditure for the } i\text{th household}}{\sqrt[2]{\text{mean per capital food expenditure of all households}}}$$

Where Fi = food security index (Omonona et al, 2007)

When $Fi \geq 1 \Rightarrow$ food secure household and;

$$Fi \leq 1 \Rightarrow \text{food insecure household}$$

Applying this formula on the data generated from the questionnaire we are able to establish a food security line. The food insecurity incidence is then constructed for each socio-economic group. This permits a classification of each group either as food secure or food insecure. These information are presented in tables with percentages added. Second, an analysis of the determinants of household food security in the communities was undertaken to enable us see the relationship between socio-economic characteristics of households and their food insecurity situation. Gujarati (2003) noted that when the dependent variable is dichotomous the use of the logit or probit model should be preferred to the linear regression model. Following other researchers (Hosmer and Lemeshew 1989; Ojogho 2010; Veen and Gebrehiwot 2011), we specify a logit model that will enable us assess the effects of socio-economic characteristics on food security and the probability of a household being food insecure. Assuming the probability of a household being food insecure is determined by an underlying response variable that capture the true economic status of a household, the underlying response variable R is the case of binary status could be defined by the multivariate logit regression relation $R_i = \sum X_i \beta_j + e_i$, where $\beta_j = \beta_1, \beta_2, \dots, \beta_j$ and $X_i = 1, X_{i2}, X_{i3}, \dots, X_{ik}$

The logistic expression are given as $\text{prob}(R^* = 1) = 1 - F(\sum X_i \beta_j) = \frac{e^{\sum X_i \beta_j}}{1 + e^{\sum X_i \beta_j}}$ and

$\text{Prob}(R^* = 0) = F(-\sum X_i \beta_j) = \frac{e^{-\sum X_i \beta_j}}{1 + e^{-\sum X_i \beta_j}} = \frac{1}{1 + e^{\sum X_i \beta_j}}$ where F is the cumulative distribution function for μ_i, \dots , $\text{prob}(R_i = 0/\beta_j X_i) = F(-\sum X_i \beta_j)$ and $\text{prob}(R_i = 1/\beta_j X_i) = 1 - F(-\sum X_i \beta_j)$. The likelihood function is given by

$$L = \prod_{Y_i=0} [F(-\sum X_i \beta_j)] \prod_{Y_i=1} [1 - F(-\sum X_i \beta_j)]$$

while the log likelihood function for the expression is $H(\beta) = \log L(\beta) =$

$$\sum_{i=0}^n y_i \log [1 - F(-\sum X_i \beta_j)] + (1 - y_i) \log F(-\sum X_i \beta_j)$$

where μ_i , in F , follow a logistic cumulative distribution, X_i are characteristics of households, and β_j are the coefficients for the respective variables in the logit function. The probability of a household being poor and the corresponding change in probability due to unit change in a variable X_i are given as:

$$\text{prob}(R_i = 1/\beta_j X_i) = \frac{e^\varphi}{1 + e^\varphi} \text{ and } \frac{d[\text{prob}(R_i = 1/\beta_j X_i)]}{dX_i} = \beta_j (1 - p)p$$

where φ is $\sum \beta_j X_i$, P is estimated value of the probability due to a variable, β_j is estimated regression coefficients (Ojogho 2010; Veen and Gebrehiwot 2011).

4. Presentation of Data and Analysis of Results

Table 2: The Food Insecurity Line for the Households

Deciles	Mean per capita food expenditure (MPCFEM (₦))
First	2,320.52
Second	3,931.33
Third	4789.32
Fourth	7232.54
Fifth	10,231.24
Sixth	13,534.55
Seventh	18,423.24
Eighth	24,297.31
Nineth	32,341.51
Tenth	43,562.32
Total	16,056.4
2/3 MPCFE*	10,704.27

Source: Authors calculations from field reports

From the table above, the food security line is N10,704.27. Using the decision rule (fi) established above, any household whose mean per capita food expenditure falls below ₦10,704.27 are classed, as food insecure while households whose mean per capita food expenditure is above ₦10,704.27 are food secure. From all the households studied the food insecurity, incidence is calculated to be 0.41 using the household income and expenditure information derived from the questionnaire used for this study.

The demand for food especially in the study area may be influence by several factors. These include the income of the household, the area located, sex of the head of the household, the size of the household as well as tastes and preferences of the household members. These considerations informed the inclusion of the variables, in our questionnaire. In presenting the data, households are classified as food secure and food insecure depending on whether their mean per-capita food expenditure is above or below the food insecurity line as defined earlier. In the first segment of the analysis we employ tables and percentages in presenting and analyzing the results of our findings. In the second segment of the study, we present and analyze the results of the logit model.

4.1: Household Heads and their Education Status

Table 3 below present the data on the educational status of households

Table 3: Distribution of Households Heads by Educational Status

Educational status	Food secure		Food insecure		Food insecurity incidence
	Frequency	Percentage	Frequency	Percentage	
No formal Education	7	3.85	8	10.25	0.62
Primary	25	13.73	9	11.4	0.34
Secondary	28	15.38	20	25.64	0.51
Tertiary	122	67.3	41	52.56	0.35
Total	182	100.00	78	100.00	0.41

Source: Field survey 2010

Table 3 above presents the distribution of household heads by levels of educational status and the food insecurity incidence. From the table, food insecurity incidence is highest (0.62) for households whose heads are without formal education and least (0.35) for households whose heads have tertiary education. These findings tend to suggest that higher incomes that are associated with higher educational status reduce the incidence of food insecurity.

In the table, households are profiled into food secure and food insecure. Household heads among the food secure group are made of 67.03% for those with tertiary education, 15% for those with secondary education, 13.23% for those with no formal education. On the other hand in the food insecure group 51.56% of Household head had tertiary education. Household heads without formal education constitute 10.25%, for primary and secondary education the corresponding figure is 11.54% and 25.64% respectively.

Table 4: Distribution of Households by size

Household size	Food Secure		Food Insecure		Food Insecurity Incidence
	Frequency	Percentage	Frequency	Percentage	
1-4	113	62.0	26	33	0.45
5-7	64	35.0	42	53.20	0.68
6-10	5.4	3.0	7	9.80	1.00
Above 10	0.00	0.0	3	4.00	
Total	182	100.00	78	100.00	

Source: Field Survey 2010

Table 4 presents the distribution of household by size. Food insecurity incidence rises with the size. Food insecurity incidence rises with the size of the households ranging from 0.45 to 1.00 for household groups 1-4 and 6-10 persons per household respectively. The food insecure group recorded 33% for the 1-4 household members and 53.20% for households with 5-7 members. Households with 6-10 members were 9.80% while households with members above 10, were 4%.

Table 5: Distribution of Household heads by Occupation

Occupation	Food Secure		Food Insecure		Food Insecurity Incidence
	Frequency	Percentage	Frequency	Percentage	
Oil workers	115	63.20	33	42.30	0.35
Traders	33	18.13	22	28.20	0.36
Civil servants	29	15.93	18	23.10	0.42
Unemployed	5	2.74	5	6.40	0.31
Total	182	100.00	78	100.00	0.41

Source: Field Survey 2010

In table 5 the occupations were classified as oil workers, Traders, civil servants and the unemployed. The oil and gas group of workers account for 63.20% of the food secure group while traders and civil servants accounted for 18% and 15% respectively. For the food insecure group 42.30% were oil and gas workers while traders and civil servants accounted for 28.20% and 23.10%. The food insecurity incidence is highest in the civil servant group (i.e. 0.42). oil workers and traders recorded 0.35 and 0.36 respectively.

Table 6: Distribution of Households by Monthly Income

Monthly household income (N'000)	Food Secure		Food Insecure		Food Insecurity Incidence
	Frequency	Percentage	Frequency	Percentage	
20 – 40	37	20.32	16	20.51	0.40
41 – 60	21	13.20	20	38.46	0.61
61-80	21	11.53	11	14.10	0.43
81 – 100	24	13.20	9	11.53	0.33
100 and above	46	25.27	7	8.97	0.26
Total	182	100.00	28	100.00	41.00

Source: Field Survey 2010

Table 6 presents the distribution of households by monthly income. From the table we observe that the incidence of food security declines as income rises. The highest income group, i.e.. 100,000 naira and above recorded the least incidence of food insecurity. As income rises, food security incidence rises, reach a peak and thereafter declines. Among the food secure group 25.27% (which is the highest) falls within the highest income group N100,000:00 and above. The middle income group (40,000 – 60,000) were 11.53% which represents the least in that income classification. For the food insecure group the percentage points declines as income rises. This implies that the number of food insecure households declines as income rises.

Table 7: Distribution by Age of Households Heads

Age of Household Head	Food Secure		Food Insecure		Food Insecurity Incidence
	Frequency	Percentage	Frequency	Percentage	
21 – 30	33	18.13	24	30.67	0.30
31- 40	55	30.22	13	16.76	0.30
41 – 50	40	21.98	17	21.80	0.32
51 – 60	25	17.74	12	15.38	0.46
61-70	20	10.99	9	11.54	0.52
70 and above	9	4.94	3	3.55	0.45
Total	182		78	100.00	0.41

Source: Field Survey 2010

Table 7 above summaries the age distribution of household heads and the food insecurity incidence. The table reveals that food insecurity incidence increases with the age of household heads. Between the age 21 – 70 years the incidence increased from 0.30 to 0.52. The age group 21 – 70 year has some distinctive features. At the lower segment of that age bracket, wages are relatively low as they constitute the lower cadre of the labour force. Family sizes are also small within the age group 21 to 30 years. These help to explain the level of food insecurity incidence observed in the table 7. Within the age bracket 41 to 50 years household head's incomes would have risen and at the same time responsibility for a larger family size would increase food insecurity incidence as recorded on the table. Between 60 and 70 years most household heads would have gone on retirement with the attendant lower incomes an increase in food insecurity incidence.

Among the food secure group 30% of the households fall within the age group 31-40 years. Thereafter the percentage declines as the age of household heads increases. This picture is also replicated in the food insecure age groups of household heads.

Percentage of household heads in the food insecure group declined from 30% for the (31-40) age group to 3.55% for the age group 70 years and above.

Table 8: Distribution of Household Heads by Sex

Sex	Food Secure		Food Insecure		Food Insecurity Incidence
	Frequency	Percentage	Frequency	Percentage	
Male	151	82.97	61	78.21	0.37
Female	31	17.03	17	21.79	0.46
Total	182	100.00	78	100.00	

Source: Field Survey 2010

Tables 8 presents the distribution of households heads by sex and food insecurity incidence. Clearly the table reveals that food insecurity incidence is highest wherehouseholds heads are female (0.46). Among the food secure households 82.97% of the householdheads are males while only 17% are females. On the other hand among the food insecure households 78.2%of the household heads are males while 21.79% are females.

Table 9: Distribution of Household by dependency Ratio

Dependency ratio	Food secure		Food Insecure		Food Insecurity Incidence
	Frequency	Percentage	Frequency	Percentage	
No dependency	63	34.62	18	23.08	0.30
Less than 1	54	29.67	12	15.39	0.32
Equal to 1	27	14.84	7	8.97	0.39
Greater than 1	38	20.87	41	52.56	0.48
Total	182	100.00	78	100.00	0.41

Source: Field Survey 2010

From table 9, food insecurity incidence increases from 0.30 for no dependency to 0.48 for greater than 1 dependency ratio. Here dependency ratios isdefined as the proportion ofhousehold members that are not working to those that are working. From table 9, 34.62% of households have no dependants.

4.2 Interpretation of the Result of the LogitModel

Table 10: Definition of Variables used in the EstimatedlogitEquation

Variable	Definitions	Symbols
Food insecurity (dependent)	P = 1 if food insecure = 0 otherwise (food insecurity estimates)	P
Explanatory variables		
Sex of household head	Sex = 1 if male = 0 otherwise	SHH
Education level of household head	= 1 if primary = 0 otherwise	EHHP
	= 1 if secondary = 0 otherwise	EHHS
	= 1 if tertiary = 0 otherwise	EHHT
Age of household head (years)		AHH
Per capital income of household head (₦)		PCIH
Household size		HHS
Household dependency ratio		HDR
Occupation of household head	= 1 if oil and gas worker = 0 otherwise	OHOG
	= 1 if trader = 0 if otherwise	OHT
	= civil servant = 0 otherwise	OHCS

Table 11: Binomial Logit Estimate for the Determinants of Food Insecurity and the Probabilities of a Household being Insecure

Variable	Estimated β values	Coefficients values	Z- Prob (Y=1)	Marginal effect (dp/dx)
SHH	-0.129	-0.098	0.476	-0.032*
EHH				
Primary*	-0.312***	-0.147**	0.461	-0.078*
Secondary*	-1.503***	-0.797***	0.321	-0.222*
Tertiary*	-2.562***	-1.922**	0.128	-0.286*
HHS	0.321***	1.723	0.867	0.036
OHG				
OHOG*	-1.203**	-1.277*	0.221	-0.209
OHT*	-0.431**	-1.531*	0.211	-0.106
OHCS*	0.304	1.662	0.721	0.041
HDR	0.035**	1.481	0.815	0.005**
AHH	0.031	1.452	0.812	0.005
PCIHH	-0.000417	-1.660	0.160	-0.00006
Constant	-2.763			

Count $R^2 = 0.84$, $R^2_{MCF} = 0.41$

* $\frac{dy}{dx}$ is for discrete change of dummy variable, **Significant at 5% level, ***significant at 1% level (see table 10 for meanings of abbreviation)

Table 11 reveals that household head who are civil servants (OHCS), household dependency ratios (HDR), household size (HHS) and age of household head (AHH) are positively related to the probability of a household being food insecure. On the other hand, household heads who are oil and gas (OHG) workers, the level of education of households heads (EHH), Age of household heads (AHH), income of household heads (PCIH) all have negative relationship with the probability of a household being food insecure.

Table 11 shows that occupation (i.e. oil and gas workers), education (i.e. primary, secondary and tertiary) are determinants of food insecurity as all these variables are significant. The respective probabilities of primary EHHP (0.461), secondary EHHS (0.321), tertiary EHHT (0.128), oil and gas OHOG(0.221) and Trader (OHT 0.211) all have low probabilities of a household being food insecure. Thus the more education one acquires, the higher the probability of reducing food insecurity incidence. The income of household heads is also found to be a significant determinant of food insecurity.

The logit value of the household size was 1.723, with a partial coefficient of 0.321. This implies that as the size of household rises by a unit on the average, the estimated logit increases by 0.321 and adds 0.036 to the probability of a household being food insecure for every unit change in household size.

5: Research Findings and Conclusion

The study reveals that food insecurity is lower for those engaged in the oil and gas sector. This category of persons earn relatively higher wages than the other groups studied. Food insecurity incidence is highest for civil servant (including teachers, 0.42) and lowest for the unemployed (0.31).

Food insecurity incidence decreases with the level of education. It is highest for those without formal education (0.62) and lowest for those with tertiary education.

The study also revealed that food insecurity incidence decreases as the level of income increases. It decreased from 0.61 to 0.21 for the income group 21,000 – 40,000 and 81,000– 100,000 respectively. The study also revealed that food insecurity incidence is higher in households where the heads are female. These findings were also supported by the results of the logit model that we estimated.

The food insecurity incidence has a direct relationship with the size of the household. The study revealed that small sized households recorded an incidence of 0.27 while large size households had food insecurity incidence of 1. The study also found that food security incidence increases with the age of the head of the household. Again the results of the logit model supports this finding

The food insecurity incidence for the entire households survey was 0.41. this shows that in general, although the oil- sector drives the economy of the study area, the food insecurity incidence in the area is high.

The study also found that food insecurity incidence increases with the level of dependency ratios. It rose from 0.30 to 0.48 for dependency ratio of zero dependency ratio and ratio of greater than 1. The results from the logit model also supports this.

From the findings of this study the following recommendations are made.

First, since the oil sector wages are relatively higher in the areas studied with its attendant inflationary effects, a programme of food subsidy or food aid should be put in place for the benefit of low income earners and other vulnerable groups in the area and be funded by government. Second, for the public servants in the area, government should provide special allowances to augment their earnings. Third, since food insecurity incidence was found to increase in female headed households, appropriate legislations should be made at the local council level to discourage broken marriages.

In conclusion, although this study has its own limitations in terms of the number of households covered, attempts should be made to carry out case by case studies across different geo-political areas. The present study has revealed that socio-economic factors such as the level of educational status, monthly income, size of the households, occupation of household heads all affect food security situations.

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Balancing Sustainable Global Mining Business with Social Good: The Rio Tinto Alcan Venture in Northern Australia

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Abstract

Global mining corporations have contributed significantly to Australian economic development and national infrastructure, and it is touted they are one of the few organisations delivering training and employment opportunities for Indigenous people in the remote mining areas. Persistently advanced is globalisation will enable these marginalised people to substantially reduce their socio economic disadvantage, but the evidence is they continue to have unsuitable housing, poorer health status and lesser life expectancy, while greater access to wealth is linked to substance abuse, which manifests as heightened violence, greater incarceration, and more suicides than experienced in the non Indigenous population. In this paper is reported findings from a four year study with Indigenous people, who have exercised an opportunity for engagement in an educational programme and employment in a mainstream job in a remote Australian mining operation. The results demonstrate allowing global mining corporations to operate in remote regions of Australia may lead to a resurgence of interest in Indigenous employment, but an expectation their representation in the mining workforce will increase and/or their social disadvantage will be significantly reduced is worthy of revisitation.

Keywords: Australian, Mining, Indigenous, Social Good, Business

Introduction

Australia is an ancient geographical continent with an abundant supply of minerals. These minerals, and the associated exploration and processing industry, account for eight per cent of the Australian gross domestic product (Martinez-Fernandez, 2010; Roarty, 2010). The abundance of minerals has led to national prosperity, and from exporting these resources has substantially contributed to satisfying the international demand for metal based (i.e., bauxite, iron ore, manganese) and energy (e.g., coal, gas, uranium) commodities. Nevertheless, the Australian governments and the resource industries have long been criticised for failing to positively engage with Indigenous people on whose land the mining operations are conducted (Buultjens et al. 2010, Lockie et al. 2008). Indeed, Australian Indigenous people unfavourably present against the social indicators of a developed society compared to the non Indigenous population.

Australian legal developments have underpinned a resurgence of interest in improving the socio economic status of Indigenous people in remote regions where mining operates. Following the 1992 Mabo decision, which gave Indigenous people a legitimate claim to land ownership (Crawley & Sinclair, 2003), the 1993 Native Title legislation was enacted with a feature the Traditional Land Owners were able to negotiate land usage with the miners. A common thread of these land use agreements, in addition to the financial dimensions, is the provision of education and vocational training for Australian Indigenous people (Barker, 2006; Tiplady & Barclay, 2007). Despite the opportunity for involvement in these work integrated learning schemes the majority of the Indigenous population has a preference for welfare or government subsidised work systems (Altman, 2009; Altman & Gray, 2005), and few Australian Aboriginals are employed in mainstream mining jobs (Brereton & Parmenter, 2008; Pearson & Daff, 2010a).

Aspirations of the mining industry, the Australian governments, and Indigenous people lack consensus. The mining companies argue that Indigenous people can acquire personal wealth and better social conditions by working

in the industry, but the lack of coherent policy by governments for the engagement of Australian Aboriginals ignores inter cultural identities of these people (Dillon & Westbury, 2007; Trudgen, 2000). Australian Indigenous people have strong spiritual and religious connections with the country and would prefer to live on their ancestral land in the hybrid economies, that include wildlife harvesting (Altman, 2003; Foley, 2006). In short, many Indigenous people in remote areas, where resource extraction is undertaken, find the prospect of mining operations unattractive (Pearson & Daff, 2010a). These conflicting ideologies have spawned considerable public debate focusing on Australian government pragmatic initiatives, such as welfare or subsidised paid work schemes, for improving the well being of Indigenous Australians (Anderson, 2007; Hunter, 2007). Arguably these imposed systems have not necessarily led to favourable outcomes. The imbalances are demonstrated as gross Indigenous inequalities in economic, health and social issues, which abound in remote communities where mining is being undertaken (McDonal et al. 2008; Pholi, Black & Richards, 2009; Rowley et al. 2000).

This paper reports on these notions to demonstrate the disadvantage of Australian Indigenous people in mining contexts. Paradoxically, while the Australian government expresses an enthusiastic commitment to improving the socio economic status of Indigenous people, substantial imbalance exists compared to non Indigenous people. And the mining and mineral sector, which generates enormous revenues, contributes to the paradox as the rhetoric from some of the world's largest resource companies has not led to equality for Indigenous Australians.

Australian Resources Sector Contribution

The Australian minerals industry makes a significant contribution to the economic growth of the nation. From 2006 the minerals industry in the domains of exploration, extraction, and processing has accounted for eight percent of the Australian gross domestic product (ABS, 2009; Martinez-Fernandez, 2010). In fact, the Australian minerals sector is in the top five world producers of most key mineral commodities (e.g., bauxite, coal, iron ore), and this activity accounts for the direct employment of some 170,000 people, and nearly twice as many in indirect employment (Roarty, 2010). Undeniably, the mineral resources (including gas) are major contributors to the Australian economy, often demonstrated by reassessments of the brought revenues, economic developments and contribution to the mineral and energy needs of the contemporary world society. Nevertheless, negative criticisms of the impacts of mining are beginning to resonate in the wider community.

Mineral extraction projects and their associated activities have been the focus of international and national concern. A recent international crisis was the substantive oil spillage in the Gulf of Mexico. Similar in disaster type, but with lesser impact in the world media, was the Montara drilling rig explosion (with accompanying crude oil leakage) in the waters off the northwest coast of Australia. Both events generated strong negative perceptions of the petroleum industry. In addition to potential environmental degradation, and the gradual unsustainability of mining (as the resource is not renewable) assessments of mining operations have been undertaken to examine health, safety, and social impacts. These assessments, which are within the gambit of corporate social responsibility (Jones, Marshall & Mitchell, 2007; Lockie et al. 2009) "...are a means of integrating development into core business strategies and can assist in building the companies and the communities..." (Esteves & Vanclay, 2009, p. 137). However, there are emerging growing concerns that some of these assessments have insensitively failed to allow those people (often in Indigenous communities) who will be most affected by the mining operations in remote regions of Australia (Arbeláez-Ruiz, 2010; Harvey & Brereton, 2005; Lockie et al. 2008) to have a stake in the decision making.

A resurgence of interest in the engagement of Indigenous communities with the Australian mining industry has mainly been driven by legal developments. In 1788, when Captain Phillip sailed the First Fleet into Botany Bay in New South Wales of Australia, the British Crown acquired sovereignty over several parts of Australia under the notion of *terra nullius* (vacant land belonging to no one). This condition persisted until 1992, compelling Indigenous people, who had lived in the region of the mining operations to be displaced and excluded (Crawley & Sinclair, 2003), although some were employed in menial jobs (Barker, 2006). On the 3 June 1992 the notion of *terra nullius* was declared, by the High Court of Australia, to be irrelevant in a judgement commonly referred to as *Mabo* (*Mabo*, 2009). The action had been led by Eddie Mabo, David Passi and James Rice, all from the Meriam people of the

Murray Islands in the Torres Strait, who challenged the state of Queensland, which had annexed the islands in 1879. The Mabo decision provided underpinning for Native Title legislation that profoundly changed relationships between mining companies and Australian Indigenous people. By demonstrating that the Meriam people had lived on the Murray Islands in a subsistence economy prior to European contact the court accepted native title rights by reason of long possession.

In 1993, the Keating government introduced the *Native Title Act* (2009) to deal with implications of the Mabo decision. The Act set forth procedures for dealing with native title claims, and retrospectively validated the interests of non Indigenous Land Owners. In a historic compromise Australian Indigenous groups agreed to the validation feature of the Act in exchange for guaranteed rights of the Traditional Land Owners to negotiate land use agreements. Coupled with pressures from international groups (e.g., U.N.), peak industry bodies (e.g., International Council of Mining and Metals), and the Australian government has led to policy commitments by the miners to not only deliver direct financial benefits to the Traditional Land Owners, but also sponsorship of long term benefits to the Indigenous communities in the region of the mining operations. A common feature of the land use agreements is employment and training provisions with an assumption that there will be greater indigenous representation in mainstream community jobs and in the mining sector.

Economic Engagement and Impacts

In spite of the phenomenal economic contribution of the Australian resources sector, few Indigenous Australians benefit in the distribution of the wealth. The point was succinctly put by Muir and Evans (2005) when they wrote that mining operations generate massive revenues for governments yet little of the money is invested in improving the lives of the regional residents. More objective data show that Indigenous employment in the Australian mining industry is low (Brereton & Parmenter, 2008), often the enjoyed occupations are low skilled (Tiplady & Barclay, 2007), overall the Indigenous unemployment rate in Australia approaches 20 per cent with even higher values in remote regions (Altman, 2009; Gray & Hunter, 2005), and consequently, long term welfare dependency or government subsidised work schemes (e.g., Community Development Employment Programme) have become attractive to Indigenous people.

Despite the Australian government policy of social inclusion Indigenous people are the most disadvantaged minority group in the nation. The notion of social inclusion is a conviction held by the Federal government Australian citizens "...should have the opportunity to participate in economic, social and community life..." (Brown, 2009, p. 4). Yet there is widespread evidence that Indigenous Australians continue to experience low labour market participation (Daly & Hunter, 1999; Gray & Hunter, 2002; 2005), and this vulnerability to unemployment manifests as lower consumer spending capacity (Altman, 2009; Giddy, Lopez & Redman, 2009), poorer houses and unsanitary living conditions (Toohey, 2009; Tripcony, 2000), lower health status and life expectancy (McDonald et al. 2008; Rowley et al. 2000), educational disadvantage (Bradley et al. 2007; Hughes, 2008), higher levels of poverty (Cechanski, 2002; McGrath, Armstrong & Marinova, 2006), as well as, social disorganisation expressed as family violence, unacceptable incarceration rates and suicides (*Anglicare*, 2009; Edney, 2001; Krieg, 2006). Disturbingly, available wealth is being channelled into extensive substance abuse and the ill effects on health and social adjustment in Aboriginal communities.

Mitigating circumstances have been advanced for substance abuse by Indigenous people. The misuse of tobacco, alcohol, recreational drugs and petrol (Lee et al. 2008; 2009), by Indigenous Australians is believed to reflect their struggle from colonial times in the pursuit of self determination (Maddison, 2008). Prior to the 1967 Referendum (which introduced the Federal government affairs policy of self determination), Indigenous people were embedded in the colonising forces of assimilation, which restricted their movement from government centres and missions, and excluded them from mainstream services, and created a raft of socio economic disparities (Smith, 2006). The policy shift to self determination removed the strict restraints on Indigenous people, which led to a rural exodus back to their ancestral lands where they resided in small remote communities called outstations (Coombs, 1974). It has been estimated that 25 per cent of the 0.6 million Indigenous population live in 1200 of these relatively small centres across 86 per cent of Australia (McConvell & Thieberger, 2001). Living in these rural communities

enables reinvigoration of their customary sector of the economy, which is based on wildlife harvesting (Altman, 2002; 2003), in enduring spiritual relationships and religious connections with the ancestral land of some 50,000 years of heritage. However, an absence of meaningful jobs in the remote communities has compelled Australian governments (when endorsing the policy of social inclusion) to provide welfare, which some Indigenous leaders (Pearson, 2007) claim has led to the collapse of social norms, and the rise of violence, alcoholism, child abuse and suicide. Paradoxically, the provision of wealth from government subsidised work, welfare or in some instances paid employment, which is designed to improve the socio economic status of Indigenous people, when coupled with full citizenship rights (1967 Referendum) has provided a pathway to engage in substance abuse.

Methodology

Site

The study site was the Gove Peninsula and surrounding region in an area about 150km from Nhulunbuy. Included in this zone are a number of Indigenous outstations such as Dhalinbuy, Dhanaya, Garrathiya, Galupa, Gunyangara, and Yirrkala, which are shown on Figure 1. The populations of these outstations range from a nominal 20 people at Galupa to over 600 at Yirrkala, with some 100 inhabitants each at Dhalinbuy and Gunyangara. Population numbers are fluid as the Indigenous people frequently move about the Northern Territory (N.T.). Even Nhulunbuy, which is a 'closed' mining town of some 4000 people (mostly non Indigenous) has a transient population component of fly in fly out employees. The town of Nhulunbuy is 15km to the east of the largest bauxite refinery in the southern hemisphere, which is 20km north of the minesite crusher. Bauxite ore is transported from the crushing station to the refinery by a conveyer belt system. Nhulunbuy which has all the facilities and infrastructure of a contemporary Australian town (e.g., hospital, shopping complex, airport, water and drainage, electricity), is 680 km east of Darwin, the capital of the N.T.



FIGURE 1: REGION OF THE STUDY AND PLACES OF INTEREST

A unique feature of the Gove Peninsula is the recorded history. In the 1600s the Indigenous Yolngu people traded with the Macassans from Sulawesi (formerly Celebes), and other European seafarers (e.g., Jan Van Corstens, 1623; Able Tasman, 1644; Matthew Flinders, 1803), until the trade was terminated in 1907 by the South Australian government. A Methodist Church Mission, which was established in 1934 by the Reverend Wilbur Chaseling, was closed in 1975 when the Yirrkala Dhanbul Community Association was founded. From 1942 to 1945 some 4000 military personnel (some were Indigenous Yolngu) were stationed in the region with a flotilla of PBY Catalina flying boats based in Melville Bay (adjacent to Gunyangara). During this period high grade bauxite ore was found at the now Gove airport, and during the 1960s a mine site and a refinery was established with the first consignment of alumina exported in 1972. The initial town for the construction workers was Birritjimi (Wallaby Beach) was built east of and adjacent to the refinery, but today only some 15 houses remain as the land has been transferred back to the Traditional Owners, the Rirritjingu clan of the Yolngu people. The town site of Nhulunbuy was designed in 1968 (*Town*, 1968), and progressively built to skirt Mount Nhulan (Mount Saunders).

Participants

The participants of the study are Indigenous Australians. More specifically, they are the Indigenous Yolngu people of East Arnhem Land of the N.T of Australia whose forbearers occupied the land 50,000 years earlier. The respondents are identified as a cohort group as different samples been employed in a variety of studies and reports that are acknowledged in this paper.

Procedure

An array of literature was used to provide information about a range of Indigenous socio economic disadvantages. Some of this literature is about Indigenous people of the N.T, but most is about Yolngu who have lived on the Gove Peninsula.

Results

The results are presented in three parts. First, is the social problem of substance abuse, which is a notable contribution to the high levels of anti social behaviour in Nhulunbuy, Yirrkala and the smaller, closer outstations. Second, are the night patrols and the significant associated infrastructure that has been acquired to support the service necessary to alleviate the consequences of substance abuse. Third, is the central information of two confidential Nhulunbuy police reports, that delineate the numbers of suicides and attempts, which are persistent social dislocation behaviours in the region.

Substance Abuse

Indigenous substance abuse in East Arnhem Land has escalated since the establishment of the mining operations. Prior to the early 1960s the only non Indigenous founded settlements were Yirrkala Mission and the military facilities during the Second World War. With the construction of the minesite and refinery in the late 1960s a number of Indigenous Yolngu were employed in labouring type jobs, but without retail outlets and being prior to Indigenous rights, payment in money was unappealing. At the Yirrkala Art Centre old film can be viewed to show at the close of work many Indigenous people sitting on benches drinking alcohol (beer). Today there are a number of liquor outlets in Nhulunbuy, and also at the Gunyangara Yacht Club where both non Indigenous and Indigenous people can consume alcohol.

In addition to alcohol, substance abuse presents as misuse of social drugs (e.g., Cannabis), petrol, glue /paint, tobacco and Kava. Cannabis usage, which is prevalent in the Indigenous communities on the Gove Peninsula

(Pearson & Daff, 2010b), can lead to mental disorders, psychotic illness, and depression (Degenhardt, Hall & Lynskey, 2003; Lee et al. 2008; Hall, Degenhardt & Teeson, 2004). In Nhulunbuy *Opal* fuel was introduced in February 2008 (*Arafura Times*, 2008) to replace 91 octane grade fuel, which has aromatics sought by hard core sniffers. In the one hardware store in Nhulunbuy all pressurised cans of paint are secured (by law) to deter purchase by juveniles. Yolngu people have a high smoking rate, which contributes to lung cancer and cardiovascular disease. Recently, the Chief Executive Officer of Miwatj Health Aboriginal Corporation stated the Yolngu on the Gove Peninsula have the highest rate of lung cancer of all Australian Indigenous groups, but it is unclear if the cause is from camp fire smoke or smoking of tobacco. In 2010 the Nhulunbuy shopping precinct was designated a non smoking area (*Arafura Times*, 2010a). The following year the *Menzies* School of Health was the recipient of a Federal grant of \$761K to investigate how to reduce tobacco consumption among Indigenous people (*Menzies*, 2010). Kava is an illicit substance, registered as a dangerous drug that continues to be of concern to the Nhulunbuy police (*Arafura Times*, 2003; 2010b). Nevertheless, despite endeavours to control the abuse of alcohol with a permit system being introduced in 2008 (*Arafura Times*, 2008) it [alcohol] is a significant social problem.

Night Patrol

In 2004 the number of inebriated Indigenous men wandering the Nhulunbuy streets on a nightly basis was a community concern. Following a town meeting of the Combined Reference Groups (business, government and industry representatives) a social impact assessment was undertaken of the nightly Indigenous anti social behaviours. The problem was referred to an anti social behavioural committee, and the resolution was the notion of a night patrol service to provide appropriate cultural assistance to those Indigenous people who were at risk. The service was initiated by elder Indigenous ladies from Yirrkala in February 2005.

When the night patrol service began there was minimal infrastructure to ensure the safety of vulnerable Indigenous people. Those who were injured had to be taken to the hospital as they could not be taken home where there was a threat of physical violence. Delivering the client to the police was an unattractive strategy as when in custody constant surveillance was required and Nhulunbuy only had eight police staff. Consequently, suitable facilities were constructed, and operational frameworks have been developed to provide minimum requirements for the management of night patrol services in Nhulunbuy (*Night Patrol Services*, 2010).

Today Nhulunbuy has a special care centre that is administered by the N.T. government and the Nhulunbuy Corporation Limited. This facility, which cost of \$1 million to establish (and operate), provides; 1) a safe haven for night patrol clients, and 2) a sobering up shelter. Residential rehabilitation provides treatment for alcohol or other drug abuse. The community patrol now operates from the special care centre.

Suicide

The current suicide rate for the N.T. is 66 per cent greater than the national rate. Table 1 presents a summary of actual and attempted suicide numbers for two confidential Nhulunbuy police reports (Fuller, 2005; Wurst, 2009), to show the trends are increasing. More disturbingly is the higher incidents of attempts and threatened. Trends are difficult to quantify because in periods of nil suicide reports were not prepared while latter reports are more comprehensive. Most (87%) of the attempted and actual suicides are from Indigenous Yolngu residents from Gunyangara, Nhulunbuy and Yirrkala. Hanging is the most prevalent method used.

TABLE 1: SUICIDE DATA NORTH EAST ARNHEM LAND

Year	Threatened	Attempted	Actual
2003	N.R.	13	1
2004	N.R.	23	7
2005	N.R.	N.R.	Nil
2006	N.R.	N.R.	Nil
2007	30	57	2
2008	41	77	6

Note. N.R. = Not reported

Discussion

The literature linking Australian mining and Indigenous engagement is in two main streams. One stream promotes the commodity worth to an international mineral consuming marketplace; and the economic contributions in terms of earnings, government revenues, direct and indirect employment levels, rural and regional development as well as other associated financial benefits (*Australian Energy Statistics*, 2010; Roarty, 2010). The quantity of publications and enthusiasm for this literature far outweighs the ascribed negative outcomes of environmental degradation; health, safety, and social impacts; the fact mining is unsustainable as eventually the resource is depleted; or contribution of the product and operations to greenhouse gases (Esteves & Vanclay, 2009; Lockie et al. 2009). The second stream of the relevant literature is in terms of corporate social responsibility to better engage Indigenous communities (Barker, 2006; Harvey & Brereton, 2005), employment systems (Jones et al. 2007), and other social features to integrate sustainability into the mining operations (Brereton & Parmenter, 2008; Tiplady & Barclay, 2007). Despite several studies of major health and social problems common in Australian Indigenous populations researchers are yet to investigate connections between the low status of Aboriginal well being and their living in rural settings where mining operations are being conducted.

Nhulunbuy as a greenfield town provides opportunity to broadly present a historical account of Indigenous health and social issues after 38 years of mining operations. The documented history reveals a substantial feature of the rich heritage of the Indigenous Yolngu of East Arnhem Land is linked to their engagement with non Indigenous Australians. Early records show the Yolngu people traded with European and Asian seafarers (Berndt & Berndt, 1999; Worsely, 1955), from the 1860s to the early 1900s they had disastrous confrontations with the pastoral companies that occupied Yolngu land from 1861 to 1908 (Trudgen, 2000), and when a large group of Indigenous people from the Yirrkal Church Mission assembled at Gove airport to be told their land was to be used for mining (Yunupingu, 2009). There is no evidence in any of these accounts that alcohol consumption by Indigenous people was condoned by the church, or that substance abuse (i.e., cannabis, solvent sniffing) was a social issue prior to the arrival of mining personnel. Yet there is recent medical research (Lee et al. 2008; 2009), and mining data (Pearson & Daff, 2010b) to show heavy cannabis use and the depressive symptoms are common in the Aboriginal communities on the Gove Peninsula. And a recent report by Anglicare (*Anglicare*, 2009), compiled from the responses of a wide body of stakeholders, stated substance abuse (i.e., alcohol, cannabis and other drugs) was a significant concern for the Aboriginal communities on the Gove Peninsula.

Mining provides extensive wealth that attracts substance abuse, which is linked with social disorders. The annual revenue of the Nhulunbuy mining operations is constantly recorded to be about \$1 billion (*East Arnhem*, 2010), and much of this money is distributed in the community as the town boasts the highest per capita income in the nation. At these mining towns relatively low skilled jobs can attract high remuneration rates. Taylor (2011) reports low skilled Indigenous people in Western Australian mining towns can earn \$100,00 per annum in landscape work (e.g., lawn mowing, whipper snapping, mulching). A link with consumer spending capacity and dysfunctional

social activity is given by Mercer (2010) who reports people living in mining communities in Queensland and Western Australia are prone to violence and anti social behaviour that has been fuelled by alcohol and drugs. A claim wealth acquired by workers at Western Australian minesites appears to be linked to organised crime is supported by the police seizing large quantities of drugs from fly in employees (Eliot, 2010). More credible are the findings of medical studies demonstrating that heavy, persistent substance misuse in N.T. Indigenous communities is associated with mental and physical health as well as social problems (Lee et al. 2008; 2009; Rowley et al. 2008). Clearly, the isolated communities in remote Australia, many near mineral extraction facilities, are targets for suppliers of illicit substances, while alcohol is readily available at commercial outlets within the townsite shopping precincts.

Conclusion

Systematic longitudinal research to present links between living in Australian mining regions and experienced socio economic disadvantage by the inhabitants is lacking. Although there has been a number of recent co relational one shot designs of studies assessing physical and mental health problems, and social dislocations of people living in Australian mining contexts there has been a lack of enthusiasm for longitudinal causal investigations. Longitudinal evaluations can take a reasonably long time whereas academics, politicians, bureaucrats and the public in general have shorter attention spans. More often there is not any scientific original data. During the 1980s and the 1990s environmental and social agendas began to emerge hence, before these times the emphasis was on the commercial priorities, and today 'lunar landscapes' are a feature of defunct mining regions. Thus, greenfield towns like Nhulunbuy or revitalised towns to provide infrastructure and accommodation for the workforce were founded on commercial and technical priorities. Impact reviews are often undertaken a long time after the mining operations have been installed when the social problems manifest.

This paper has presented information about an Australian mining town and socio economic problems. A greater focus has been made on the Indigenous people who live in the remote Gove Peninsula of the N.T. of Australia where the mining operations have been conducted for 38 years. Employing an array of public literature an inescapable conclusion is that there are damaging social, mental and physical effects being experienced in the mining town and in the nearby regions. In particular the Indigenous people do not present favourably against any of the indicators of health, employment, housing, incarceration, poverty or longevity. Yet Australian mining is profiled by financial contributions to the international and national arenas rather than the equality of Indigenous Aboriginals on whose land the mining is conducted. Balancing economic and productivity arguments within a much broader ethical and moral interface with all stakeholders is a worthy visionary challenge.

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Shadow economy in the wood industry in Slovenia

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Abstract

This paper investigates the impact of the reduction in the number and size structure of large enterprises in the wood industry on the dynamics of the shadow economy in the wood industry in Slovenia. The empirical results show that the dynamics in the reduction of the number and size structure of large enterprises in the wood industry significantly contributes on the increasing share of the shadow economy in the wood industry. The most important decision factors to participate in the shadow economy are the level of taxes and contributions, opportunities for better earnings and tax regulations. The estimated share of the shadow economy in the wood industry is 21.7%. As the basic solutions to reduce the share of the shadow economy and to speed up the dynamics of the entering of small enterprises in the wood industry are improved regulation system to provide better incentives to operate within the formal sector and better access for necessary financial capital at acceptable guarantees. As important are also good practices by the state institutions by providing incentives for entrepreneurship and encouraging decisions for the setting up of an enterprise.

Introduction

This paper investigates the impact of the changes in the number and size structure of large enterprises in the wood industry in Slovenia on the share of a shadow economy and the most frequent reasons for operation in the shadow economy. The previous studies have largely investigated the shadow economy for the manufacturing sector activities as a whole. Few studies have investigated the shadow economy in the literature (e.g. Glas 1991; Kukar 1995; Ott 1998; Feige et al. 1999, 2008; Fleming et al. 2000; Smith 1994; Flajs and Vajda 2004; Schneider 2005, 2007; Nastav and Bojnec 2007, 2008; Nastav 2009). In addition to the review of the previous studies on the shadow economy, in the empirical part we analyze the results of our research on the sample of micro and small enterprises, which operate in the wood industry in Slovenia. The empirical results indicate in what degree and in which ways the changes in the number and the importance of large enterprises in the wood industry have determined the changes in the shadow economy.

Theoretical background and main stylized facts

In general two main streams of literature exist regarding the definition of the shadow economy. The first view considers the shadow economy as an unregistered economic activity, while the second view basis on a temporary characteristics of economic behaviors (Fleming et al. 2000). The aims to generalize different definitions of the shadow economy in most cases are based on these two streams of literature. Thomas (1999) suggests that for the shadow economy activities are considered all those activities, which are not, but should be included into the national revenues. Schneider and Enste (2000) define the shadow economy as all economic activities, which should be calculated in the national gross domestic product, but due to different reasons are not. Smith (1994) defines the shadow economy sector as legal or illegal, on market demand based production and service activities, which were avoided in the estimations of the national gross domestic product. Nastav and Bojnec (2007) under the term of the shadow economy include all those economic activities, which are legal, but are not under a control of institutions, which are managing with them.

The main reasons for the shadow economy in developed and transition economies as well as in developing countries are higher taxes and contributions for social insurance, tax moral of the people and the degree of the state

regulation. Higher taxes and contributions explain 35 to 38% of the reasons for the appearance of the shadow economy, more strict tax regulations 8 to 10% and tax moral 22 to 25% of the reasons for the shadow economy (Schneider 2005).

Impact of the shadow economy on the economy

The shadow economy has both negative and positive impacts on the economy and society. These impacts are reflected in a form of less charged taxes of responsible institutions, in impacts on less competitive enterprises, which are operating in the formal sector of the economy as well as on the side of consumers, which usually do not have guarantee for products and services. On the other hand enterprises, which are operating in the shadow economy, they operate with lower costs and they can employ more people, which might do not find employment in the formal sector. Consumers can have lower costs for purchases of goods and services, which are caused by bureaucratic and administrative barriers and might not pay value-added taxes. The shadow economy can also play a specific incubator role for small enterprises at the early stages of the operation in the shadow economy (e.g. Schneider and Enste 2002; Smith 2002; Nastav and Bojnec 2008).

Shadow economy in Slovenia and in some developed countries

As can be seen from Table 1 in most of developed countries the share of the shadow economy is between 8% and 30% of gross domestic product. Moreover, the share of the shadow economy in developed countries is lower than in transition economies and in developing countries. The shadow economy in general represents a part of gross domestic product, which should be considered in formulation of the economic policy.

TABLE 1: SHARE OF THE SHADOW ECONOMY IN SOME DEVELOPED COUNTRIES

Country	Share of the shadow economy in % in gross domestic product in the period 1999–2003
Greece, Italy,	24–30%
Sweden, Norway, Denmark, Ireland, France, Spain, Netherlands, Germany, England, Portugal, Belgium, Finland	12–23%
Japans, Austria, Switzerland, USA	8–11%

Source: Schneider 2007.

Slovenia as a former socialist transition country and since 2004 the member of the European Union (EU) is rarely included in the comparative studies of the shadow economy. Most often Slovenia is analyzed in studies of the shadow economy in transition countries or in associated members of the EU. Empirical results of the shadow economy in different studies often vary due to different used definitions and methodologies, which very often prevents direct comparisons of the results. The study conducted by Schneider and Enste (2003) reports that 26.7% of gross domestic product in Slovenia is generated by the shadow economy in the period 2000–2001. They consider as the shadow economy all those economic activities, which are administratively organized and should be normally taxed. In the study conducted by Schneider (2004) using the sample of ten new members of the EU there is also included estimation of the share of the shadow economy in the officially reported gross domestic product in Slovenia in the period 1999–2003. According to this estimates the share of the shadow economy is between 27.1% and 29.4% and tends to increase.

Nastav and Bojnec (2007) report that the share of the shadow economy in registered value added by different economic activities in Slovenia vary and tends to increase. In 1995, the average estimate of the share of the shadow economy in gross value added in Slovenia was between 18.9% and 20.8% and increased by the year 2000, when it was between 20.4% and 22.5% of the registered gross domestic product.

Shadow economy and dynamics of enterprises

European Commission (2004) and OECD (2002) argue that there is a direct association between micro and small enterprises on one hand and the shadow economy on the other. The finding is based on a fact that small enterprises are more flexible and easier avoid unfavorable legislation and administration limitations and therefore easier hidden a part of their activities, which are performed in forms of the shadow economy. Moreover, high taxation obligations and other regulatory and administration limitations are causing the increases in the share of informal economic activities, which are performed in the shadow economy (Johnson et al. 2000). In a spite of these facts there is not possible to associate a positive association of the dynamics of entry and exit of enterprises only with the impacts of these factors. Taxation limitations, labor market regulations, administrative transaction costs, investment climate, income inequalities and some other factors can also have impact on the dynamics of entry and exit of enterprises as well as on the share of the shadow economy (Schneider and Enste 2002, Bartlett et al. 2005).

The relation between the rate of unemployment and the dynamics of entry of new enterprises particularly with an aim to establish self-employment can also have positive effects on the dynamics of entry, and vice versa (Audretsch et al. 2005). First, a positive effect is from unemployment of individuals, who are willing to establish own enterprise in the case of low opportunity costs for entry into self-employment (Evans and Leighton 1990). Second, a negative association effect is from high rate of unemployment, which has for implication the higher share of activity, which is conducted in the shadow economy, and which is associated with low rate of the dynamics of entry of new enterprises. Third, positive dynamics of entry of new enterprises have impacts on the reduction of the shadow economy and the rate of unemployment (Storey 1991).

Wood industry

Wood industry is by statistical economic activities included among manufacturing activities. Its main activity is production of processed wood and wooden plates, then production of furniture, construction furniture, and other products made from wood. For wood industry in Slovenia typical is a high concentration of enterprises: 1% of enterprises contribute 25% of total revenues and the first 3% of the largest enterprises contribute 50% of total revenues in the wood industry in Slovenia.

In 2006 in the wood industry in Slovenia operates 2,586 enterprises and individual entrepreneurs (SURS 2007), which means 14.2% share of all enterprises in the manufacturing activities. In the same year the gross value added per employee in the wood industry on average amounted to 19,403 euro, which is a bit more than 67% of value-added per employee in the manufacturing activities, which on average achieved 26,974 euro, and only a bit less than 64% of gross value added per employee in the economy as a whole, which on average achieved gross value added per employee 30,408 euro (SURS 2008).

The comparison of the wood industry in Slovenia with the wood industry in the EU-27 shows that Slovenia with 19,403 euro of value added per employee achieved a bit less than 75% of average value added per employee in the EU-27, which amounted to 25,885 euro. The wood industry has important contribution in the Slovenian economy employment and value added, but the labor productivity in the Slovenian wood industry on average is lower than in the EU.

Methodology and data

The collected data from the existing secondary data bases are analyzed by descriptive statistics and multivariate factor analysis. In addition, at the end of 2008 and at the beginning of 2009 the primary data for the sample of enterprises were collected using the written questionnaire, which was sent by post-mail with a pre-paid post mark and envelope. The written questionnaire contains from a short, mostly closed-type of questions. The possibility for a selection of answers was based in a form of question, which is known as a Likert's scale-type. The respondents were asked to select one out of five possible answers. The selected answer indicates the degree of agreement or disagreement with the possible opinion (Easterby-Smith, Thorpe and Lowe 2005).

We include statistical population of micro, small and large enterprises, which operate in the wood industry in Slovenia. In 2007, the statistical population contains 3,324 micro and small enterprises and 18 large enterprises (Table 2). The in-depth investigation of statistical population is based on a statistical sample, which includes 700 statistical units in population of micro and small enterprises, which represents almost 21% of total population of micro and small enterprises in the wood industry in Slovenia. On the written questionnaire, which was sent to 700 in the sample of randomly selected enterprises, we received 168 completed answers of enterprises. This means that we received 24% of successfully completed written questionnaires. Among the participating enterprises are by legal-organizational forms 60.7% independent entrepreneurs, 33.9% associations with limited responsibility and in 3.6% share-holding company.

TABLE 2: POPULATION OF MICRO, SMALL AND LARGE ENTERPRISES IN THE WOOD INDUSTRY BY STANDARD CLASSIFICATION OF ACTIVITIES, SLOVENIA, 2007

	Number of enterprises		Number of employees	
	DD20	DN36	DD20	DN36
Micro enterprise (0 – 9 employees)	1,520	1,568	3,030	3,139
Small enterprise (10 – 49 employees)	119	117	2,326	2,524
Total micro and small enterprises	1,639	1,685	5,356	5,663
Large enterprises (more than 250 employees)	6	12	3,385	5,212
Total population	1,645	1,697	8,741	10,875

Note: Standard Classification of Activities DD20 – Manufacture of wood and wood products; DN36 – Manufacture of furniture, manufacturing not elsewhere classified.

Source: SURS 2008a (SI-stat).

Analysis of the shadow economy in Slovenia

We investigate the impact of the changes in the number and size structure of large enterprises in the wood industry in Slovenia on the share of the shadow economy and on the most frequent reasons for participation in the shadow economy. The starting point of the analysis is theoretical and empirical findings of the shadow economy (e.g. Schneider 2004, 2005, 2007; Feige and Ott 1999; Nastav and Bojnec 2007, 2008; Nastav 2009).

Analysis of the impact of the dynamics of large enterprises on the share of the shadow economy

The presence of the shadow economy is visible particularly in activities, which require relatively smaller investments into technological equipments and buildings. In a difference from the formal sector, which is burdened with taxes and regulations, the shadow economy is dynamic and adjustable (Schneider and Enste 2002).

We investigate the impact of the reduction in the number of large enterprises on the share of the shadow economy in the wood industry using the data collected with the written questionnaire. We find that the reduction in the number of large enterprises in the wood industry determines the number of people working in the shadow economy. The average value of 3.89 by the Likert's scale – from 1 as very unimportant to 5 as very important – shows relatively important positive impact of the reduction in the number of large enterprises on the increase of the shadow economy (Table 3). Similarly, the reduction in the size structure of large enterprises on the shadow economy in the wood industry shows relatively important positive impact on the increase in the shadow economy with the average value of 3.82. Therefore, the reduction in the number and in the size structure of large enterprises in the wood industry increases the share of people working in the shadow economy.

TABLE 3: ANALYSIS OF RESPONSES FOR IMPACT OF REDUCTION IN THE NUMBER AND THE SIZE STRUCTURE OF LARGE ENTERPRISES ON THE SHARE OF THE SHADOW ECONOMY IN THE WOOD INDUSTRY IN SLOVENIA, 2009

Interval of opinions for its average value (Likert's scale from 1 to 5)					
Notes on opinions: 1 – very unimportant; 2 – unimportant; 3 – neutral; 4 – important; 5 – very important					
Opinions	N	Average value	Modus	Median	Standard deviation
Impact of reduction in the number of large enterprises on the share of the shadow economy	165	3.89	4	4.00	1.093
Impact of reduction in the size structure of large enterprises on the share of the shadow economy	165	3.82	4	4.00	0.977

Table 4 shows the important impact of labor price on the share of the shadow economy as well as on the dynamics of entry of small enterprises in the wood industry. Therefore, the labor price through the structure of labor costs and value added per employee has important impact on the shadow economy. Enterprises, which operate in the shadow economy, can avoid a part of operational costs, which can increase their competitiveness as well as can provide a source of income for people, which might do not find employment in the formal sector of the economy. Moreover, the labor price in the structure of costs and value added per employee with taxes and contributions has impact on the taxation burden of enterprises, which operate in the formal sector of the economy. Due to this, they can become less competitive in comparison with the informal sector and its expansion.

TABLE 4: ANALYSIS OF OPINIONS FOR IMPACT OF LABOUR PRICE ON THE SHARE OF THE SHADOW ECONOMY AND DYNAMICS OF EXIT OF SMALL ENTERPRISES IN THE WOOD INDUSTRY IN SLOVENIA, 2009

Interval of opinions for its average value (Likert's scale from 1 to 5)					
Notes on opinions: 1 – very unimportant; 2 – unimportant; 3 – neutral; 4 – important; 5 – very important					
Opinions	N	Average value	Modus	Median	Standard deviation
Impact of price of labor on the share of the shadow economy	156	3.85	4	4.00	0.772
Impact of price of labor on dynamics of exit of small enterprises	165	3.49	3	3.00	0.712

Table 5 shows that the impact of the shadow economy on competitiveness of small enterprises in the wood industry is relatively strong with their impact on the reduction of competitiveness of the small enterprises that operate in the formal sector of the economy. Due to less paid taxes the shadow economy enterprises are more competitive vis-à-vis enterprises, which operate in the formal sector, which pays taxes and thus have higher costs of operation. Therefore, the increased share of the shadow economy with its supply of products and services has modest to important impact on the reduction of competitiveness of small enterprises, which operate in the formal sector of the wood industry.

TABLE 5: ANALYSIS OF OPINIONS FOR IMPACT OF THE SHADOW ECONOMY ON COMPETITIVENESS OF SMALL ENTERPRISES IN THE WOOD INDUSTRY IN SLOVENIA, 2009

Interval of opinions for its average value (Likert's scale from 1 to 5)					
Notes on opinions: 1 – very unimportant; 2 – unimportant; 3 – neutral; 4 – important; 5 – very important					
Opinion	N	Average value	Modus	Median	Standard deviation
Impact of the shadow economy on competitiveness of small enterprises	162	3.65	4	4.00	1.112

Analysis of factors of the shadow economy and its share in the wood industry

Reasons for operation in the shadow economy

The reasons to operate in the shadow economy might be different by countries and within a certain countries by individual branches. Table 6 presents the opinions of the respondents on the nine frequently reported reasons as important for decision of an individual to work in the shadow economy in the wood industry. The average value of the respondents' opinions on the important factors for decision to work in the shadow economy in the wood industry in Slovenia vary by questions, but the highest opinion values are found when the higher level of taxes and contributions, followed by opportunities for better earnings and state tax regulations.

TABLE 6: ANALYSIS OF OPINIONS ON FACTORS IMPORTANT FOR DECISION TO OPERATE IN THE SHADOW ECONOMY IN THE WOOD INDUSTRY IN SLOVENIA, 2009

Interval of opinions for its average value (Likert's scale from 1 to 5)					
Notes on opinions: 1 – very unimportant; 2 – unimportant; 3 – neutral; 4 – important; 5 – very important					
Opinions	N	Average value	Modus	Median	Standard deviation
Rate of value added per employee	162	3.61	4	4.00	0.954
Low value added	159	3.60	4	4.00	0.835
Lack of establishing capital	162	3.30	4	3.00	0.918
Degree of the branch competition	159	3.23	3	3.00	0.885
Level of taxes and contributions	162	3.96	4	4.00	0.905
Tax regulations	159	3.91	4	4.00	0.786
Opportunities for earnings	162	3.93	4	4.00	0.962
Law tax moral of people	159	3.58	4	4.00	1.021
Lack of suitable employment	156	3.06	3	3.00	1.120

Dynamics in the share of the shadow economy in the wood industry

The opinions on the dynamics of the shadow economy in the wood industry are based on the answers by the respondents on the three questions: the share of the shadow economy in the wood industry has declined, has remained at a similar level, and has increased. Table 7 indicates some differences in the average value of the responses on the individual question. The highest average value 4.37 is given to the statement that the share of the shadow economy in the wood industry has increased, while the average value of 3.61 is given to the statement that the share of the shadow economy in the wood industry has remained at a similar level. The frequency distribution and the average value of the opinions suggest that the share of the shadow economy in the wood industry has remained at a similar level or has a slightly increased.

TABLE 7: ANALYSIS OF OPINIONS ON THE DYNAMICS OF THE SHADOW ECONOMY IN THE WOOD INDUSTRY IN SLOVENIA, 2009

Interval of opinions for its average value (Likert's scale from 1 to 5)					
Notes on opinions: 1 – very unimportant; 2 – unimportant; 3 – neutral; 4 – important; 5 – very important					
Statements	N	Average value	Modus	Median	Standard deviation
Reduction in the share of the shadow economy	24	3.46	4	4.00	0.721
Stagnation in the share of the shadow economy	84	3.61	3	3.00	0.865
Increase in the share of the shadow economy	57	4.37	4	4.00	0.587

The average share of the shadow economy in the wood industry by the opinion of the respondents is around 22% (Table 8). According to some other estimates the share of the shadow economy in the registered gross domestic product in Slovenia was between 18.9% and 20.8% in 1995, and between 20.4% and 22.5% in 2000 (Nastav and

Bojnec 2007). Therefore, the wood industry in Slovenia with the share of the shadow economy, which is close to an average in the economy, is not an exception by the share of the informal sector of the economy.

TABLE 8: ANALYSIS OF OPINIONS ON THE SHARE OF THE SHADOW ECONOMY IN THE WOOD INDUSTRY IN SLOVENIA, 2009

Opinion	Interval of opinions for its average value				
	N	Average value	Modus	Median	Standard deviation
The share of the shadow economy (in %)	165	21.73	30	22.00	9.936

Common factors to work in the shadow economy

With the factor analysis we aim to identify whether exist common factors, which explain how changes in the number and size structure of large enterprises in the wood industry in Slovenia causes on the share of the shadow economy. In the factor analysis are included 168 enterprises in our sample. The factor model is estimated in two steps: with principal axis factoring and maximum likelihood method with estimation of factor weights with using rotations.

In the factor analysis are used the following indicators: impact of the reduction in the number of large enterprises on the shadow economy, impact of reduction in the size structure of large enterprises on the shadow economy, impact of value added per employee on decision to work in the shadow economy, impact of capital profitability on decision to work in the shadow economy, impact of establishing capital on decision to work in the shadow economy, impact of competition on the share of the shadow economy, impact of level of taxes and contributions on the share of the shadow economy, impact of tax regulations on the shadow economy, impact of better earning on decision to work in the shadow economy, low tax moral of people, availability of working places, impact of price of labor on the shadow economy, impact of price of labor on the number of small enterprises in the wood industry, and the impact of the shadow economy on competitiveness of enterprises, which operate in the formal sector.

With the factor analysis we define two common factors, which explain differential in the share of the shadow economy in the wood industry in Slovenia. The variables used are based on the opinions of the respondents. Two common factors explain around 45% of variance in the dynamics of the shadow economy in the wood industry in Slovenia (Table 9).

The first common factor for the role of general enterprise environment factors explains a bit less than 30% of variance for the share of the shadow economy in the wood industry. The greatest impact in the first factor shows variables for the impact of competition in the wood industry, impact of reduction in the size structure of large enterprises, impact of reduction in the number of large enterprises, and impact of value added per employee on the share of the shadow economy in the wood industry. The reduction in the number and size structure of large enterprises in smaller extent causes the dynamics of entry of new small enterprises in the wood industry, but indeed increases already a strong competition as well as causes reduction in the rate of value added per employee. Due to this an important part of labor surplus decides for operation in the shadow economy due to lower operation costs. In a case of restructuring of supply of existing small enterprises towards foreign markets with higher processed products this would be a way to achieve higher value added products, which would reduce competition for products and services with lower value added. This would have positive implications on the dynamics of entry of small enterprises and on reduction of the shadow economy in the wood industry.

The second common factor for the role of the state on the shadow economy explains additionally a bit more than 15% of variance for the dynamics of the shadow economy in the wood industry. The greatest impact is on variables the impact of taxation regulations on the shadow economy and to a lesser extent the impact of level of taxes and regulations on the share of the shadow economy and opportunities for greater earnings. Importance of tax regulations implies that the enabling environment should be more institutionally friendly towards small enterprises with more friendly legislation and advice activities, which would reduce the identified negative impacts and create positive synergies to reduce the shadow economy in the wood industry.

TABLE 9: SHARE OF EXPLAINED VARIANCE OF FACTORS OF THE SHADOW ECONOMY IN THE WOOD INDUSTRY IN SLOVENIA, 2009

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative in %	Total	% of variance	Cumulative in %
1	4.176	29.826	29.826	3.680	26.282	26.282
2	2.133	15.234	45.060	1.792	12.803	39.086
3	1.444	10.316	55.377			
4	1.194	8.531	63.907			
5	0.947	6.763	70.670			
6	0.860	6.146	76.816			
7	0.773	5.520	82.335			
8	0.650	4.645	86.980			
9	0.604	4.317	91.297			
10	0.484	3.455	94.752			
11	0.284	2.031	96.783			
12	0.203	1.452	98.234			
13	0.140	1.003	99.238			
14	0.107	0.762	100.000			

Estimation method: principal axis factoring and maximum likelihood method.

Conclusion

The research has confirmed the importance of the reduction in the number and the size structure of large enterprises on the share of the shadow economy in the wood industry in Slovenia, but less on the dynamics of entries of new enterprises in this branch. This implies that a great proportion of people who lost employment in large enterprises prefer to operate in the shadow economy rather than to establish own enterprise. The reasons for operation in the informal sector are particularly in relatively high taxation burdens and administration barriers. Moreover, labor costs in the structure of value added per employee have important impact on the share of the shadow economy in the wood industry. This branch on average experiences relatively low value added per employee and cannot compete by wages in other branches, which causes outflow of qualified and skilled labor from the wood industry or they decide to work in the shadow economy. This increases the importance of the informal sector of the economy. Incentives for entries of small enterprises and providing easier access for necessary financial means would create incentives for innovation towards products and services with higher value added products and services and provide opportunities for more competitive relative wages to keep the best qualified and skilled labor in the formal sector as potential for recovery and development of the wood industry.

The research has contributed to science and theory in the area of investigation of the impact of the restructuring of large enterprises on the market dynamics of small enterprises focusing particularly on the shadow economy in the wood industry in Slovenia. Literature so far has focused on more aggregated manufacturing activities in Slovenia. The research contribution is based on own conducted quantitative analysis using secondary data and primary collected survey data. As implications for theory and practice we have provided the empirical associations and links between the analyzed variables in order to identify, measure and provide implications and proposals for reduction of the shadow economy and provide incentives for a greater dynamics of micro and small enterprises. The share of the shadow economy in the wood industry in Slovenia has not declined and for its reduction would be valuable to promote taxation and other economic policies, which would not be oriented only on control over the tax collection, but particularly on providing incentives for switch of the shadow economy activities from the informal economy into the formal economy by entry and growth of enterprises in the formal economy. As limitations and future research possibilities are in a fact that our research investigates only the impact of the

dynamics in the number of size structure of large enterprises on the shadow economy in the wood industry in Slovenia.

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Financing Sustainability for Cities in Emerging Economies: The Philippines Experience

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Abstract

Sustainability is a noble goal for any society but to make it operational requires both political will and financial capacity. This is especially true in emerging economies where efforts placed at growing the economy are paramount and other aspects of sustainability, the environment and social equity, are often minimized. Cities in these countries are particularly vulnerable to risks associated with environmental degradation and social conflict. Often, sustainability planning can limit some risks and vulnerabilities and make these places more resilient. This paper discusses various strategies that cities in emerging economies can undertake to finance their sustainability, with an emphasis on Philippine cities. Sustainability projects, as defined in this paper, are smaller-scaled initiatives that are cost-effective and emphasize revenue generating capacities and suitable return on investment or private-public partnerships that utilize newer or unconventional technologies. The goals of these sustainability projects are reduce urban vulnerability and reduce poverty and environmental degradation.

Introduction

Today, nearly 50% of world's population lives in cities. By 2030, this percentage will increase to 60% and cities of the developing world are expected to absorb 95% of this growth as a result of rural to urban migration, transformation of rural settlements into urban ones, and natural population increase. Although comprising only 3% of the earth's land area, cities consume 75% of global energy, create 80% of global greenhouse gas emissions, and intensely concentrate industry, people, materials and energy (Davis, 2008; Schulz, 2002).

The Asian region alone will add an additional 1.5 billion people to its urban regions by 2020 (ADB, 2001). This wave of urban expansion, led by China and India, is restoring Asia to global prominence which it enjoyed before the European and North American industrial revolution. Nearly 2.5 billion Asians will live in cities by 2025, accounting for almost 54% of the world's urban population (Dobbs, 2010). Also, most of this urban growth will occur in large urban regions or mega-cities that consist of populations of over 10 million people. By 2015, the Asian region will have 13 such mega-cities.

One of the countries in Asia that is rapidly urbanizing is the Philippines. In 1980 only 39% of the population lived in urban areas. By 2020 this is projected to increase to 73%. There are currently 136 cities in the Philippines. The top ten cities by population are listed in Table 1. As can be seen, six of the top ten cities are located in the National Capital Region of Metro Manila. Metro Manila accounts for 33% of the national Gross Domestic Product (GDP) making it a dominant metropolitan region (www.nsc.gov.ph). Another important index of Philippine urbanization is metropolitan status. There are twelve metropolitan areas in the Philippines of which the top ten are illustrated in Table 2.

Philippine cities are tiered according to governmental independence and funding levels from the central government. The basic urban unit is the Local Government Unit (LGU) of which there are 1,494 in the Philippines. These LGUs have significant powers to conduct their own business and provide direct services to their citizens as outlined in the Local Government Code of 1991.

Without proper management planning, Philippine cities constitute a major environmental hazard. Yet, through the implementation of sustainable projects some of the risks and vulnerabilities of these cities can be minimized. Compact development planning, settlement patterns that encourage resource and energy efficiency, green building construction, renewable energy technology, and innovative waste management solutions all can make these cities more resilient. Sustainability planning is the most cost-effective strategy for the long-term viability of Philippine cities. In the short run, cities must become extremely creative in designing ways to finance sustainability. This paper explores the various strategies to finance sustainability projects in Philippine cities.

Defining Sustainability Projects

It is necessary to define what constitutes a project that meets the criteria for a sustainability project as discussed and developed in this text. While capital-intensive large-scale infrastructure projects are sustainable, i.e. sewage treatment plants, fixed rail public transit, etc, the funding for these projects is beyond the scope of this text. Instead, the emphasis on sustainability projects in this chapter is on smaller, more labor-intensive and lower cost projects. These are the projects that would be advocated by E. F. Schumacher in his “small but beautiful” thesis. These projects are ones that can generate a significant amount of environmental improvement without major capital outlays. Also these projects emphasize revenue producing capacity, tend to advocate public-private partnerships, and stress creative financing packages that utilize private market mechanisms.

Table 1: TOP TEN PHILLIPPINE CITIES BY POPULATION

City	Region	Population (2007)	Area (km ²)	Population Density (per km ²)
Quezon City	NCR	2,679,450	161.12	16630.15
Manila	NCR	1,660,714	38.55	43079
Caloocan	NCR	1,378,856	53.33	25855.17
Davao City	Region 11	1,363,337	2,443.61	557.92
Cebu City	Region 7	798,809	315.00	557.92
Zamboanga City	Region 9	774,407	1,414.70	547.4
Taguig	NCR	670,309	53.67	12489.45
Antipolo	Region 4-A	633,971	306.10	2071.42
Pasig	NCR	617,301	31.00	19912.94
Valenzuela	NCR	568,928	44.58	12761.96

Source: NSO. 2007 Census.

Table 2: TOP TEN PHILIPPINE METROPOLITAN AREAS

Rank	Metro Area	Population (2007)
1	Metro Manila	11,553,427
2	Metro Cebu	2,314,897
3	Metro Davao	2,046,181
4.	Metro Cagayan de Oro	1,121, 561
5	Metro Angeles	915,365
6	Metro Iloilo-Guimaras	789, 080
7	Metro Bacolod	685,005
8	Metro Naga	685,005
9	Metro Bagio (BLIST)	432,262
10	Metro Batangas	432,262

Source: NEDA.2007. Building Globally Competitive Metro Areas in the Philippines.

Current Local Government Funding

Local governments receive their funding from a variety of sources. Figure 1 provides a broad summary of the funds that flowed to Local Governments in 2007 to finance their operating, debt servicing and infrastructure needs. Regular income is sourced mostly from the national government in transfers and locally generated receipts from real property taxes, fees, business taxes, licenses and economic enterprises.

The Local Government Code of 1991 has placed the Philippines in the forefront of fiscal decentralization in East Asia. While this seemingly provides an incentive for cities to develop creative strategies for funding development, this has not materialized. Although this text does not use the legal definition of cities that the Philippine government uses but instead relies on a wider conceptual definition of cities as densely-populated urban communities, it should be pointed out here that there is some discrepancy between the fiscal capacities of these

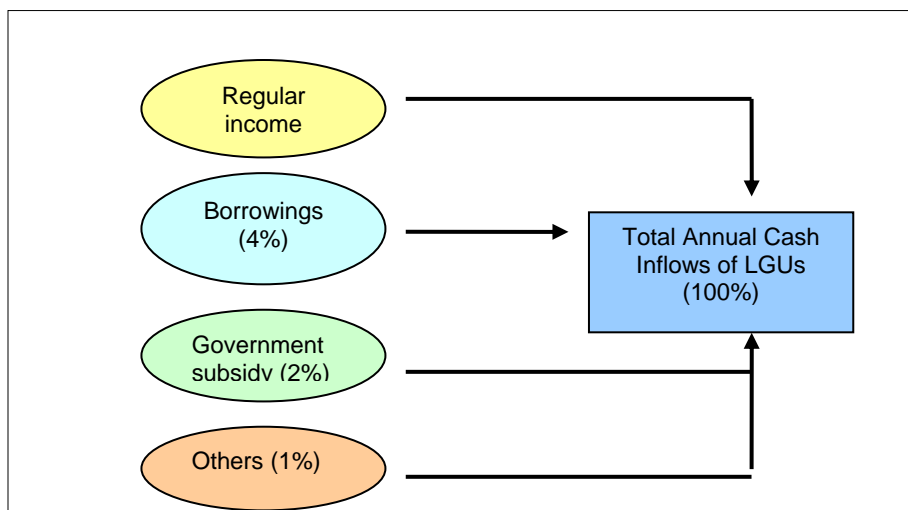
various subunits of government. Highly urbanized cities possess more fiscal autonomy than independent and component cities and considerably more than municipalities. Table 3 shows the ratio of local own revenue to total local revenue in percentage from 2003 to 2006. It shows that revenue derived from local sources, i.e. real property taxes, user fees, business taxes, license fees, economic enterprises, etc. are significantly greater in cities than in either municipalities or provinces. Figure 2 shows this discrepancy graphically.

TABLE 3: RATIO OF LOCAL OWN REVENUE TO TOTAL LOCAL REVENUE (%) IN LOCAL GOVERNMENTS

Year	Total	Provinces	Cities	Municipalities
2003	30.5	12.6	50.7	18.9
2004	31.9	13.8	52.2	19.2
2005	32.3	14.6	52.6	20.1
2006	31.2	13.6	51.6	18.7

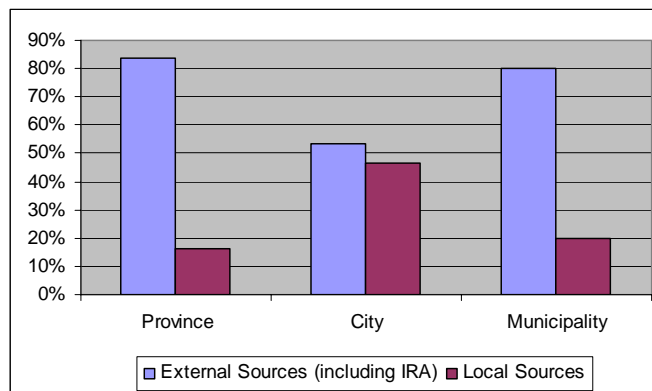
Source: H. Uchimura and Yurika Suzuki, “Measuring Fiscal Decentralization in the Philippines, IDE Discussion Paper, July 2009

FIGURE 1: 2007 INFLOW OF LOCAL GOVERNMENT FUNDS



Source: Draft Report 2010, “National Sewerage and Septage Management Program (NSSMP) prepared by the Department of Public Works and Highways (DPWH), Philippines

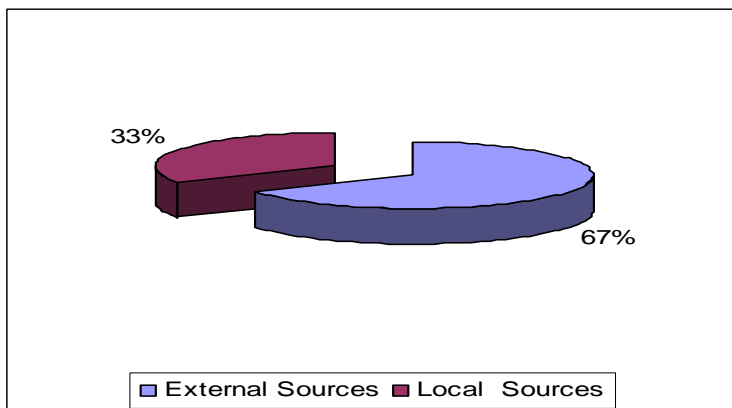
FIGURE 2: LOCALLY DERIVED REVENUE SOURCES



Source: Draft Report 2010 NSSMP

The main bulk of revenue for cities and urban municipalities in the Philippines is the Internal Revenue Allotment (IRA) which is an intergovernmental fiscal transfer from the central government as provided in the 1991 Code. Figure 3 shows the distribution of 2007 local government income. The IRA distribution to local governments is 40% of national internal revenue taxes and is allocated as follows: 23% to provinces; 23% to cities; 34% to municipalities; and 20% to barangays. These shares are weighted according to population (50%), land area (25%); and equal sharing (25%). Legally defined cities are favored in this formula as they proportionally more revenue even though they make up fewer of the local government designations.

FIGURE 3: 2007 DISTRIBUTION OF LOCAL GOVERNMENT INCOME



Source: Draft Report 2010 NSSMP

Through the devolving of responsibility from the central government to the local governments as provided in the 1991 Code, local governments are required to provide more services which necessitates more local fiscal expenditures. Increasingly, a fiscal gap is developing wherein local operating costs are rising faster than local revenue capacity. Already, local governments rely on the IRA as their main revenue source and this dependence is growing. Hence, local governments have four choices before them: 1. they can increase their local own-revenue sources; 2. they can reduce local expenditure responsibilities; 3. they can call for a structural adjustment in intergovernmental responsibilities (a move back to centralization); or 4. they can request an increase in the IRA contribution to say 60%. It is beyond the scope of this text to discuss all of the above options as many would require structural changes. For the purposes of this text, it is assumed that funding for sustainability projects will not be derived from the IRA or from existing local revenue sources, i.e. property taxes, license fees, etc. Hence, the funding for sustainability projects must come from creative funding strategies. The Asian Development Bank has recognized that local governments in the Philippines need to become financially independent and have created the Local Government Financing and Budget Reform Program which aims to improve revenue generation and budget processes of local governments. The following funding strategies are designed specifically to fund sustainable projects. These projects are ones that use nature to mitigate human impacts (bio-mimicry engineering), maintain or restore ecosystem services, foster energy efficiency and renewable energy, and reduce material and toxic waste.

Local Government Bonding

Bonding is a funding mechanism where an investor loans money to an entity that borrows it for a specified period of time and at a certain interest rate. These borrowed funds are returned to the investor on a specified maturity date. There are two types of bonds that local governments can float. One is a general obligation bond where the full faith and credit of the local government backs up the solvency of the security. These types of bonds are not allowed in the Philippines. A second type of local government bond is the revenue bond which are not backed up by the full faith and credit of the local government but instead are paid back through user fees. These types of bonds are best used financing business improvement districts, housing, redevelopment districts and capital-intensive city services such as sewage treatment or water supply projects. In the Philippines local governments must meet three basic conditions for bond issuance. First, the project must be revenue-generating; second, it must be part of the local development

plan; and third, the bond amount must be within the limitations on debt service capacity and maximum borrowing limits as stated in the 1991 Local Government Code. Local governments can use revenue bonds to accomplish some of the goals of sustainability planning.

While there are examples of local government revenue bond floats in the Philippines, it is a financing mechanism that has not been well developed. There are a number of reasons for this situation. First, there is no adequate rating system available to the investor that can provide an impartial rating as to the quality of the bond. And second, there is not bond insurance program established that could reduce some of the risk to the investor. As a result, the investor must approach a local government revenue bond with a caveat emptor approach that requires the investor to undergo a good deal of due diligence before purchasing. This means that the interest rates on these bonds are generally too high for them to effectively sustain various improvement projects. Government investment institutions such as the Development Bank of the Philippines and the Land Bank can offer a local government a better rate. Yet, because of the large amounts of revenue local governments require for sustainability and local improvement projects, national government institutions cannot meet this huge requirement. Hence, local governments need to develop their local bonding capacity to fill this huge need.

The obstacles to local government revenue bonds financing are significant. Besides general issues related to the fear of the investor that change of political leadership could jeopardize repayment of the security, to the need for more education to make bonds a viable source of capital funding, bonding have encountered local opposition where they have been proposed. The *Philippine Inquirer* recently reported a situation in Mindanao where local opposition has attempted to thwart a major in his use of revenue bonding to finance the construction of a new municipal market. The Mayor used the services of a financial adviser from Makati to provide a study justifying the use of bond floatation to fund the infrastructure project. A local finance committee submitted a counter study indicating that securing a loan from a government financial institution would result in less costs and easier terms since the local depository bank is guaranteed payment from the national governmental bank. While this case points to the notion that private investors are taking more risk and require a higher return on their investment than funding from the national government, nevertheless, the national government cannot provide all of the funding for such projects if every local government goes to the national government for a loan. Perhaps it would be more prudent for the national government to provide a bond insurance program with an appropriate transparent bond rating system so that private investors can have some of their risk hedged which would result in local interest rates required and provide lower borrowing costs to the local government. Generally, an investor would require an internal rate of return of 10%. This would make bonds too expensive for many local governments. If the internal rate of return can be reduced to 5% with an incentive package built in, i.e. reduced risk through insurance and some tax holiday for the investor, then revenue bonds become a viable source of capital projects for local governments.

User fees are the primarily source of revenue to pay off revenue bonds. When an investor or a local government analyzes the potential success of a bond float, it must assess whether the capital project or service can pay for itself through user fees. Hence, only projects that meet certain criteria or profitability can be considered. While this limits some projects, it is believed that sustainability projects will pay for themselves over a longer time frame. What often hindered the capacities of green projects are they that require more up-front investment than traditional projects, but begin to accelerate their investment return after seven years or so. For instance, green building projects might require more initial investment but after the seventh year or so they exponentially provide a return to the investor. Hence, revenue bonding provides an excellent source of revenue for these projects as repayment requires are extended over a longer period of time.

Impact Fees and Transfer of Development Rights

Urban development by its very nature impacts urban ecosystems. The notion of ecosystem services is basic to sustainability planning for Philippine cities. Ecosystem services provide life sustaining systems and services, i.e. purifying air and water, regulating climate, mitigating droughts and floods, and detoxifying and purifying water (Salzmann, 2003).

Maintaining urban watersheds and preserving local vegetation are simple but significant measures to maintain urban ecosystems. There are various strategies designed to maintain the sustainability of these ecosystem services. One way is to regulate environmental impacts. This places a strong reliance on governmental regulatory regimes. The advantage of this approach is that it establishes environmental standards that local development must meet. The disadvantage is that it requires a well-paid, well-trained and non-corrupt civil service. Another approach is to create market mechanisms and institutions that can capture and maximize ecosystem service value. In this

approach, appropriate instruments are developed whereby investors are paid to preserve or restore urban ecosystems.

One approach for cities to take is to create a dedicated fund to preserve or restore ecosystems by having the private developer pay for development impact. These fees would be determined by analyzing the impact of the development on a local area and to affix a fee accordingly. Another approach, and one that is advocated in this text, is to compensate the owner of environmentally fragile urban land, i.e. wetland, open space, deep-sloped land, by transferring development rights from the environmentally-fragile land to land that offers more development potential. This land use development technique must be done by utilizing local government's zoning capacity or police power. It is accomplished in a transfer of development right through a development certificate to the property owner in lieu of the owners loss of development right on his/her land. In this manner, the local community maintains the integrity of a valuable ecosystem service but does not "take" the value of the owner's property.

While transfer of development rights is one example of the use of market mechanisms in maintaining ecosystems, in this case with the help of the local government, other examples can be created for local governments. The key to this strategy is first to identify the ecosystem service to be protected or preserved, create a valuation for it, develop a market instrument to convey its value, and use local regulatory power to enhance its value. Examples of this strategy abound. The preservation of local wetlands by providing trade-able credits to owners that could be sold to developers or to non-governmental groups, charitable organizations, or outside donors. The same approach could be used to preserve urban watershed. And finally, the use of carbon credits to fund renewable energy projects is one which has already been discussed but also demonstrates the viability of this approach.

Special Assessment Districts and Tax Increment Financing

Special Assessment Districts are public projects that provide specific benefits to both particular properties and to their communities. It requires a local ordinance to create a Special Assessment District. A Special Assessment District can be established for a number of purposes. It can be designed as a business improvement district or a historic district. As a finance tool for sustainability it can be set up to demonstrate various innovative technologies in building construction, landscaping, creating zoning applications for green space integration, etc. The first step is to delineate the specific geographic area of the district. The next step is to get property owner buy-in. Owners would not be persuaded that their properties would gain in value as the District prospers. A Special Assessment District Plan would be created, generally initiated by a local NGO, which would establish the goals and objectives of the District and the purposes to which the funding would be designated, and the financial plan to repay the loan.

A revenue bond float would fund the improvements and the District property owners would pay a user fee based on a percentage of each property's assessed value at a specified rate, similar to a property tax. These user fees would pay off the bond. It is assumed that District improvements will lead to property value increase. The idea of tax increment financing, which is used in the United States to fund urban area improvement, is based on fees charged to the property owner on before and after value of their properties as established through a detailed assessment process. This is a creative tool that could be utilized to showcase whole areas of cities that desire to redevelop around the concept of sustainability.

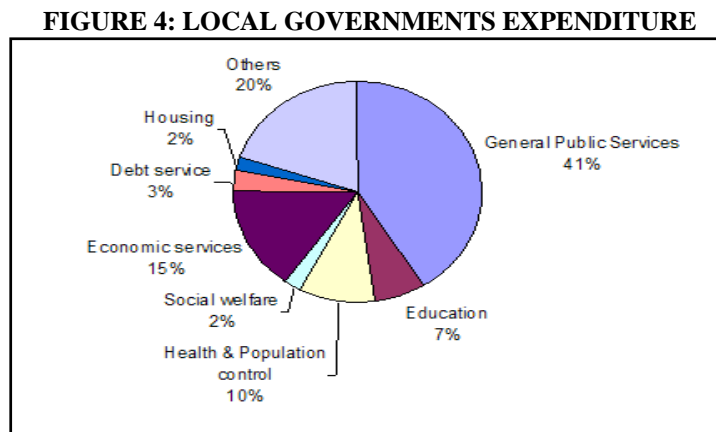
Real Estate Investment Trusts

Real Estate Investment Trusts (REIT's) are a new form of financing and investment tool that has recently been implemented in the Philippines through the Real Estate Investment Trust (REIT) Act of 2009 or Republic Act 9856. The law establishes a framework and a set of guidelines for the creation of stock corporations that aim to be traded publicly and used to finance a wide range of infrastructure projects as well as provide a stable rate of return to their investors. It is well recognized in the Philippines and alluded to earlier in this text that more complex capital markets and instruments need to be developed in the Philippines. This is particularly true of infrastructure projects that support sustainability aims. In a REIT, a publicly traded company's stock is registered with the Securities and Trade Commission and traded on the Philippine Stock Exchange. The requirements for a REIT are specific. They must have a minimum paid-up capital of P300 million with at least 1000 stockholders. At least 75% of the deposited property of a REIT must be invested in income-generating real estate, and 90% of their distributable income must be sent as dividends to their stockholders not later than the last day of the fifth month following the close of the fiscal year. Investors are provided incentives through certain tax incentives that are included in the Act. REITS can be used to support a variety of sustainability projects that utilize green building and energy conservation technologies.

Also, housing is a major consideration for environmental improvement for cities. Though REIT's that invest in moderate income new housing, a major source of un-sustainability can be removed or reduced. REIT's can be combined with national tax policy to provide an instrument for the construction of lower income housing. Instead of the government building public housing, a lower-income housing REIT could integrate favorable national tax policy or incentives for investors. While the REIT structure in the Philippines is geared toward equity REIT's, mortgage-based REIT's can invest in housing mortgages are popular in other national markets. Using the REIT structure and financial instrument to finance lower income housing could go along way to alleviate the environmental problems associated with informal settlers in Philippine cities.

Public Private Partnerships

The major assumption of this chapter is that if cities are to engage in sustainability planning they will need to create new funding instruments or, at the least, significantly extend existing funding opportunities utilizing public-private partnerships. Local governments already have maximized their use of traditional revenue sources based on immediate local needs. Figure 4 shows how local governments spend their revenue. Projects that utilize sustainability planning features must seek their funding from the private sector in creative public-private arrangements.



Source: Draft Report 2010 NSSMP

A model of the sustainability funding process is provided in Figure 5. This model is based on tapping into new sources of revenue for projects, mainly from the private sector, either NGO's, businesses, or private banks.

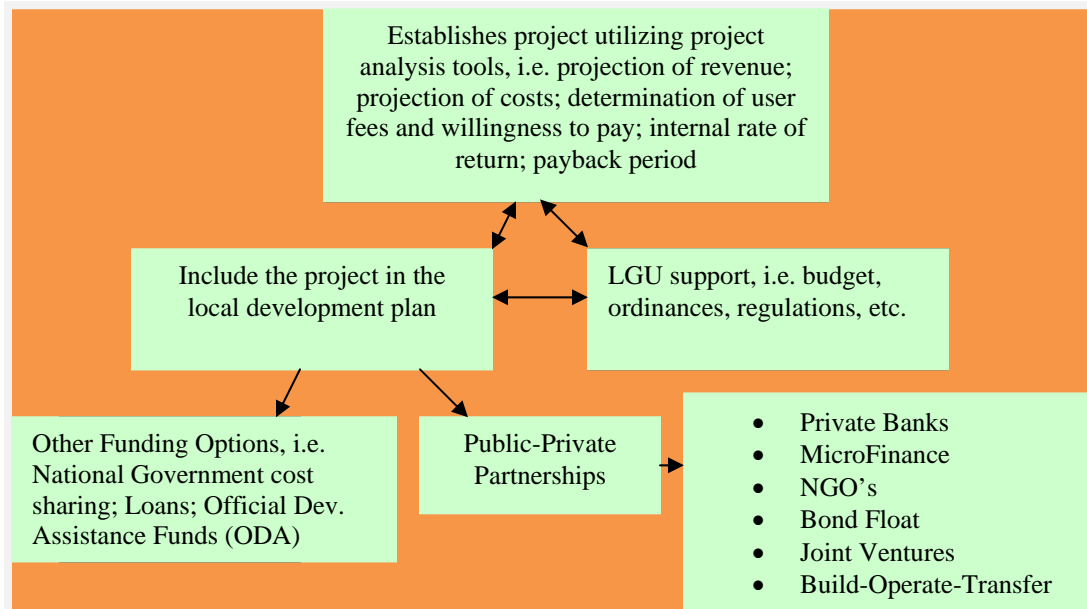
Joint Ventures

Cities can enter into Joint Venture (JV) agreements with another party to undertake a sustainability project. The private sector partner must contribute assets and share in the risks of the project and are bound by certain restrictions. First, the undertaking should be within the expressed or implied power of the local government. Second, the project should be within the territorial boundaries of the local government or grouped local governments if several local governments are grouped as partners. And lastly, the project must be included in the local development plan. It is the responsibility of the local government to validate the authority of the contracting official; subject the project to general review and approval; consist of terms that are not disadvantageous to the local government; and local government personnel should not have a direct or indirect financial or material interest in any transaction that requires the approval of their office.

An example of a sustainability project that the city could undertake with a private entity is to develop a joint venture with an Energy Services Company (ESCO). An ESCO is a private company that undertakes energy audits and implements energy use reduction programs for their clients. These clients can be public, such as schools, government buildings, etc. or private buildings, i.e. housing, commercial buildings, shopping malls, etc. ESCO's generate their fees based upon their capacity to reduce the energy usage of their clients, saving them money and also reducing their carbon dioxide footprint. For instance, an ESCO will be asked by a client, let's say a local government, to conduct an energy audit of public buildings with the intent of developing a program to lessen energy

usage and costs. The ESCO will first report on small changes that can be made such as moving to compact fluorescent or LED lighting. But the main thrust of a ESCO is to develop a plan for long term energy savings which requires possible capital investment in “big ticket” items like compressors, transformers, and photovoltaic systems. The ESCO structures a capital funding program for its client where major equipment is financed over a 10-15 year

FIGURE 5: MODEL OF SUSTAINABILITY FUNDING PROCESS



Source: Draft Report 2010 NSSMP

period through a loan provided by either the ESCO directly or a third party, i.e. bank, etc. The ESCO is committed to the energy reduction plan that they have outlined and is contained in a long-term contract. The ESCO receives its profit based on a percentage of the cost savings on energy use of the client over the term of the contract. Since the ESCO generates its revenue stream based on the initial or base energy audit, if it miscalculates the energy savings from its capital investment program over the term of the contract, it will be at risk. Under the ESCO joint venture, the city transfers most of its financial risk for borrowing to the ESCO, while the ESCO gains a stable revenue stream in its public client. This type of program provides a good solution to cash-strapped cities that want to reduce its energy usage and carbon footprint.

NGO Partnerships

Cities can partner with NGO's to accomplish many sustainability projects. An example is the work of Sustainable Project Management (SPM), a Geneva-based NGO, in Smokey Mountain, a two million ton garbage dump in Tondo, the city of Manila. For over 40 years it served as a waste disposal facility for Metro Manila and attracted a huge squatter community who scavenged the garbage for their livelihood. SPM was invited by the parish priest of Smokey Mountain to help develop a solution that would address the long-term environmental and health risks associated with the community's exposure to the mountain of waste, while improving the livelihood of the vast population that relies on the waste business. It sought both to alleviate poverty and improve the local environment.

SPM's strategy is to develop a strong public-private partnership that enables it to facilitate and implement its projects. One of its partners, the Manila Eco-aide Association asked SPM to assist them in upgrading their operations and to organize their Eco-waste program and information campaign in Tondo. To accommodate the wastes that are generated and then segregated, a two-story building Materials Recovery Facility was constructed with a \$229,500 grant from The Asian Development Bank (ADB). Another partner, the Kababaihan group agreed to implement a information and education campaign for the project. And finally, a major corporation, Unilever, agree

to have its company's waste hauled, sorted and recycled at MRF. Initial products from the Facility were donated for the construction of the Church of the Risen Christ in Smokey Mountain.

The Smokey Mountain Remediation and Development Program (SMRDP) was launched under the guidance of SPM. The Program incorporated three projects. The first project was to establish an information and education campaign. It provided ecological solid waste management training workshops that provided useful information to barangay council members, city of Manila public service representatives, and a large number of local partners. A second project was the development of a Material Recovery Facility (MRF). It met with the Department of Science and Technology to discuss the relocation and transfer of the bioreactor. It met with the National Housing Authority and Home Guarantee Corporation to discuss use of the property. In 2005, the MRF was set up in barangay 129 in Tondo. A third project was to establish a skills training and capacity building program. A key element to this program was the creation of a micro-financing capacity for sustainable enterprises. And lastly, the fourth project was to set up an outreach component to share the lessons of Smokey Mountain with other LGU's program.

The program meets the basic criteria for sustainability. It provides livelihood capacity for low-income people in Smokey Mountain and it improves the local environment. The program demonstrates how partnerships can facilitate initiatives. SPM was able to partner with important government offices, business sectors and other NGO's. This move created a comprehensive project that integrated education, technical support, financial support, and community participation.

The most successful of the initiatives and projects launched by SPM is the Materials Recovery Facility. Both the Asian Development Bank and Unilever Philippines were significant partners with SPM in its implementation and success. It has helped to provide both an improved environment and livelihood for Smokey Mountain residents. Its success points to the importance of lining up good sponsors and funding for the initiative. Community cooperation is also very important. Having a continuing community education and information program in place, with reinforcement such as prizes and public recognition, also is a key to a successful program. Without community participation, sustainability projects are doomed.

Finally, the issue of housing should be addressed. It is not the scope of this report to discuss the intricacies of the housing redevelopment program at Smokey Mountain, but it does show both positives and negatives. One important positive is that the housing project kept people in place and did not relocate them to provinces that might not be able to accommodate their skill base as scavengers. Of course, they could be effectively relocated to an area that contains a waste facility. A recent review of the housing program stated, "when the SMDRP was first launched, the government promised to transform the garbage dump into a paradise, with adequate housing, jobs, and livelihood training. The current condition of Smokey Mountain indicates otherwise. The promised jobs have not materialized, and the housing is substandard and costly" (Suarez,2008).

Conclusion

Cities do not have the necessary revenue stream in their traditional funding sources to finance many sustainability projects. Also, large infrastructure projects such as new waste treatment and water treatment and supply plants will need special financing that is not the subject for discussion in this chapter. Sustainability projects advocated in this text are smaller initiatives that are cost-effective and tend to emphasize either revenue generating capacities and suitable return on investment or private-public partnerships that utilize newer or unconventional technologies.

Already, a number of public-private partnerships are well utilized in the Philippines. An example is the Build-Operate-Transfer (BOT) partnership. In this type of arrangement, the private sector builds an infrastructure project, operates it and eventually transfers ownership of the project to the government. In some instances, the government becomes the firm's only customer and promises to purchase a minimum, predetermined amount of the project's output. This ensures that the firm recoups its initial investment in a reasonable time span. In order to improve the flexibility of the BOT arrangement, other modalities like concession agreements, management contracts and franchise agreements can be considered as BOT variants under the law.

Traditionally, the Philippines has relied on Official Development Assistance (ODA), funding either in loans or grants from international organizations or foreign governments. This funding has usually be sourced through Government-Financial Institutes (GFI) such as the Land Bank and the Development Bank of the Philippines. Some private financing institutions (PFIs) also offer loans using ODA funds (borrowed by these private banks from GFIs on a wholesale basis) supplemented by their own funds. The MDFO of the Department of Finance (DOF), on the other hand, provides a mix of grants and loans to LGUs (depending on income class) to finance revenue generating projects, social infrastructure and environmental projects. In 2007, the government appropriated a total of P1.1 billion to MDFO to be used for lending operations to local governments. Generally, the loans to LGUs by either the GFIs or MDFO have a repayment period of 15 years with a three-year grace period on the amortization of the

principal. Although LGUs are allowed to borrow, the Local Government Code (LGC) puts a ceiling on debt servicing which should not exceed 20% of their regular income.

And finally, for sustainability projects to be implemented, they need to utilize the Microfinance apparatus established in the Philippines under the Banking Law of 2000 and its succeeding circulars. Microfinance is “the viable and sustainable provision of a broad range of financial services (savings and credit) generally, by the private sector to poor and low-income households engaged in livelihood and micro-enterprise activities using non-traditional and innovative methodologies and approaches (e.g. non-collateralized cash-flow based lending). Sustainability projects must be built on a wide-range of support of the local community. Private banks, thrift banks, credit cooperatives and micro-finance NGO’s can provide a unique service in providing financial services to local entrepreneurs in their desire to improve their communities through the development and implementation of sustainability projects.

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**Business Sustainability
In the Economic Uncertainty:
A Case Study of Siam Commercial Bank in Thailand**

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ABSTRACT

This paper presents a case study of the Siam Commercial Bank (SCB) by investigating why and how SCB implemented organizational restructuring during the uncertain economic environment, and gives an overview of the Thai commercial bank industry. This paper presents and discusses SCB's strategy implementation in its organization during 1997-2010 with SCB's HRM role. This case study is aimed to provide some guidelines for other companies in developing and choosing strategies for their business sustainability in the global change, and in choosing the implementation of their organization structure for competitive markets, and to use HRM as an organizational support for their employee capacity building.

KEYWORDS: Business Strategy, Organizational restructuring, Organizational Structure, Human Resource Management

1. Introduction

Back in 1997, the Thai economy faced a number of challenges arising from the global economic slowdown, political uncertainties, and Thai baht appreciation. The result directly affected the financial and banking industry. The first alternative for Thai businesses operating in the turbulent economic situations with higher level of market competition was to formulate new corporate strategy to implement their business plan adjustment and organizational restructuring.

In today's dynamic business environment in Thailand, it is necessary for organizations to constantly go through organizational renewal and restructuring. However, organizational restructuring always have an impact on the companies' employees in terms of positions, benefits, job responsibilities, etc. Moreover, the result of restructuring might cause employee's psychological stress and other related symptoms. Most employees received the company's news and information in an unclear manner or through rumours such as "our company is going bankrupt, selling all businesses" or "our company will put pressure on employees to do difficult work, and so that, they will be resigned". Thus, in order to reduce employee problem between the employees and companies, most companies tried to adopt new policies, plans and activities.

The Siam Commercial Bank (SCB) is one of Thailand's largest banks in term of market capitalization, which had been affected from the Thai economy's fluctuation. Thus, in order to sustain its business, the Bank had been constantly restructuring its organization along with its business expansion. The Bank's organizational restructuring was able to change its culture which had never changed in more than 90 years. Furthermore, the Bank's employees came from all regions of Thailand, people strongly hold on to their societies and local cultures. In addition, the Thai in all regions of Thailand have lived in different types of society, culture, and economy in their local communities (Siengthai & Bechter 2001). As a result, SCB had some employee group who resisted its organizational restructuring. Thus, the Bank utilized human resource management (HRM) to solve and prevent the employees' problems.

2. Organizational restructuring and HRM

This section reviews the findings of previous relevant studies on organizational restructuring and HRM practices.

Organizational restructuring is one type of management tools used to eliminate the weaknesses in firm and the development of a strong organization. Firms implement organizational restructuring to cope with the intensification of the economic change, the growing globalization of business, poor operating performance and stock returns, financial distress. Informational and political factors are forcing organizations to consider new ways of organizing and responding to the competitive dynamics of the external environment (Lewin & Johnston 1996, Pettigrew & Massini 2000, Lin, Lee & Gibbs 2008). The successful implementation of the organizational restructuring could change work process, organizational structure and organizational culture, reduce expenses, compete in the business world, and develop employees. In the UK, organizations changed to propose that in 1988, a major organizational crisis emphasized change in organization and management. Thus, most commercial organizations have changed their structure and culture, and designed business strategies by increasing their competitiveness in market environment (Edwards, Woodall & Welchman 1996). The organizational restructuring efficiency and effectiveness has been reflected by the quality of strategy implementation. Furthermore, in order to prevent errors in the implementation of the organizational restructuring. The strategy implementation will identify factors, and check situation of organizational restructuring and business processes.

Although, most companies succeeded to achieve their businesses growth by implementing organizational restructuring, but the outcomes of organizational restructuring also had rapidly changed and affected some employee groups led to employee panic, internal conflicts, employee resistance, and employee dissatisfaction. HRM has a very important role in creating understanding of organizational restructuring between the employees and company according to HRM strategy, HRM planning, HRM policies and practices. In a relationship between HRM and organizational restructuring, HRM has an important role in stimulating employee involvement in the change of business process of the organization (Dooreward & Benschop 2003).

3. The Economy of Thailand

Before 1997, the Thai government emphasized on achieving the newly industrializing country status by transforming the Thai economic structure from agriculture to manufacturing. The Thai economy had then been called the emerging tiger in Asia. As a consequence of the economic plans, Thailand's Gross Domestic Product (GDP) increased about 7-9 percent annually from the late 1980s until 1996. In 1997, the Thai economy started to experience financial crisis. After that, it has been continually fluctuating due to changes in the global economy and ongoing Thai political problems. Even though, in 2002, Thailand succeeded to recover its economy from financial crisis, and grew at 7.1 percent in 2003. Nevertheless, Thailand has a strong economy based on agriculture, food processing, and tourism industries, these three industries are the main sources of Thailand's income and can persist while global economy keeps changing.

5. Context of the Study

Before financial crisis in 1997, most commercial banks in Thailand never changed their corporate strategies because they were family businesses. During the financial crisis in 1997, Thai bank's business performance was at its worst, due to financial problems, leading to the growth of non-performance loans (NPL).

In order to sustain Thai commercial bank industry and Thai economy, Thai government and Bank of Thailand (BOT) changed the regulation of Thai commercial banks' shareholders by eliminating foreign investment barriers and allowed the foreign investment groups to hold up to 100 % of Thai banks' shares. As a result, the foreign investment groups acquired five small Thai commercial banks. For example, Standard Chartered Bank acquired Nakornthon Bank in 1999, GE Capital acquired Bank of Ayudhaya in 2007, UOB acquired Radanasin Bank in 2003 and Bank of Asia in 2005 which merged both banks under the name UOB in 2008. CIMB Bank Bernhard acquired Bank Thai in 2009.

Even though, foreign investor groups acquired five small Thai commercial banks. The Ministry of Finance approved new licenses for commercial bank in Thailand, namely, Thanachart Bank, TISCO Bank, Kiatnakin Bank, and Land and House Retail Bank.

This has led to change Thai bank's market capitals in terms of innovation products, business styles, capitals, high competition, banking technologies, and human resource management.

Overall, Thai commercial banking industry has high opportunity to create business performance because Thai market has large scale of retail group and the strength of the Thai economic structure can drive the Thai banking industry growth.

SCB was one of Thai commercial banks which were hit by the financial crisis which put SCB on the verge of bankruptcy. It started in January 1906 in the reign of King Rama V as the first local commercial bank in Thailand. Based on SCB's determination over 100 years, it has emphasized Thai owner's bank. Furthermore, the Bank by the top management level chose to implement its organizational restructuring with continual business expansion strategy for its business sustainability during 1997 – 2010 by relating the global economy and the Thai economy situations at that time.

In order to explain SCB's employee to understand why SCB continued to implement its organizational restructuring, Dr. Vichit Suraphongchai, SCB's Chairman of the Executive Committee gave to speech in SCB's Forum that:

“The change program is the project to change ourselves and the project will build the future of SCB. Someone asked whether SCB can stop this project, this answer is that we cannot stop this project. We must continue to change in order to sustain our bankChange is natural. Change is necessarily. Change is our future, and we must continue to change our bank.”

3. Research methodology

The respondents were randomly sampled in SCB from the top management and middle management levels by using Taro Yamane's method ($n = N/1+N(e)^2$). These 291 sample respondents represent the managers all business units. Approximately 95 percent of the sample respondents participated from the beginning stage to implement SCB's organizational restructuring in 2001. A total of 56.27 percent of these respondents represented managers in the lower rank in the top management group, and a total of 43.73 percent represented middle management level.

This paper applied grounded theory method in data collection which involved in-depth interviews and open-ended questionnaire survey with some individual sample respondents and the analysis secondary data. The use of both in-depth interviews and questionnaires can consider useful in maximizing the strengths and minimizing the weakness of both techniques to ensure that the findings are more reliable. Furthermore, the respondents were very cooperation to answer questions based on their experiences working in the current position, job responsibility and business target. Interviews were tape-recorded and written in the questionnaire. Each interview session approximately took 45-60 minutes.

6. The corporate strategy implementation in SCB during 1997-2010

Based on the financial crisis in 1997, SCB had high volume of NPLs and lost money from exchange currency rate. During that time, the Bank's value per share had been 8.60 Thai baht in SET, and it had low capital value. Therefore, the Bank must be increased its new capitals but it failed to increase new capital at first. In 1999, it decided to enlist in the Government's Tier 1 Capital Support Program, and succeeded to participate in this program in the same year. Furthermore, the Bank succeeded in increasing its new capital from domestic and global investors.

Regarding the result of the financial crisis, SCB learned of its weaknesses from the financial crisis as follows: one large customer group, low quality in risk management, wrong investment in non-core bank businesses, unpopular SCB brand, conservative bank, and employee management based on line management only.

SCB's lessons learned from the financial crisis leads to the decision of the top management level to change its corporate strategy by focusing on restructuring all business organizations in 1999. In the following sections, this study analyzes the result of in-depth interviews and SCB's annual reports during 1997-2010.

6.1 The Economic Recession in 1997-1999

All Thai business industries had been affected by the Thai economic recession. Many companies closed their businesses which caused significant unemployment level in the urban areas. All Thai commercial banks had serious problems caused by an increase in NPL volumes. In 1998, SCB had a lot of financial problems. In order to sustain its business, the Bank decided to propose early retirement programs by offering pension plan depended on the calculation based on length of service and the amount of last month pay received. As a consequence of SCB's financial problems, most of the top management team members resigned from SCB also. The then mismanagement of business led to increased NPL, and some lost business areas. Therefore, the Bank closed some branches, and tried to stop its NPL. In addition, SCB made a mistake in investing in non-core banking business. Thus, the Bank emphasized cash expansion to sell all non-core banking businesses. In 1999, it succeeded to increase its new capital by participating in the Government's Tier 1 Capital Support Program. As a result, the Bank had a strong capital base, and it was the first bank to meet 100 percent mandatory provisioning requirement. In the second half of 1999, SCB started to develop its business for business expansion plan in 2000. Meanwhile, all SCB's competitors stopped expanding their business, and stopped their services in some business areas because they had several problems, and their capital did not support the 100 percent of the loan-loss provision.

In brief, during this period, SCB's strategies had emphasized cost reduction strategies and developed a strong capital base by implementing several strategies, namely 1) early retirement program (lay-off strategy), 2) changes taking place at the top management level, 3) closing low profit branches or loss-making branches, 4) selling non-core businesses, 5) decreasing cost operations, and 6) controlling and managing NPL.

6.2 The Economic Renewal in 2000-2002

The result of Thai economy grew 4.5 percent in 1999. In the economic renewal, SCB emphasized its organizational restructuring based on building the strength of its business. In 2000, SCB continued to rapidly expand its business because it expected the Thai economy to boom again. In 2001, in order to ensure the successful implementation of organizational restructuring, SCB established a new unit under the name "Change Program Project" to manage and control the implementation of the organizational restructuring only. Based on new SCB's business strategy, in order to implement new concept of banking service, the Bank tried to change its culture from "customer walk-in" to access banking services to the Bank's employees approaching customers. As a result, in 2000, the Bank started to sustain its business by showing its net profit, and in years later, the Bank was able to achieve its business expansion, as shown in Appendix Table 1.

One of the branch managers working in Bangkok's Vicinity area who agreed with SCB's organizational restructuring strategies explained that

"Organizational restructuring is the best strategy. SCB can adapt itself in the present situation by restructuring organization and reprocessing work. The results of restructuring enable SCB success in running business in the crisis time, economic change and the future. Furthermore, the Bank can transform business threats into business opportunities. Consequently, SCB has many banking products to support customer requirement and increase customers' volumes. In addition, rewards from other financial institute given to the Bank can guarantee success in its business performance."

While, all SCB's competitors still stopped expanding their businesses. In addition, in order to develop and create new banking products and services, SCB created a new appearance by creating SCB brand together with redesigning physical branches based on the purple color. In 2002, to continually expand new retail group and volumes of loans, increase SCB's loan-loss coverage ratio, and control its NPL volumes, the Bank chose to reserve to fully accommodate any potential deterioration of Problem Classified Loans by setting aside a huge provision for loan-loss of about 24.8 billion baht. Therefore, the Bank reported a net loss of 12.5 billion baht but it succeeded to expand its loans in the short-term and long-term.

In the economic renewal period, SCB continued to build the strength of its business by implementing organizational restructuring, namely, 1) developing new culture (change culture), 2) re-building SCB brand and

branch redesign, 3) focusing on the retail group, 4) expanding retail distribution, and 5) controlling NPL volumes, cost and budget.

6.3 The Economic Growth in 2003-2006

During 2003-2006, the Thai economy continued to grow by an average of about 5.7 percent. All SCB's competitors began to expand their businesses which led to high competition in the banking market. Thus, the Bank emphasized its business sustainability and continual organizational restructuring to achieve business recovery and business expansion. In 2003, SCB could protect its market share and prevent its competitors' business expansion. Furthermore, the Bank quickly increased its business by expanding its business channels. In 2004, it underlined its organizational restructuring by focusing on growing its business, improving the quality, developing human resource, and implementing the premier universal bank. Furthermore, SCB replaced new core bank system to support customer volumes more than 10 million accounts. In 2005, the Bank started to change its branch services to the premier universal bank concept by setting its business performance standards with respect to service quality and employee performance as World Class Standard, Customer Engagement (CE), and Customer Satisfaction Score (CSS). Moreover, in 2005, SCB started to pay a dividend to shareholders, and in 2006, the Bank held the second highest market capitalization among the Thai Financial Institutions, and the third biggest banks in Thailand.

According to the result of the strong SCB's capital, the Bank decided to invest its money in Asian markets such as in Cambodia by using owner strategy in 2002-2003, in Vietnam by using joint venture strategy and providing banking knowhow in 2004, and in the People's Republic of China by using alliance strategy in 2005

In the economic growth period, SCB succeeded its organizational restructuring by aiming several business strategies, namely, 1) restructuring its organization, 2) changing branch banking concept, 3) recognizing the premier universal banking, 4) expanding business to SME sector and large industry, 5) continuing the launch of new banking products, 6) increasing customer loans, 7) recruiting employees, 8) replacing and implementing new core bank system with new business process, 9) expanding investment and service in other region, and 10) developing human resource.

6.4 The Economic Decline in 2007-2010

During 2007-2010, Thai economy continued to decline due to the Thai political instability, and the global economic uncertainty. Especially, in 2009, Thai economy grew -2.3 percent. During this period, the Bank's competitors quickly expanded their businesses because they believed that the Thai economy will rebound soon and some of them already lost their market share to SCB, as shown in Appendix Table 2.

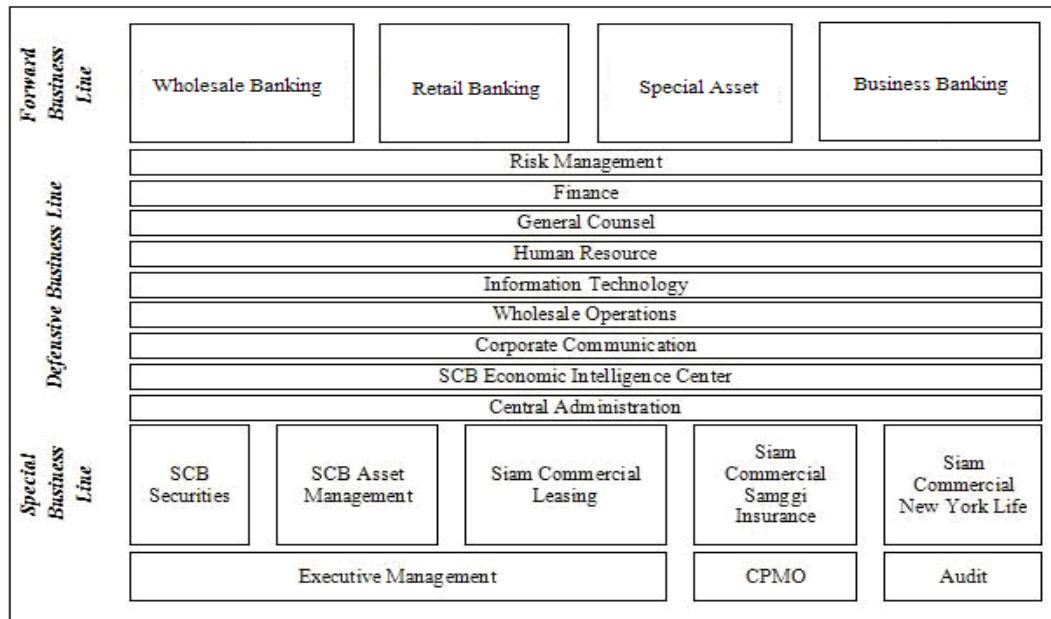
In order to sustain SCB's business during the Thai economic decline period, the Bank has been continuously restructuring its organization based on its strategies of the business expansion and customer retention. There were seven business activities, namely, 1) maintaining the customer loyalty, 2) increasing services and banking products quality, 3) expanding new market and new customer groups, 4) maintaining employees and delaying recruitment, 5) controlling costs and budgets, 6) maintaining SCB brand, and 7) implementing shared service strategy.

In 2007, the Bank succeeded in gaining market share in the SMEs sector and hire-purchase businesses. In 2008, the Bank stressed its business by adjusting risk level related to business situation. It showed its net profit at baht 21.4 billion a 23.4 percent increase. It was the highest in SCB's history. In 2009, the Bank assigned cost reduction strategies for HO offices and business expansion strategies for all branches. For business expansion strategy, the Bank aimed to maintain its customer base, and expand market share in the blue chip, public sector segments, and mortgage. The Bank showed its net profits at baht 20.8 billion, and in 2010, the Thai banking market continued its fierce competition. The Bank started to offer customer benefits in terms of special interest rates, credit line expansion, and long-term loan agreement. Therefore, SCB showed its net profits in 2010 at baht 24.2 billion. During 2007-2010, SCB achieved the highest market capitalization among Thai Financial Institutions.

Furthermore, SCB developed its structure related to its business in the Thai economic uncertainty and high market competition. The Bank started to redesign its organization in 2001 by changing from divisional structure to conglomerate structure. In 2010, according to the Thai economy uncertainty, the Bank redesigned its organization again by proposing three main structures, namely, the first component is a forward business line which covers four business groups, and creates aggressive business strategy and increase business efficiency by expanding customers' base, new bank products and market share, and building customer relationship. The second component is a special

business line which covers five subsidiary companies. Their business products and services are different SCB's business and outside BOT's justification. The five subsidiaries have provided products and services as leasing, assurance, insurance, investment, and stock exchange, and the third component is a defensive business line which covers nine business groups. The defensive business line has provided the Bank's IT, legal, financial system, infrastructure, risk management and control system, internal audit, HR, and communication for SCB and SCB group subsidiaries business based on shared service strategy.

Figure 1: SCB's Organizational Structure



Overall SCB's business sustainability is achieved. The Bank is able to operate its business in the economic uncertainty by implementing continuously its organizational restructuring with various business strategies in order to increase its business efficiency and organizational efficiency, even though, the Bank had some employees' problems.

7. The role of HRM in SCB's business sustainability

The achievement of SCB's business sustainability is reflected in the Bank's ability to generate the business efficiency, and organizational efficiency and effectiveness. These outcomes also had rapidly changed and affected employees' job responsibilities, behavior, culture, and livelihood led to employees panic, internal conflicts, employee resistance, and employee dissatisfaction. Furthermore, in order to support SCB's business strategy, the Bank continued to recruit many employees from all regions of Thailand and specialists from other banks and financial institutions. They have lived in different types of society, culture, and economy in their local communities.

Therefore, SCB's top management levels chose the role of HRM for its employees' motivation to appreciate SCB's corporate culture changed. Consequently, SCB's HRM has played a difficult role into integrating different cultures and attitudes between two generations of employees. The difference in the generations caused internal conflict and job stress in organization. The old generation employees like to maintain their old way of brotherhood and non-confrontation society, but the new generation employees like Western culture, because they believed Western culture enables the company progress. This suggests that the ethnic and cultural diversity of Thailand exist among different population and cultures in each region (Lawler & Siengthai 1997).

In order to verify SCB's HRM development in the Bank's business sustainability, this paper found that each SCB's business stage has used different HRM role related to its business strategies at that time.

7.1 The organizational restructuring stage

There was a panic among most SCB's employees who believed that the Bank was on the verge of bankruptcy. In addition to this, the Bank emphasized cost and budget reduction by offering the early retirement program. As a result, more than 1,200 employees joined this program. In addition, the Bank tried to explain to the employees about its situation by increasing the communication between the top management and all employee levels. As it was difficult to communicate to all employees in all provinces of Thailand, the top management tried to increase the cycle of communication to SCB employees. This study found that, the Bank designed HRM strategies to strengthen internal communication system, and set up conditions of the early retirement programs by screening employees who are qualified to join this program, and induced employee participation in the Bank's activities. At the same time, the Bank persuaded its specialist groups, and expert groups to remain with SCB.

7.2 The Bank's business rehabilitation stage

The Bank has entirely restructured its organization in order to rehabilitate its business with changed business plans. Some employee groups resisted this policy because it changed business processes and authorization, and corporate culture. This paper analyzed HRM role in this stage, and found that SCB's HRM strategy was formulated to emphasize internal communication to enhance all employees understanding of the Bank's targets by using both formal and informal communication channels including several media, channels, and SCB forum. Furthermore, in order to encourage employees to willingly participate in SCB's business rehabilitation, even though, the Bank could not adjust employees' salaries and other benefits, the Bank continually used HRM practices to encourage employee participation, through consultation, and brainstorming activities. Most of the Bank's employees are pleased to participate in SCB's business rehabilitation.

7.3 The Bank's business expansion stage

The Bank succeeded to retain its business with strong capitalization. As a consequence, the Bank must expand its businesses in other business areas and customer groups by increasing the number of new branches and launching new banking products. Thus, the Bank recruited a lot of new employees from universities, other companies, and other financial institutions, and motivated all employees to increase their job efficiencies. Thus, the Bank used HRM strategy to determine qualifications of candidates for recruitment, and to persuade new employees to work for SCB. Furthermore, in order to support the Bank's business in short-term and long-term plans, the Bank set human resource development plan in its organizational restructuring strategy. It approved a lot of budget in each year for its employee development by offering internal and external course training programs. The Bank emphasized HRM policy and practices for employee evaluation and employee motivation. Based on SCB's employee motivation, the Bank had encouraged its employees to create the job efficiency by offering many employee benefits. Regarding SCB's employee evaluation, the Bank set standard for employee evaluation by using key performance indicators (KPIs), World Class Standard, CE, and CSS.

7.4 The Bank's internal conflict stage

In order to motivate the Bank's employees to generate their performance, the Bank had offered individual benefits based on each individual performance. As a result, the Bank had high internal competition. The result of internal competition encouraged some employee groups to generate their benefits and the Bank's benefits. Whereas, some employee groups resisted and denied the internal competition and consequently tried to interrupt the Bank's restructuring into the process organization because they could not adjust themselves into competition, and held old culture (brotherhood culture). In addition, the internal competition was an important factor led to change in SCB culture. The Bank had realized employees' conflict; meanwhile, the Bank wanted to succeed its business sustainability. Thus, the Bank set criteria to evaluate teamwork and individual performance based on HRM practices such as KPIs, World Class Standard, CE, and CSS. The Bank had surveyed teamwork and individual performance by using outsourcing companies. Furthermore, the Bank had offered benefits and awards for the best individual and teamwork performance. As a consequence of the implementation of SCB performance standard, the employee conflict had been extremely reduced.

7.5 The Bank's business retention in the worst economic stage

In this stage, in order to sustain SCB's businesses, the Bank implemented several business strategies. This paper found that SCB aimed to use cost reduction strategy for business units at HO, and used business expansion strategy for the branches. The role of HRM was to explain to all employees at HO, branches, and the Bank's subsidiaries so that they clearly understand the Bank's policies. Furthermore, the Bank used lay-off program with the severance pay based on the Labor Law of Thailand. HRM practices were to set the criteria of evaluation to measure the employee performance. In addition, HRM strategy and policy have emphasized employees' understanding and the enhancement of employees' skills and attitudes by offering training courses for employees of all business groups in order to build competitiveness and business opportunities.

7.6 The Bank's business success stage

SCB already succeeded to expand its businesses during the economic growth during 2003-2006 and retain its business during the worst economic situation by implementing organizational restructuring. The Bank continues to use the role of HRM to constantly develop employees' skills, retain employees, evaluate employee performances, and decrease employees' conflicts. Furthermore, the role of HRM arranged human resource according to business plans and economic situations. Nowadays, SCB constantly develops HRM's software application to support HRM's plans and practices based on each employee profile under the project name "SCB Space".

In brief, SCB has emphasized the role of HRM along with the Bank's implementation of the organizational restructuring. The result of success of SCB's organizational restructuring has resulted in the Bank's success in improving its human resource efficiency. Furthermore, the role of HRM was significant in improving organization's communication with the employee and reduced the employee resistance by enhancing the understanding and employee participation in the Bank's organizational restructuring.

8. Conclusion

The result of the successful bank business sustainability has been clearly due to the organizational restructuring with business expansion plan. As a result, the Bank has succeeded to retain its business in the economic recession and decline, and expanded its business in the economic renewal and growth. The Bank increased its business efficiency to improve revenue and profit growth, market share growth, market capitalization growth, customer satisfaction, and competitiveness. During 2003-2009, the Bank had continually generated its benefits, and constantly approved a dividend payment starting in 2005.

Meanwhile, the result of organizational restructuring has been successful to a large extent. The Bank has been able to increase and develop organizational efficiency and effectiveness. The human resource efficiency is evidenced in organizational commitment, employee engagement and loyalty to create strategies and plans to build upon the Banks' business efficiency in terms of revenue growth, market share expansion, and customer satisfaction. For increasing and developing human resource efficiency, the Bank has developed HRM strategies, policies and practices to develop and enhance employee efficiency. Furthermore, the Bank's organizational structure has been redesigned. It consists of three main lines of businesses, namely, forward business line, defensive business line and special business line to support the Banks' strategies and businesses in all economic situations.

The five key factors have powered to push SCB's successful organizational restructuring and corporate performance. This study finds that, first, the corporate strategy and policy had been proposed and distinctively implemented for the organizational restructuring. Second, the top management level had been involved in the organizational restructuring program. Third, the plan of the organizational restructuring was aligned to the Bank's business plan. Fourth, most employees have high organizational commitment and loyalty, and participated in the organizational restructuring. Fifth, the Bank had established a separate unit called "Change Program Management Office" to manage the organizational restructuring, and approve the organizational restructuring under "Change Program Steering Committee".

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10. Appendix

Table 1: Comparison Between SCB's Performance and the GDP of the Thai Economy During 1996-2010

	Year														
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
% of Thailand GDP	5.9	(1.4)	(10.5)	4.5	4.8	2.2	5.3	7.1	6.3	4.5	5.1	4.8	2.6	(2.3)	7.3
Net Profit (Loss) Billions Baht	9.0	3.2	(15.6)	(48.7)	3.5	9.2	(12.5)	12.5	18.5	18.9	13.3	17.4	21.4	20.8	24.2
% of SCB's NPL	1.5	3.3	37.1	24.2	19.2	30.8	24.2	17.5	13.2	9.3	7.8	6.1	5.1	4.4	3.25

Remark: In 2002, in order to expand SCB's loan in the short-term and long-term, the Bank chose to reserve to fully accommodate any potential deterioration of Problem Classified Loans by setting aside a huge provision for loan-loss of about 24.8 billion baht. As a result, the Bank reported a net loss of 12.5 billion baht

Table 2: The Comparison of number of branches, ATM, and Employees between SCB and all bank competitions During 2000-2010

Year	SCB			Bangkok Bank			Kasikorn Bank			Krung Thai Bank			Bank of Ayudhya		
	BR.	ATM	EMP.	BR.	ATM	EMP.	BR.	ATM	EMP.	BR.	ATM	EMP.	BR.	ATM	EMP.
2000	476	872	10,383	566	1,100	19,883	532	948	11,499	617	891	15,751	418	697	8,538
2001	477	894	10,412	587	1,300	18,705	529	1,002	10,472	610	994	15,233	303	741	8,275
2002	483	1,083	10,710	609	1,700	18,481	498	1,106	9,688	617	1,085	14,987	389	750	7,670
2003	501	1,317	10,865	645	1,729	18,531	496	1,184	9,912	616	1,107	14,873	409	1,049	7,580
2004	562	1,959	12,125	672	2,000	18,791	495	1,400	10,113	619	1,209	14,811	439	1,491	7,959
2005	692	2,803	13,321	710	2,600	18,904	568	1,962	10,324	643	2,201	14,952	491	2,151	8,357
2006	793	3,828	14,793	749	3,100	19,239	604	3,130	11,219	692	3,798	15,445	552	2,574	8,242
2007	874	4,833	15,623	823	4,300	20,074	662	3,797	12,320	762	4,229	16,110	569	2,631	8,542
2008	949	6,030	17,553	868	5,636	21,192	721	5,102	13,560	833	5,866	16,689	579	2,580	9,772
2009	987	7,129	18,096	913	6,354	20,735	782	6,955	15,460	891	6,398	17,477	576	3,010	9,392
2010	1,019	8,006	18,282	935	6,593	20,968	805	7,471	15,677	962	6,880	17,832	586	3,262	9,438

Remark: BR. = Branches, ATM = Automatic Teller Machine, and EMP = Employees

Alternative Routes Toward Sustainable Research Partnerships: Evidence From Leading Energy Research Organizations in Australia, Japan and USA

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Abstract

Innovative energy research and development plays a key role in addressing global and national energy challenges. Increasingly, decision makers are recognizing that to meet the energy challenge, cooperation between government, science and industry (triple helix partners) is necessary. Today, energy research is often conducted in various collaboration forms involving helix partners. Though a partnership brings with it significant synergies and benefits, such collaboration is a complex phenomenon which is difficult to define and poses difficult policy and organizational problems as well as management challenges. In the current study, we provide an insight into successful research collaboration designs and discuss challenges associated with them. In particular, we present issues relating to organization, financing, and personnel management in energy collaborative research which are based on preliminary findings obtained through analysis of publicly accessible data and extensive personal interviews with key personnel in leading energy research organizations in Australia, Japan and USA.

Keywords: energy, research collaboration, triple helix

Introduction

Energy research plays a key role in addressing global challenges relating to sustainability, global warming and climate change, in addition to addressing national challenges relating to competitiveness, energy supply security and sustainable development (EU, 2010). Though universities have historically been the core provider of research, the landscape of university research is changing as the scale and cost of research rise rapidly (Smith, 2001). Today, energy research is no longer the exclusive domain of institutes of higher education, whose main goals include the promotion of academic education and training in addition to basic research (often done according to scientific interest). Other research providers include 1) national/regional/governmental research centers, whose main aims are the promotion of the national research agenda which normally have a strong economic rationale as their basis (for example the Commonwealth Science and Industrial Research Organization CSIRO in Australia and the National Energy Technology Laboratory NETL in the USA); 2) Private research centers, which include private/non-profit research institutes, firms or universities pursuing research according to economic and non-economic interests of their organizations (for example the Fraunhofer Institutes in Germany and Japan Coal Energy Center JCOAL in Japan); and 3) Industry, characterized by economic value driven research aimed at the creation of financial economic gains (Porath, 2010).

Unlike product research and development, energy research goals often involve achieving wider social, economic and environmental objectives (for example to encourage economic development and technology leadership, to reduce CO₂ emissions etc.) in addition to innovative research. Increasingly, societal and energy decision makers are realizing that to achieve real, sustainable energy technological breakthroughs and competitive advantage, cooperation between government, industry and science is essential. Such cooperation could also allow the reaching of new summits of economic growth through utilization of research capabilities linked to economic ventures and interests (EU, 2006). Recognizing this potential, energy research activities today are increasingly being conducted in various collaboration forms between government, science, and industry, so-called triple helix interactions (Etzkowitz & Leydesdorff, 2000), and are usually characterized by complex hybrid networks between different helix actors (Heimeriks et al., 2003).

However, collaboration is a complex phenomenon that is difficult to define. Though it serves many different purposes, it also poses difficult policy and organizational management problems (Smith, 2001). Helix research partnerships are highly challenging as they require cooperation between separate entities from different “cultural” backgrounds (i.e. governmental, scientific or industrial), with different aims and different sets of values (Porath, 2010). For example, a potential conflict point between scientific and industrial partners is the conflict between publication (academia) and confidentiality (industry), which is further complicated should the research project be both publicly and privately funded (i.e. financed through both government and industry partners) as placing the outputs of research into the public domain is one of the defining requirements of publicly funded research activities (Smith, 2001). If this is not resolved through well-defined contractual terms and management systems, it could lead to premature termination or collaboration and/or failure to reach research objectives. In addition to the challenge of facilitating sustainable and successful cooperation between partners with different purposes and goals, energy research partnerships, in particular large research projects involving multiple partners, often involve (industrial) partners who are also market competitors. Hence, firms trying to collaborate under such an atmosphere where co-opetition issues are very strong will have to lay down a strict set of cooperation rules in order to avoid conflict (Porath, 2010).

Failure to address the significant challenges (some of which are mentioned above) faced by such collaborative partnerships could ultimately lead to project failure (for example Lhuillery & Galiab, 2006; Lhuillery & Pfister, 2009). Faced with the potential for such (economically and socially) expensive failures, an urgent question for both scholars and practitioners is how energy research partnerships involving different partners can be designed, organized and managed to facilitate successful and sustainable collaborations.

Though much progress has been made in research management, even leading practitioners recognize that there remains much to learn (Kirkland, 2005). Especially in collaborative research, though there is wide consensus that collaboration offers powerful solutions to problems of scarce resources, excessive competition, quality control and scale of problem (Smith, 2001), the abyss between research management and organizational character of different partners are difficult to overcome as these are cultural differences which are harder to define and therefore harder to solve, hence making management of research partnerships even more challenging. Nevertheless, the development of collaborative research, its increased usage in particular for energy research and innovation promises great rewards to those able to understand its formation and function mechanisms, and the ability to control the cooperation in order to achieve the targeted goals (Porath, 2010). This leads us to the objective of our current paper, to provide an insight into successful research collaboration designs and identifying challenges associated with them, while highlighting the importance of the institutional environment following an intensive benchmarking process of leading energy research providers in different countries¹. In particular, our present paper presents issues relating to collaboration organization, research financing and personnel management in the field of energy collaborative research which are based on preliminary findings obtained through analysis of publicly accessible data and extensive personal interviews with key personnel in leading energy research organizations in Australia, Japan and USA.

The Importance of Institutional Environment

Like firms (Lin, Peng, Yang & Sun, 2009), research providers and how they design and manage collaborations differ across institutional frameworks. Strategy scholars have increasingly highlighted the importance of institutional environments (for example Oliver, 1997; Peng & Heath, 1996) as being more than background conditions in which decision making and management processes take place. They argue that institutions directly determine the resources that an organization has access to in its struggles to formulate and implement strategy (Ingram & Silvermann, 2002). Considering that institutions differ profoundly between different economies, be it formal institutions (such as laws, rules and regulations) or informal institutions (such as cultures, norms and values) (Peng, Sun, Pinkham, & Chen, 2009), different institutional environments would have a significant influence in shaping research organizations, the direction of their research activities and the modes of research collaborations.

As a key helix player, the government shapes the institutional framework of the energy research landscape in which collaborative research activities take place. Its most fundamental role is the reduction of uncertainty for

different actors by conditioning the ruling norms of behaviors, defining the boundaries of what are legitimate and setting strategic directions (Peng et al., 2009). Today, government and its agencies have developed new expectations of publicly funded research, as research is expected to make an explicit contribution, either socially, economically or environmentally. Through policy intervention, directed funding and other incentives, it significantly influences the direction of energy research to address the nation's energy priorities by placing funding with those research providers most likely to address the relevant issues (Smith 2001), as well as creating the environment and conditions for collaborative research between different research providers. This is illustrated for example through the directed funding of energy research and collaboration projects by the German government in its Energy Concept 2010 (BMW, 2010) and its 5th Energy Research Program (BMW, 2005), and by the USA government in its Advanced Energy Initiative (Li, Jenkins-Smith, Silva, Berrens, & Herron, 2009). Though it is an important player in promoting energy research collaborations through the creation of the collaborative research environment, the government does not necessarily have an active role in the managing of the project, often playing at most a supervisory role as it has a specific interest to show that fair play and transparency regarding public funds and their allocation has been maintained (Porath, 2010). As mentioned earlier, its main interest is in promoting the research to match the nation's needs and priorities, to meet its social, economic and environmental objectives, as well as to stimulate economic growth through linking research capabilities to economic ventures and interests.

The Benchmarking Process

We obtained an insight into how leading energy research organizations strategically organize their research collaborations and the challenges they face through analysis of publicly accessible data and extensive personal interviews with key personnel in numerous global research organizations. In this way, we are able to obtain qualitative information and feedback which will be otherwise not possible through using the more familiar benchmarking process of gathering quantitative performance indicators on a range of issues (Kirkland, 2005). The importance of the institutional framework in shaping energy research and collaborations has been discussed above. In the following sections, we will first introduce different general forms of research collaboration which we have identified in our benchmarking process. Following that, we will focus on triple helix research collaboration (i.e. organizational level collaboration), in particular on issues relating to collaboration management, research financing, and personnel management in research partnerships in leading energy research organizations in Australia, Japan and USA, as well as the corresponding challenges faced by each collaboration form. Note that the aim is not to present a representative sample. Rather, our intent is to gain insights into a range of research collaboration approaches, and hence stimulate different examples of good practices.

General Forms Of Research Collaboration

Research collaboration forms differ in their level of intensity. At its most basic level, research collaboration occurs between researchers, not organizations. However, societal and energy decision makers often refer to collaboration at other levels: between departments, disciplines, organizations, sectors, or between nations, which in its structure is more akin to a partnership, an alliance or understanding than traditional inter-researcher collaboration (Smith, 2001). Through our benchmarking process, we identified the following forms of research collaboration with differing levels of intensity and strategic significance (see Figure 1).

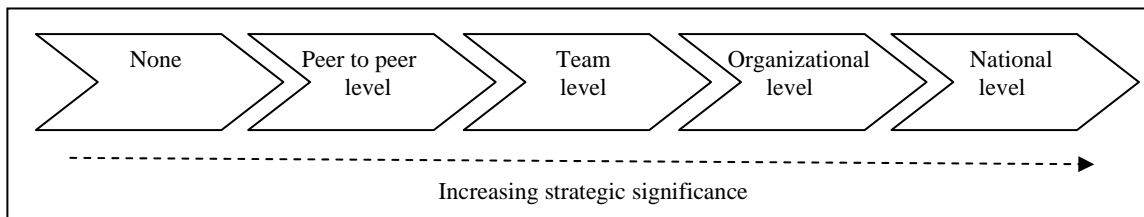


FIG.1: Research Collaboration Forms (Level of Intensity)

Peer to peer level research collaboration is pervasive in traditional university based research and is the essential building block of research activity, often originating from professor-research assistant/student relationships (Smith, 2001), as well as between academic and/or industry researchers with similar or complementary research interests.

Increasingly, with the growing demand for interdisciplinary capabilities to solve multidisciplinary issues, team level collaboration are being encouraged and promoted as the creativity essential to new knowledge production and innovation is frequently the outcome of the collectivity – the sum is greater than the individual parts (Smith, 2001, p. 135). Hence, bringing together research expertise from appropriate areas provides a competitive edge (i.e. bringing together researchers from different departments to solve multidisciplinary challenges. The Inter-departmental Organization for Environment and Energy in the Tokyo Institute of Technology, Japan, is such an example). As such, such team collaboration is often encouraged through funding initiatives by the government and public agencies in numerous countries. An example is the directed funding of collaborative research centers in universities by the German Research Foundation (DFG, 2011).

Organizational level research collaboration (for example between scientific and industry partners) enable research partners to secure access to resources otherwise unavailable to the organizations working in isolation (Smith, 2001). Such organizational level research collaboration offer significant benefits to collaboration partners. In a time where public funding has been scaled back in numerous countries, such collaborations allow scientific partners to obtain the financial resources necessary to carry out its research activities, and engage in knowledge transfer and in providing a pool of knowledge and expertise on which the economy can draw on. For the industry partners, collaboration with scientific partners allows them access to a free flow of basic knowledge, and the academy also provides a good support basis for further work and solving applied problems. Moreover, there is reduced strategic risk as the academy is not going to compete with the firm in the market. Additionally, there is also a reduction of risk and costs faced by being involved in a research or by investing in research infrastructure (Porath, 2010).

National level collaborations are often highly strategic in nature and set the stage and provide support for other forms of collaboration and technology transfer. An example is the cooperation of Germany with other European countries in the European Research Zone, where the German government promotes national level collaborations through creating the necessary framework conditions, supporting joint measure for the establishment and extension of international research alliances, initiating new collaboration initiatives, as well as helping to solve individual collaboration problems, if and when they arise (BMBF, 2011).

Triple Helix Research Collaboration In The Energy Context

As mentioned above, in addition to innovative research, energy research goals often involve achieving wider strategic social, economic and environmental objectives. Societal and energy decision makers are realizing that to achieve such goals and address a nation’s energy challenges, cooperation between government, industry and science is essential. This is because bringing together a mix of different disciplines and cultures from these three different players can lead to a “bigger bang for the buck” and the multiplier effect from this synergy can achieve more than organizations working independently (Alcock & Woodley, 2002, p. 28). As a result, energy research collaboration increasingly involves all three helix players (i.e. public agencies and multiple industry and scientific partners), with

the government playing a key role in promoting such organizational level collaborations between industry and science. Advantages include a reduction of research costs as research is shared between multiple partners. Furthermore, it allows partners to continue with other research projects and to spread their risks (Porath, 2010). Additionally, the scope of research covered in such research collaboration will also be wider than would optimally be expected from a single research provider (Kamien & Zang, 2000). An example of such multiple partners research collaboration is the German Centre for Energy Resources in Germany. The center carries out research addressing strategic energy issues and comprises of multiple scientific and industry partners, and is funded through both public and industry partners. The collaboration allows industry competitors to cooperate in strategic research development and gain access to multidisciplinary scientific resources. Moreover, it also allows the government to achieve its social, economic and environmental objectives, while strategically addressing the nation's energy challenges.

However, despite its potential, the growing importance of collaborative research involving multiple partners from different backgrounds aggravates the problem of research management. Main problems include: 1) If firms are technologically close enough to cooperate, they are close enough to be competitors in various ways, leading to co-opetition issues, 2) partners from different backgrounds have different sets of goals and values, as well as organizational and management cultures, 3) potential conflicts relating to publication versus confidentiality and intellectual property rights (Porath, 2010).

To address the above challenges in research collaboration, leading research organizations have developed alternative forms of research partnership programs. As organizational level research collaboration is fast becoming the norm in energy research, in the following sections, we will present insights drawn from three leading energy research organizations in Australia, Japan and the USA on how they address organization, financing and personnel issues in such research partnerships, and illustrate the corresponding challenges facedⁱⁱⁱ.

Australia

Concerned that there was not enough ready uptake of research innovation by the industry, the cooperative research centers (CRCs) program was established in 1990 by the Australian government to improve the effectiveness of Australia's research and development. CRCs are devoted to strengthening collaborative links between industry, research organizations and government agencies to achieve outcomes of national, economic and social significance. CRCs aim not only to resolve national challenges. Their goals also include the transfer of knowledge between researchers and industry, and the development of industry ready graduates. As such, it is a form of research collaboration actively utilized by the Australian national science research organization.

Organization: CRCs are based on strategic collaboration between multiple partners. They aim to bridge the gap between scientists, research institution, government agencies and private industries. CRCs are accountable for their own direction, progress and outputs. Each CRC is given a seven-year life span and is reviewed regularly (one, three and five years) to ensure they are meeting their key objectives.

CRCs are like virtual organizations, with researchers dispersed throughout the country depending on the location of research partners. As such, one of the biggest challenges in collaborative projects is a lack of clarity about who does what. Research objectives which are too board and which change along the way further complicate the matter. Additionally, due to its virtual nature, researchers' loyalties often lie with their home institutes, even though they know that their funding comes from the CRC. Furthermore, with multiple stakeholders and interests in a CRC, another main challenge is the management of intellectual property (IP) issues (for example the question of who's going to own what, and who can use what).

To overcome the above challenges, a CRC is set up as a complete separate company, much like a small-medium enterprise (SME). All partners are in the company with rights to IP and technology transfer. Each CRC has a board with an independent chairman, and each company/group of companies and each research organization/group of research organizations are represented on the board. However, non-research organizations are usually the majority on the board so as to ensure industry focus in the research undertaken. Board members are required (by law) to operate in the best interests of the CRC.

Furthermore, a CRC also tries to employ some independent employees who do not have divided loyalties. These include the CEO and core management and support staff. They will be employed directly by the CRC and are

not from any participating scientific institutions or companies. Moreover, to avoid conflict of interest, the CEO reports directly to the board, and not to anyone else. 100% of the funding goes to the CRC and the CEO is responsible for distribution of funds according to delivered results. In this way, the CEO has control over the funding and hence a lot of leverage in “encouraging” partners to cooperate with each other and to deliver research objectives as planned.

To ensure research quality, an international panel of experts (the research advisory committee) carries out periodic review of research results delivered by each CRC (for example every 2-3 years). However, though the panel of experts works with the CRC board to resolve research issues, they give their report directly to the government. This external review process thus encourages the CRC virtual team members to bind together.

Additionally, as different partners have different motivations for joining the CRC, there is a need to balance the different motivations and avoid conflict of interests. Each CRC thus works hard in separating research objectives from commercial objectives, and structuring relationships according to objectives.

Financing: CRCs are unincorporated joint ventures consisting of multiple partners. Competitive funding rounds are held by the government every 12 months, with the federal government funds seen as the “glue” attracting contributions from participants - approximately one-third from government and two-thirds from participants. There is upfront industry commitment of funds and resources based on legally binding agreements. This, together with government funding, represents a significant united funding base for each CRC. On average, each CRC has an annual budget of AUD\$7 million to cover operating costs and wages for staff (Alock & Woodley, 2002), which include cash and in-kind contribution by other core participants including companies, government agencies and universities.

Personnel: Generally, a CRC employs 100-200 people. However, as mentioned above, most people are not employed directly by the CRC (except for the CEO and core management and project support assistance staff) and most of the research is carried out by partner institutes and universities sitting in different locations.

Japan

A country with a different institutional environment is Japan. As a culture relatively high in uncertainty avoidance (according to Hofstede’s cultural dimensions), Japanese triple helix partners have developed an alternative form of energy research collaboration to address the nation’s energy priorities and challenges. As a country highly dependent on imported energy resources, the government plays a key role in directing the direction of energy research and in facilitating energy collaboration between scientific institutions and the industry. Our research with a non-profit energy research organization on their research collaborations with government, scientific and industry partners reveal the following insights.

Organization: Originally established and funded through the government, the research organization is today a private non-profit organization. As the organization addresses energy issues of national strategic importance, its chairman comes from one of the biggest power station in Japan while its president comes from the ministry.

The organization is funded 100% through a membership program. Board members include (special) members, chairman and president who sit together twice a year to discuss research priorities and progress. Additionally, members also sit on the organization’s committee of trustees.

To avoid conflicts, all IP rights belong to the industry partners. The research organization often takes on an intermediary role in bringing together market competitors to collaborate on research projects. For example, it drafts research proposals together with member companies to apply for research funds from the government, and undertakes the project planning and coordination when funds have been approved. In such a way, market competitors could collaborate together with the research organization on research projects whereby it takes over the project coordination and controlling. In such a way, all IP generated through the projects will be shared peacefully between the different partners as they’ll get government funds to subsidize their research.

Financing: Financial support is obtained through a membership program. Members are divided into four categories (special, class 1, class 2 and class 3). Members from different categories pay different amount of annual membership fees. In return, they obtain different level of research support and have access to different amount of information and research results.

Personnel: Personnel consist of both full-timers and part-timers (volunteers). The organization capitalizes on its members for research personnel resources and has an active and sustaining personnel exchange program with its industry members. Only coordination staffs are employed full-time by the organization itself. Other full-timers consist of external engineers and researchers on the exchange program (usually staying with the research organization for two to three years. When one engineer/researcher leaves, he will be replaced by another from the company/institution).

Interestingly, the research organization does not have its own research facilities or equipment to run tests and experiments. Only managing personnel sit in the organization's office and it collaborates with member companies for utilization of research facilities and equipment.

USA

The USA is the largest energy consumer in the world. The Advanced Energy Initiative, unveiled in 2006, aims to reduce the country's dependence on foreign energy and to promote the use of clean-energy technology (Li et al., 2009). However, despite calls from various sources for increased commitment to energy R&D to reach the above goals (Friedman, 2007), there has been a general historical decline in federal funding (Nemet and Kammen, 2007). Together with the deregulation of electric utilities following the Public Utility Regulatory Policies Act (PURPA) of 1978 (Russo, 2001) and the Energy Policy Act of 1992 (Li et al., 2009), these developments in the institutional environment have led to different forms of research collaborations between helix partners as they restructure and strategically position themselves in the energy market. The insights obtained through our research and interview with a leading non-profit energy research provider are presented below.

Organization: The research organization has developed a mechanism for a group of interested companies (especially local small-mid size energy distribution companies) to engage in research collaboration to address common issues using a consortium approach. Such a collaborative approach allows the participating companies to leverage their investments (in terms of funds and personnel) to minimize risks and improve the potential for success. Moreover, as each company has limited resources, this approach ensures minimized administrative and transaction costs while enabling them to address their most critical needs. Furthermore, it facilitates consensus building on projects that will impact regulatory issues (Snedic, Bernstein & Fiore, 2008).

In this form of collaboration, a group of interested companies come together to form a not-for-profit corporation. The board of directors consists of one member from each participating company. Its role is to provide strategic guidance on program priorities and set long-term goals and objectives, in addition to establishing procedures and program oversight. A technical project committee, comprising of representatives from member companies who typically meet in person twice a year, works closely with the research organization to identify challenges and issues that are to be addressed in the program, as well as specific topics that will be the focus of individual research projects.

To avoid conflicts between member companies, the corporation formed attempts to retain the IP for projects they fund (typically monetized later on through licensing arrangements).

Financing: Research funding is provided by the companies in the consortium. The number of customers that each company has determines the funding level for each participating company in the partnership. Funds received by the partnership from a member are held in trust by the partnership until the member directs the partnership to allocate a specific dollar amount to a specific project. As such, a participating company has the option to fund or not fund an individual project which the partnership will undertake. Each member will invest in the projects they wish to fund. Once participating companies elect to move a project forward and the scope of work is finalized, the project participants may elect to seek additional and/or leveraged funding outside the partnership (for example from public agencies).

Personnel: The not-for-profit corporation formed in the consortium approach has no employees. It is a virtual organization. The research organization is contracted to be the administrator of the partnership. Hence, in addition to providing research capabilities, its role includes the overall program management, back-office activities (for example financial accounting and contract administration), and commercialization activities (for example manufacturer identification and selection). However, research projects decided upon by the partnership are given out

on a competitive basis. Hence, external research providers could also bid for research projects given out by the partnership (though the research organization remains the main research provider for the partnership).

Conclusion

Innovative energy research and development plays a key role in addressing global challenges relating to sustainable development and climate change, in addition to national challenges of competitiveness, energy supply security and sustainable development. Increasingly, decision makers are recognizing that to meet the energy challenge, cooperation between government, science and industry is necessary. Today, energy research is often conducted in various collaboration forms involving government, science, and industry partners. However, such collaboration is a complex phenomenon which is difficult to define. Though it serves many different purposes and brings with it significant synergies and benefits, it also poses difficult policy and organizational problems as well as research management challenges. Through an intensive benchmarking study of research collaboration forms practiced by leading energy research organizations, we seek to identify factors which contribute to sustainable and successful research collaborations involving multiple partners, highlighting the importance of the institutional environment in which collaboration takes place. In the current paper, we share insights on different research collaboration designs as practiced by three leading energy research organizations in Australia, Japan and USA and discuss the corresponding challenges faced. Bear in mind that research management is an activity which has grown rapidly over the past two decades (Kirkland, 2005). Though our benchmarking exercise provides a snapshot and overview of current collaborative practices, we expect collaborative research management practices to continue to evolve as they react to changes in institutional environments and other challenges.

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For a full list of references, please contact the author(s).

End Notes

ⁱ This paper is based on preliminary findings from a wider study of collaborative research approaches in different countries in 2010, conducted by the Chair of Leadership, Management and Human Resources and the German Center for Energy Resources (Technische Universität Bergamakademie Freiberg, Germany).

ⁱⁱ The insights and information presented in the following sections is the based on preliminary findings obtained through analysis of publicly accessible data and extensive personal interviews with key personnel in these research organizations. Responsibility for any flaws and interpretative weaknesses in the present paper are, of course, due solely to the authors.

Economic Upgrading and Green Strategies in Global Value Chains

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Abstract

The possibility to realize sustainable production and consumption systems is coming to the fore as an important policy object and the literature is increasingly focusing on how firms are improving their environmental performance. However, changes in dynamics of production and trade in the global economy call for a Value Chain (VC) perspective in order to effectively understand the trajectories of the greening of industries. This paper contribute to the literature by expanding the knowledge on environmental upgrading and analyzing the conditions that may enable economic and environmental upgrading at the VC rather than at the firm's level. Leveraging on the Global Value Chain (GVC) and on environmental managerial literatures, the paper develops a theoretical framework to analyze environmental upgrading trajectories, namely process, product, functional and intersectoral and their implications in terms of firm's green strategies. Theoretical insights are complemented by the analysis of significant case studies in the home-furnishing industry.

Introduction

The importance of the environmental agenda for the industry has been rising exponentially at the international level in recent years. Both managers and policy makers are increasingly recognizing the business opportunities linked to the introduction of products and practices that reduce the impact on the environment. On the one hand, increasing consumers' awareness on the environmental impact of their consumption choices and their willingness to contribute to reduce the ecological footprint creates new market opportunities for companies. On the other hand, increasingly restrictive policies that punish environmentally harmful behaviors and the actions of NGOs and other environmentalism groups that raise the attention on firms' polluting behaviors, encourages firms to control the effects of their activities on the environment in order to reduce reputation risks and avoid additional costs.

Academics and practitioners are increasingly focusing on which strategies are implemented by firms to reduce their environmental impacts. However, in order to understand the trajectories of the greening of industries to focus on single firms is not enough anymore: the disintegration of production and the integration of trade that is increasingly characterizing the global economies call, instead, for a value chain perspective (Feenstra, 1998; Gereffi, 2005). Increasingly, production activities of developed countries' firms are delocalized or delegated to developing countries' suppliers. To reduce their impact on the environment, therefore, firms increasingly need to deal with activities spanning outside their boundaries. To become environmental leaders means increasingly to organize green value chains while taking advantage of the international division of labor.

Despite the literature on the management of supply chains activities to achieve environmental improvements is growing, it is still sparse and not focusing on the peculiarities of the global dimension of the current competitive arena nor on the economic gains that firms can achieve through these green strategies. This paper sets out to fill in the gaps in the literature by investigating the possibility to achieve combined economic and environmental upgrading in a globalized setting. In the first section, the paper presents the managerial studies focused on business approaches to environment and in the second the global value chain theoretical framework. In the third section, we propose an integrated theoretical framework leveraging on the literature on green strategies and on the global value chains and, in the fourth section, we apply it to the analysis of successful case studies in manufacturing industries in Italy. Conclusive remarks are then discussed.

Green strategies

Academics' and practitioners' contributions on the importance for firms to control the environmental performance of production activities have mushroomed in recent years. More and more their analyses are asserting, on the one hand, the importance for firms to consider also the activities performed by their value chain partners, on the other hand, that those activities may represent a source of innovation and competitive advantage rather than a burden. If in the past the focus was mainly on the analysis and the design of policies to boost more environmentally friendly production and consumption systems, more and more lead firms are considered as the potential actors of the change. Thanks to their market power and their capabilities, lead firms may be powerful spurs for the reduction of environmental impacts also at their suppliers, transferring environmental standards and best practices of the North to the South (Jeppesen and Hansen, 2004; van Tulder, 2009). By rethinking the production process according to the life cycle approach (LCA), reducing wastes and energy consumption along the value chain and by incorporating the environmental considerations into the design of new products, those firms are seeking not only to obey to the legislation or to protect from NGO's criticisms but also to achieve a competitive advantage.

The managerial literature is increasingly addressing the potential link between economic and environmental benefits or, more in general, benefits for the society. Contributions focusing on the Corporate Social Responsibility (CSR) have highlighted why and how multinationals are increasingly responding to their stakeholder's expectations in considering environmental and social impacts of their and their suppliers' activities. Using the corporation as the focus of the analysis, these contributions have addressed the challenges and opportunities of the integration of environmental thinking into supply-chain management, focusing mainly on stakeholders' management. The contributions of Porter and Kramer (2002, 2006) took this literature a step further by connecting environmental and social activities of firms to their core businesses and strategies. Starting from the identification of different justifications to the CSR for the companies, the authors focused on the interdependencies between the companies and the society, identifying three general categories of social issues in which economic, social and environmental benefits may co-exist. Focusing on the elements of the competitive context *à-la-Porter*, firms can "identify areas of overlap between social and economic value that will most enhance its [...] competitive advantage" (Porter and Kramer, 2002). To achieve these goals firms have to pursue a strategic approach to CSR and environmental activities, which adds to the firm's value proposition and is strictly connected to its overall strategies. Similarly, the strategic management literature has focused on different economic advantages and different strategies the firms can implement to achieve social and economic goals. Environmental management strategies are usually distinguished by the intensity of the investment to reduce the impact on the environment and the attitude toward external stakeholders' pressure. Buysse and Verbeke (2003), for example, through an empirical examination of Belgian firms, empirically identify three dominant strategies, which closely resemble those predicted by theoretical contributions in the environmental resource based view literature, namely *reactive*, *pollution prevention* and *environmental leadership*. The latter strategy is that in which environmental concerns are the most pervasive in the firm's strategy, and in which other stakeholders than regulation are considered important for strategy setting. Similar classifications of firm's environmental strategic stance have been elaborated based on how deeply environmental issues are integrated within the firm's overall strategy and how many decision areas they affect (Lee and Rhee, 2007). Lee and Rhee (2007) expand the previous classifications by explicitly considering the consideration of the activities of the value chain partners in the strategy setting process. Other than the *reactive* and *proactive* strategies, they identified also the *focused* and the *opportunistic* categories, identifying firms that focus, respectively, on environmental activities inside or outside the company, i.e., engaging in supply chain management activities.

If the majority of the contributions on environmental strategies simply describe firms' attitude and actions without considering the economic motivations of their activities, Orsato's contributions focused specifically on the competitive advantage sought by firms through environmental improvements. Based on Porter's competitive advantage models, Orsato (2006) proposed four general types of competitive environmental strategies, depending on the firm's competitive focus and its competitive advantage. When the focus is on organizational processes and the company competes offering the lower costs *eco-efficiency* is a strategy that ensures economic gains while reducing the impact on the environment, reducing waste and the use of resources and of energy along the value chain. When

the competitive advantage the companies seeks is differentiation, *beyond compliance leadership* will rather be a better bet, enabling them to leverage on the final markets thanks to eco-labeling or marketing instruments that make consumers aware about its efforts. The third strategy identified by Orsato is *eco-branding*, a strategy in which the company seeks to differentiate from competitors by offering eco-friendly products and services. The premium-price the consumer may be willing to pay for those products will represent a clear economic advantage for the firms that produce products with less harmful raw materials or in a more environmentally sound manner. Finally, the *environmental cost leadership* is intended to compete on lower prices, but implying more radical modifications than the eco-efficiency strategy, by revisiting the products or services. Firms' characteristics such as size and managers' attitude, the structure of the industry and the types of markets will likely affect the choice between one strategy and the others (Orsato, 2006; Lee and Rhee, 2007; Murillo-Luna et al., 2008).

Despite the great contribution in the understanding of how firms can gain from the reduction of the environmental impacts, these contributions barely focus on the strategy implications of considering activities of value chains partners. Branching from Supply Chain Management, a new stream of literature has developed, focusing around what has been named Green, Sustainable, or Environmental supply chain management (GSCM). Empirical and theoretical contribution within this stream of literature have addressed the topic of how to integrate environmental thinking into supply-chain management, analyzing the specific strategies of lead firms in aspects, such as eco-design, waste management and green operation to improve the environmental performance of their suppliers (Srivastava, 2007; Seuring and Müller, 2008). Those contributions highlight the pivotal role of lead firms in fostering environmental improvements at suppliers. They suggest that, in order to effectively enable such changes in the supplier's activities, these firms enact knowledge transfers and technical cooperation on innovative activities that add to the reciprocal dependency, shifting from arm's length toward more complex governance structures (Geffen and Rothenberg, 2000; Meyer and Hohmann, 2000; Goldbach, 2003; Simpson and Power, 2005; Simpson et al., 2007). Despite the intentions, those studies focus just on first-tier relations rather than taking the whole value chain as the main objects (Seuring, 2004; Seuring and Müller, 2008). Furthermore, those contributions very often miss to consider the economic side of these environmental improvements, lacking in particular in the analysis of the overall firms' strategy rather than single aspects (e.g., eco-design, supplier management,...), which is rather a strength of the managerial literature. Conversely, the managerial literature lacks in the analysis of value chains strategies, despite external stakeholders, including customers and suppliers other than regulation, are pointed to in many contributions as key players in spurring environmental strategies (Buysse and Verbeke, 2003; Chan, 2010). On top of that, both literatures miss in capturing the specificities of the geography of production: a thorough analysis of environmental dynamics within value chains cannot abstract from considering the globalization of the production and consumption systems. Globalization poses specific challenges to firms that aim to reduce the impact of their products on the environment, adding to the complexity of coordination because of higher distances and because of differences in the business habits and environmental legislation, especially when it comes to trade between firms from the North and the South. The more production is fragmented among actors globally dispersed, the more firms are compelled to shape their environmental strategies explicitly considering the global dimension of production, both to reduce the environmental problems linked specifically with global logistics and production and to take advantage of the economic opportunities of the international division of labor. In this paper, we suggest that the use of the Global Value Chain framework may well complement these insights from these GSCM and the managerial literatures, filling in the existing gaps in the knowledge of environmental and economic upgrading in a context of fragmentation of production at a global level.

Competing in global value chains

The global value chain approach (GVC), which developed since the mid '90s, is emerging as a key tool in analyzing the division of labor between independent actors from developed and developing countries, focusing on the role of global players in shaping the development trajectories of such chains, their governance structure and innovative activities (Gereffi and Korzeniewicz, 1994; Gereffi, 2005; Gereffi et al., 2005). The GVC framework is primarily interested in understanding the nature and the content of inter-firm linkages that span international borders, taking

the step from the recognition of a disintegration of production, moving from a model of vertically integrated firms to the development of complex forms of coordination between independent actors globally dispersed. Value chains are analyzed along four main dimensions: i) an input-output structure, which encompasses all the activities of the value chain; ii) a geographical configuration, giving and account on where activities are located; iii) an institutional context, encompassing government and non government agencies but also rules that govern society and the economy, and iv) a governance structure (Bair, 2009).

We believe that the GVC would be a useful framework to understand the possibilities to achieve jointly economic and environmental improvements for several reasons. First of all, the GVC framework enables to focus on the role of lead firms in shaping the development of value chains and governing the flows of products and knowledge. Since its earlier contributions (Gereffi and Korzeniewicz, 1994; Gereffi, 2005), this literature focused on the role of lead firms, as “key drivers in the formation of globally dispersed and organizationally fragmented production and distribution networks” (Gereffi et al., 2005). By focusing mainly on low-tech manufacturing industries, empirical contributions identified two main typologies of lead firms and therefore two forms in which global players explicitly coordinated activities of first and second tier suppliers: buyer-driven and producer-driven chains. Later contributions characterized different typologies of coordination mechanisms taking place within GVC, namely market, modular, relational, captive and hierarchy, but still underlined the pivotal role of lead firms in shaping global production networks (Gereffi et al., 2005). The rise of global and regional production networks significantly affected developing countries, with positive and negative impacts on their production and consumption patterns. Lead firms proved to be key actors of this process, by managing global value chains that represent a significant proportion of global trade and by imposing standards in their industries. By requiring developed-countries’ environmental standards to all suppliers and by transferring technology and knowledge, lead firms may decisively contribute also to the environmental improvements at their suppliers and beyond (Jeppesen and Hansen, 2004; van Tulder, 2009). If it is argued that environmental upgrading in the North is mainly driven by stakeholders and competitive pressures, in the South market and lead firms have the potential to be the main drivers of the change (Jeppesen and Hansen, 2004). The GVC literature seems an appropriate framework to understand environmental upgrading also because it has an explicit focus on activities spanning international borders yet acknowledge the importance of local and national institutions and of geographically rooted competitive advantages. As it was already argued, the fact that both the environmental impacts and the economic gains take a global dimension put specific challenges to the strategic approach of firms.

Furthermore, much of the theoretical and empirical contribution of the GVC literature have explicitly focused on the opportunities in terms of learning and market access for developing countries’ suppliers as they participate in value chains lead by developed countries’ firms, which is referred to as *upgrading* (Gereffi, 1999; Ponte and Ewert, 2009). Economic upgrading has been defined as ‘the process by which economic actors – nations, firms and workers - move from low-value to relatively high-value activities in global production networks’ (Gereffi 2005). Upgrading imply therefore going up on the value ladder, moving away from the “low road” in which competition is high and entry barriers low (Giuliani, Pietrobelli, and Rabellotti 2005) and that does not represent a sustainable strategy in the long run (Kaplinsky and Morris 2003). Four typologies of economic upgrading have been identified (Humphrey and Schmitz 2002; Barrientos, Gereffi, and Rossi 2008):

- Process upgrading, transforming inputs into outputs more efficiently;
- Product upgrading, moving into more sophisticated and advanced product lines;
- Functional upgrading, performing higher value-added activities such as marketing or logistics;
- Intersectoral or chain upgrading, moving toward different chains, more technologically advanced.

The insights developed within this stream of the literature are particularly instructing because they suggest different categories of (economic) upgrading, or downgrading, and because they link the upgrading possibilities of firms with different governance structure of the value chain implemented by lead firms (Ponte and Ewert, 2009). If by now the literature has focused mainly on economic upgrading (Gereffi, 2005), it is recently enlarging to take into account also the social dimension of upgrading, considering the impacts of the inclusion in global value chains on the entitlements of workers and the quality of employment, and inquiring into the conditions leading to a joint improvements of the competitiveness of firms and the social conditions of workers (Barrientos et al., 2010).

Green strategies, environmental and economic upgrading: an integrated framework

We aim at further the GVC analytical tool to include the environmental dimension. In this setting, we define environmental upgrading as the process by which economic actors move toward a production system that avoid or reduce environmental damage of their products, process or managerial systems.

As previously described, the literature emphasized different approaches a firm can follow to transform its business into a green one. However, given the high fragmentation of production, the point is to understand how firms may reduce the impact of all the activities performed to realize their products, including that of suppliers and sub-suppliers, therefore moving the focus from firm's level strategies to value chain levels. The firms – specifically those specializing in products for final markets – are asked to develop interactive relationships with their suppliers as well as with other key players in the value chains – from universities to other KIBS and final users' association – to create and share new environmental knowledge and jointly develop green products or processes. According to Jeppesen and Hansen (2004), lead firms can promote environmental upgrading through standard setting, monitoring and control and technical collaborations. The possibilities for a lead firm to ensure the environmental upgrading of its suppliers will depend on the balance between the lead firms' market power and the suppliers' bargaining power. But which strategies do the firms implement to reduce the impacts along the entire value chain, or in other words, which environmental upgrading trajectories can lead firms implement in their VC?

We assert that the managerial literature on environmental strategies can incorporate the framework of global value chains to improve the understanding of the consequences of the green strategies toward a higher level. More specifically, we observe interesting convergences between the GVC concept of upgrading and the theoretical framework on green strategies outlined by Orsato (2006, 2009). In both the approaches, it is highlighted that the value creation (and achievement) can be related to the strategic control of products and/or processes. While the former is focused on how those product and process upgrading can effect the repositioning of the observed player (the lead firm) into its value chain – globally considered – the latter depicts the environmental competitive advantage into the 2 by 2 matrix of Porter's basic strategies. In our view, the two approaches can be considered as complementary: by adopting one of the green strategies described by Orsato, a firm can not only redesign its competitive advantage, but also upgrading its position into the value chain it belongs to.

More specifically, the firm can improve its process by transforming it into a more sustainable one saving energy or reducing material use. Similarly, it can improve its product through new design or the use of new components and materials. In terms of functional upgrading, the firm can include into its organization a specific function that is primarily devoted to set up, manage and monitor the implementation of its environmental strategy. Such function can integrate, support or lead the activities of other specific functions such as R&D or design department, supply management or manufacturing department. Even the inter-sectoral upgrading can be lead by new green approaches, since the firm can be interested in including into its range of activities new ones related to specialization not previously covered (such as in the case of Tetrapack and its involvement in recycling processes, see Orsato, 2009). The process(es) considered can be either within the firm's organizational boundaries or – from a broader sustainable approach – shared with suppliers, retailers and/or customers. The power of the GVC framework is that it enables to capture the overall improvements in the chain, without limiting just to the changes in the focal firms activities. Adopting a GVC framework in the analysis of environmental upgrading means also considering the geographical dimension of the value chain. From this point of view, in adopting a green strategy – in terms of both products and processes – the firm has to consider how the entire value chain impacts on the environment. This means considering not only suppliers, but also retailers, customers, technology and machinery providers as well as related industries that will be involved by the production of the “green” product or by the new green process put in place.

The process upgrading - defined in the GVC literature - in environmental terms can refer to the strategies of Eco-efficiency. A firm can transform its internal processes by redesign them on the basis of new environmental standards or goals. The strategy defined as “beyond compliance leadership” can also be referred to the process-upgrading framework, but it can also induce the firm to develop new functions and play a new role in the value chain (functional upgrading). The outcome could be efficiency or differentiation i.e. a better corporate image. The product upgrading - defined in the GVC literature - in environmental terms can occur in terms of the strategic approach of Eco-branding or Environmental cost leadership. No matter the strategic focus on costs or differentiation, through one of those two strategies a firm can increase the value achieved within the value chain and reinforce its competitive

position. By considering the corporate strategy option, the environmental cost leadership can also affect the industries in which the firm competes (inter-sectoral upgrading). The two upgrading options of functional and inter-sectoral upgrading can in fact refer also to the corporate strategy options. Approaching the environmental sustainability do not only transform the business the firm competes in, but also can modify the firm's approach to its competitive arena, by opening up new opportunities of business to cope with the sustainability requirements.

Fig. 1 summarizes how environmental upgrading in value chains and firm's strategies can match according to the framework we propose. Green strategies thus can lead a firm to reach economic upgrading benefits in terms of higher position in its value chain. This result can be obtained by focusing on product or process environmental upgrading, which can also produce a functional upgrading or extend the firm's competitive domain (inter-sectoral upgrading). However, managerial studies in environmental innovation stressed that green product innovation usually requires also a transformation in business process both internally and within the value chain. Consistently with those contributions, we argue that there is not linearity from process to product upgrading, as stated in the GVC framework, when considering the "green option". Rather, as also proposed by Orsato (2009), the distinctions among the green strategies is not fix, while the two dimensions of upgrading are reinforcing each other and push the value chain to a step forward. The concept of upgrading can help the firm understanding the opportunities related to the adoption of an environmental strategy, where the definition of the competitive focus (organizational process vs. products or services) becomes the second strategic decision to make. By coupling economic and environmental upgrading a firm can increase its power within the value chain – due to its new competences, market relationships or technology control. However, in the case of environmentally-based strategy, the green innovation on products or services requires to increase the level of cooperation among the players in the value chain and, hence, the role of standards can have a crucial importance as well as the relational dimension (GVC governance).

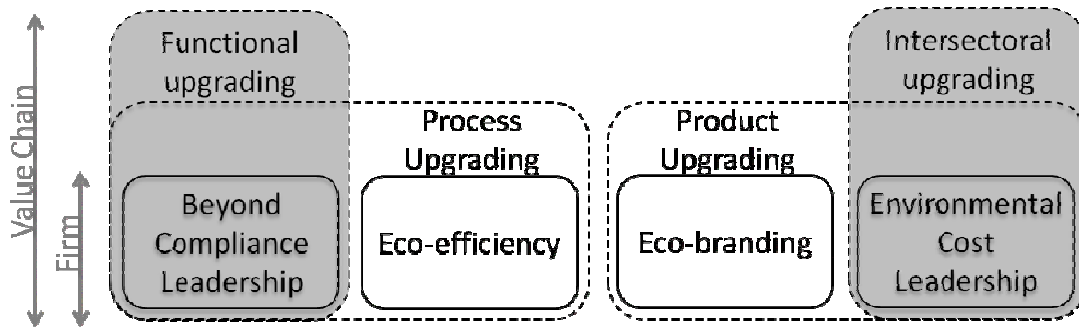


FIGURE 1: THE PROPOSED FRAMEWORK FOR ENVIRONMENTAL UPGRADING STRATEGIES.

Case studies

In the following we present four case studies, one for each environmental upgrading strategy identified above, which aim to illustrate the proposed framework and how the four strategies may interact in an empirical setting (Siggelkow, 2007). The narrative is based on interviews with entrepreneurs and managers of firms that successfully reduced their environmental impacts while achieving economic advantages. Given the purpose of developing theory on green strategies, we purposely selected firms that put the environment at the core of their business and of their communication effort. The firms have been selected by considering their investments in the green domain as a strategic asset of their strategies. All firms are specialized in the same industry, the home-furnishing and are located within the same geographical area – the Northeast of Italy.

Friulintagli: process upgrading

Friulintagli is specialized in the production of paper and veneer wrapped profiles and doors, furniture elements and flat packed furniture. Established in 1968 as an artisan furniture manufacturer, it is now a leading firm in the European market, employing 850 workers in the development and production of large quantities of low-costs products for

mass retailers. The company started to consider its environmental impact as a direct consequence of the requests of its main customer, IKEA, which was concerned in increasing environmental performance of its value chain. If at the beginning the environmental strategy of Friulintagli was “reactive”, with respect to the customer’s requests, it may now be defined as “proactive”, being at the core of its business strategy.

The company heavily invested in its production process to achieve environmental sustainability, which allowed it obtaining process certifications such as ISO14001 (eco-efficiency). Friulintagli have optimized its logistic, improved its manufacturing efficiency and lessened considerably its production wastes. Other than reducing the use of energy, it is increasing the share of energy coming from renewable sources. In order to achieve those environmental goals it heavily invested in equipment and machinery and revisited the way it manufacture its products. For example, it acquired photocell-equipped machineries that enable to reduce the energy consumption by ensuring that machinery works just when needed and substituted machineries’ engines and the existing lighting systems with more energy-efficient ones. Furthermore, it substituted the existing boilers with more efficient ones, which enables to lower emissions and recycle chips – waste from the production process. Finally, it adapted its production process to use glues and varnishes that are less toxic than traditional.

By reducing energy and materials used in the production process and improving the logistic and the waste management, Friulintagli is an example of how it is possible to both reduce the ecological footprint and improve the production efficiency, which allow the company remaining competitive with respect to firms located in lower-costs countries.

ILCAM: functional and process upgrading

ILCAM is a group based in Gorizia, in North-East Italy, with subsidiaries in Slovenia and Romania, which is specialized in the production of furniture frontals and components. In 2009, the group employed 760 people and its turnover was 99.6 MI Euros, realized mainly in foreign markets.

ILCAM started along a sustainability path because it was a specific request of its foreign buyers. Being a highly automated company whose competitive advantage is the ability to keep prices low, it introduced several process and organizational environmental innovations, by investing in more efficient machineries and by optimizing its production processes. ILCAM revisited its logistical and packaging systems, to reduce waste and the use of nonrenewable materials. Moreover, it modified its equipments to use water-borne varnishes, which are less toxic and polluting than traditional ones, and substituted PVC and traditional glues to the advantage of new materials, which ensured lower levels of formaldehyde emissions (beyond compliance leadership strategy). However, ILCAM is also a case of functional upgrading in that it performed more value-added activities to reduce its environmental impact. To comply with customer’s requests, the group decided to use FSC certified wood, i.e., wood from forests certified as responsibly managed. Since, at that time, it was difficult to supply the needed quantities of FSC certified wood on the market, the company decided to manage the forestry and sawmills steps of its value chain internally, through its own subsidiary in Easter Europe that underwent the FSC certification process.

ILCAM can be considered an example of functional upgrading, in which the firm performs new value-added activities in order to improve its environmental performance. It is interesting to notice that those activities were upstream the value chain (raw materials) rather than downstream (marketing and design), how is it most common in economic upgrading cases. The inclusion of environmental concerns in the business activities, in fact, may spur firms to be directly involved in the management of raw materials and the initial steps of its value chain.

Valcucine: product upgrading

Valcucine is a leading company specialized in high-end and design-driven kitchens and parts thereof based in Pordenone, in Italy. It is a small yet very successful enterprise: in 2009, it employed 171 persons and had a turnover of 36.4 MI Euros, almost half sold in foreign markets. Thanks to the attitude of the entrepreneurs, the tension toward the reduction of production and consumption’s impacts on the environment characterized the firm’s activities since its foundation in 1980 but grew in the years until becoming one of its core competitive advantages, strongly built in its corporate culture and brand (eco-branding strategy).

Since the company relies on external suppliers for most of the production activities, it invested mainly on the product to reduce its environmental impacts. Thanks to its design and R&D effort, Valcucine introduced several product innovations, consisting of the use of recyclable and recycled raw materials, the reduction of toxic emission due to the varnishing, the development of recyclable products and products using less energy and materials to be

produced. Furthermore, the company strives to reduce the impact of the products during their use at the final customer, by installing just highly-efficient electronic appliances and lighting systems and ensuring a longer-than-usual product's durability. Among its most interesting and break-through product innovations is the development of kitchen's doors, worktops and base units that allow a reduction up to 70% of the raw materials used, which is now used in the majority of its products. Similarly, it developed a 100% recyclable kitchen, thanks to the use of recyclable materials – glass and aluminum – and to an innovative design that facilitate disassembly.

Valcucine is a case in point of how a firm can upgrade by introducing new products, reducing the impacts on the environment while achieving economic advantages through a differentiation strategy. Thanks to the careful design and the R&D effort, the environmental upgrading takes place not only at the lead firm, but also at the suppliers, which are asked to produce products more efficiently or employing less-polluting raw materials.

Aquafil: product and inter-sectoral upgrading

Aquafil is a global Italian-based company specialized in the production of Nylon yarns and a European leader in fibers for carpeted floors. Formed by twelve companies located from North America to Asia, in 2009 Acquaafil group had a turnover of 337,887 Ml Euro. It started to develop a green strategy in the mid- 90s, driven by the requests of its main client, Interface – a US based multinational company leader in the production of carpets and products for the residential markets. The Interface's CEO Ray Anderson asked to all its strategic suppliers to take the opportunities of a sustainable strategy. Giuseppe Bonazzi, President of Aquafil decided to accept the chance and to turn its company into a green one.

Being a chemical-based company, Aquafil invested in many directions to reduce its business environmental impacts. From 2008, Aquafil published its sustainability report that summarizes all the results the group has achieved in terms of environmental benefits – lower pollution, reduced use of resources, energy production, etc – and clarify the sustainable strategy adopted. A key investment was to develop a new product line – the Econyl – a recycled polyamide, which in 2009 was awarded the “Sustainable Product” approval by UL Environment, being Aquafil the first manufacturer in the world to be allowed using this certification mark for these products. The core idea at the basis of this product is that of reducing the impact on the environment of carpets dismissed i.e. due to building renovation. This product, usually produced many years ago, is difficult to transform because of the chemical materials used in their original production. Through its R&D, Aquafil was able to develop a new recycling process that allow the company obtaining safe new inputs for new polyamide, also with limited impacts in terms of water use, waste, CO2 emissions and energy saving. According to the sustainability report, “Econyl 70 contains 70% post-industrial recycled material and 30% virgin raw material and makes Aquafil market leader for recycled products.” (p. 22). Many Aquafil's customers – Interface among them – shared this sustainable vision and developed entirely new carpet lines based on this new recycled material. Among the many green projects promoted, Aquafil invested also in energy production and management through a cogeneration plant (in 2006) that allow the company managing energy more efficiently.

Such case study can be considered a successful example of product upgrading in terms of environmental cost leadership, where the company develops a completely new product pushed by a new environmental-friendly approach. At the same time, it can also be explained as a case of inter-sectoral upgrading. The development of such new product asks Aquafil to enter into a new sector – the recycling industry – since the company had to design the reverse supply chain for used carpets as well as invest in new technologies and processes for recycling.

Conclusions

In this paper, we proposed an integrated framework to understand how firms may achieve jointly economic and environmental improvements managing their value chain. Differently from the previous literature, which studies strategy from the firm's point of view, we focused on the entire value chain, to understand the trajectories of greening in the context of “disintegration of production and the integration of trade” (Feenstra, 1998) that characterize the global economy. In particular, leveraging on the managerial literature on environmental strategies and on the GVC, we identify four environmental upgrading trajectories for a value chain that may correspond to four firms' green strategies, supporting the evidence with case study analysis. Future research should improve this study by investigating the impact of the geographical dimension of the value chain on green strategic options of firms and

related environmental upgrading trajectories. Furthermore, in depth-studies and quantitative research may improve this study, exploratory in nature, by better characterizing each of these upgrading trajectories and by assessing their recurrence in developed and developing countries and identifying under which conditions we may expect one strategy or the other to arise.

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On Affective Rationality in Assessing Alternative Energy Options: Evidence from Germany

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Abstract

Debates about energy are often loaded with emotions, which pose a significant challenge to societal and energy decision-makers as they have to consider affective decision-making in the energy context. Drawing on studies on affective rationality, we develop and empirically test a model of how affects toward energy sources influence energy judgments. Findings highlight the importance of the contextual environment in affective evaluation. While positive affects toward renewable and negative affects toward fossil energies were predictable, mixed results toward nuclear energy were not. The study utilizes the concept of affective rationality to better understand affect-loaded decision-behaviors in the energy context.

Keywords: affective rationality, energy, decision-making

Introduction

Continued global population growth, rapid industrialization and modernization, in particular in the BRIC economies, together with globally increased standards of living (e.g. housing, mobility, and computerization) will continue to drive the demand for energy-related services and amenities around the world. Sources to satisfy this immense energy hunger are limited mainly to fossil energy sources, nuclear power, and renewables, with fossil fuels currently dominating the world's energy supply mix (EIA, 2008). However, since the Club of Rome raised considerable public attention with its report "Limit to Growth" (Meadows et al., 1972), modeling the consequences of a rapidly growing world population and finite resource supplies, there is increasing global awareness about the scarcity and finiteness of fossil energy sources. Today, this concern has broadened to the carbon impacts from fossil sources and their role in global warming and climate change (e.g. Dincer, 2000; IAC, 2007), in addition to issues of concern regarding nuclear energy such as plant safety (e.g. Chernobyl), radioactive waste disposal, and potential of military or terror threats (EIA, 2010). Such concerns have led to numerous fierce and frequently highly emotional debates in both national and international arenas about what should or could be the right answers to the energy challenges of competitiveness, energy supply security and sustainable development.

Such affect-loaded energy debates have two major implications for scholars, societal and energy decision-makers. First, in the controversial field of energy policy and management, there is a need to more thoroughly understand "affective rationality" (Slovic et al., 2007). Scholars in numerous fields (e.g. Damasio, 1994; Finucane, Alhakami, Slovic & Johnson, 2000; Kahneman, 2003; Loewenstein, Weber, Hsee & Welch, 2001; Thaler & Sunstein, 2008) are increasingly highlighting the explanatory power of affective rationality, which emphasizes the interplay of affect with rational reasoning in influencing and guiding judgments and decision-behaviors. Second, management and policy decision-makers can neither ignore public opinion nor -consequently- affective decision-making. Public opinions are critical components in the socio-political and economic-ecological contexts in which energy decisions take place (Leiserowitz, 2006). A failure to understand and address public energy concerns and their acceptance of corresponding energy innovations can have dire consequences, as illustrated by the anti-coal movements in the USA (Sheppard, 2009) and Australia (Williamson, 2009), and more recently by the large scale protests against nuclear energy and transport (Slackman, 2010) in Germany. Therefore, in order to avoid misunderstandings and escalations, gaining insight into people affects toward different energy sources and potential moderators of their affects are essential.

Though numerous studies have investigated citizens' knowledge, attitude and perception of energy, such studies have either been too general to enable an insight into how affect influences people's judgment and decision-

making, or they have focused mainly on affect towards nuclear power. To fill the aforementioned gaps, the objectives of our study are the investigation of affective responses toward a full range of energy sources, and investigating the impact of important moderators on affect. By addressing these research objectives this paper contributes to insights into affective rationality in the controversial fields of energy policy and management. By putting affects of public citizens in the spotlight, the present study thus contribute to efforts by societal and energy decision makers to develop sustainable energy policies and energy investment decisions which will be supported by the majority of their stakeholders, facilitate better strategic planning and budgeting efforts as well as more efficient channeling and investment of funds in energy research and development, in addition to the development of better targeted programs to change stakeholders' opinions by communicating convincing arguments.

Literature Review

The field of judgment and decision making has long neglected the influence of “hot processes” i.e. the experiential system on decision behavior in favor of a focus on “cold”, deliberative, and reason-based decision making i.e. the analytic system (Shafir, Simonson & Tversky, 1993). One reason is partly because “hot processes” are viewed primarily as biased and leading to irrational choice behavior (Peters, Västfjäll, Gärling & Slovic, 2006). However, decision scholars are increasingly emphasizing the importance of affect in guiding judgments and decision-behaviors and frequently speak of “affective rationality” (Slovic et al., 2007). Though analysis is certainly important in some decision-making circumstances, reliance on the experiential system i.e. affect is a quicker, easier and more efficient way to navigate in a complex, uncertain and sometimes dangerous world (Slovic et al., 2004). Slovic and colleagues (2007) propose the “the affect heuristic”, arguing that especially when the required judgment or decision is complex or mental resources are limited, affect may serve as a cue for many important judgments. In their “risk-as-feeling” hypothesis, Lowenstein and his colleagues (2001) show that when emotional reactions to risky situations diverge from cognitive assessments, emotional reactions often drive behavior. Scholars in numerous fields (e.g. Damasio, 1994; Kahneman, 2003; Thaler & Sunstein, 2008) now recognize that the experiential mode of thinking and the analytic mode of thinking are continually active and interact in “*a dance of affect and reason*” (Slovic, Finucane, Peters & MacGregor, 2004, pp.314).

Additionally, researchers have observed important moderators of affect, especially in the field of risk perception. One such significant moderator of affect is gender, where evidence from numerous studies on people's risk perception shows that women express far greater concern than men with regard to a large number of health and environmental hazards (Davidson & Freudenburg, 1996). Additionally, scholars also observe that the knowledge which a person gains through his/her participation in certain activities, e.g. research field, appears to moderate perceptions to energy technologies and associated hazards (Barke, Jenkins-Smith & Slovic, 1997). However, research on moderators of affective responses in the energy context has mainly focused on nuclear power and environmental risks (e.g. Davidson & Freudenburg, 1996; Barke et al., 1997). To the best of our knowledge, potential important moderators on affective responses to multiple energy sources have not been empirically tested.

Aware of the crucial role of the general public and their influence on energy debates and decisions, large scale surveys on citizens' attitudes and perceptions of energy-related issues have been carry out in numerous countries such as in the European Union, USA and Australia (EU Commission, 2007; Jenkins-Smith & Herron, 2007; Ashworth et al., 2009). However, these surveys were too general and provided limited insight into public's affective responses toward different energy sources. Furthermore, the influence of potential moderations such as gender and knowledge on perceptions and attitudes toward energy sources was not investigated in the above mentioned studies. Our present study thus addresses the aforementioned gaps by focusing on two specific research questions, namely, investigation of 1) affective responses towards alternative energy sources and 2) factors which potentially influence affective responses towards different energy sources.

Research Model and Hypotheses Development

Evidence from accumulated studies on affective decision-making suggests that affect plays an essential role in influencing judgments and decision behaviors (e.g. Alhakami&Slovic, 1994; Finucane et al., 2000; Loewenstein et al., 2001). The key role of affect in influencing judgments and decision outcomes have been illustrated in studies on decision-making under risk and uncertainty, where public perception and judgment of an energy source have been shown not to be holistic i.e. they differentiate between risks and benefits associated with an energy source/technology. To further complicate matters, energy risks and benefits are multidimensional constructs encompassing social, economic and environmental aspects (e.g. Fischhoff et al., 1984; IAC, 2007). Hence, people's judgment of the risks and benefits of an energy source is expected to be influenced by their affect toward that particular energy source. Additionally, as the experiential mode of thinking and the analytic mode of thinking continually interact in a dance of affect and reason (Slovic et al., 2004), we expect the decision outcome (e.g. risk and benefit judgments of energy sources) to have an influence on a person's perception of a stimulus through continuous feedback.

Furthermore, institutional and cultural environments as well as a country's level of development may also have a significant influence on its citizens' perceptions and affects toward energy sources (e.g. Kasperson, Renn, Slovic, Brown, Emel, Goble, Kasperson&Ratick, 1988; Peters & Slovic, 1996), as illustrated by Germany, a prime example for developed and highly industrialized nations. Germany has shown remarkable developments in its energy mix as well as changes in public opinion. The complex mixture of industrialization, increase in living standards, environmental awareness and concern, development of energy prices, and dependence on international energy imports have led to changes in public opinion and accordingly, the political landscape in Germany. Today, there is increasing demand and push for "green" energy from both politics and society. Oil no longer plays a role in the country's energy generation and nuclear shows a slight decrease in importance. Though coal still dominates as the key energy generation source, natural gas and renewables have increased in importance (Gabriel, 2008). However, as energy issues of competitiveness, supply security and sustainable development are related to complex assessments of energy benefits and risks, there is an on-going debate in Germany among different interest groups regarding the ideal and feasible energy mix and its corresponding energy technologies.

The example of Germany thus illustrates how the level of economic development and the institutional and cultural environments set the context for affective evaluations for different energy sources. Moreover, energy decision-behaviors are expected to be influenced by affective responses toward energy sources. In addition, as noted in the literature review, factors such as gender and knowledge could be important moderators of perceptions of energy sources and associated technologies. Thus, drawing on the aforementioned insights and evidence from previous studies, we propose the following model on how energy sources are affectively evaluated (see Figure 1).

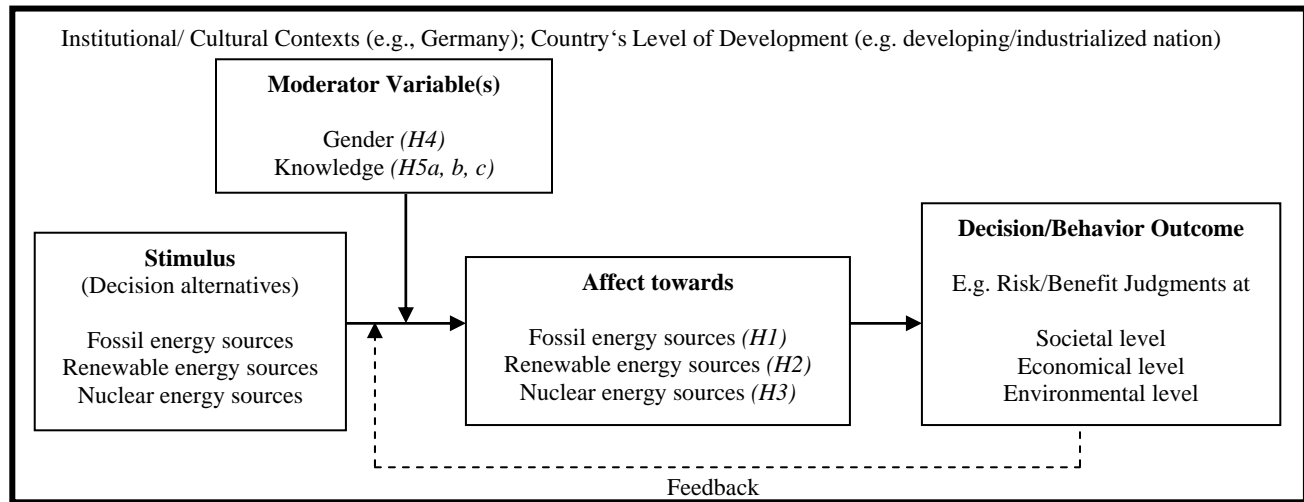


FIG. 1: CONCEPTUAL RESEARCH MODEL

Based upon our general research model, we will formulate our hypotheses in the following paragraphs.

Fossil fuels (e.g. coal, oil and natural gas) continue to dominate as the key energy sources in industrialized economies, and this trend is accelerating as energy demand rapidly increases in developing and industrializing nations (EIA, 2010). However, the continued heavy dependence on fossil energy sources is fiercely debated. Among the reasons are the scarcity of resources, increasing prices due to increasing global demand and supply instability and shortages, exploitation of deposits in areas threatening ecological heritages and environmental concerns such as greenhouse gases emissions (e.g. Dincer, 2000, Keating, 2001). Like many countries, fossil energy sources dominate Germany's energy mix. Ecological risks and harms associated with fossil fuels have received widespread attention in Germany and the general population have been fiercely against developing fossil deposits and associated energy technologies (e.g. carbon capture and storage technologies). Intensive media coverage of such struggles has highlighted the potential risks associated with such energy sources. As such, for an industrialized nation and post-materialistic society such as Germany, we postulate that peoples' affects toward fossil-based energy sources would be predominantly negative. This leads us to our first hypothesis:

Hypothesis 1: Affects toward fossil-based energy sources (coal, oil and natural gas) will be negative.

Renewable energy sources (e.g. wind, solar and biomass) are generally regarded to have no or only little adverse impact on the environment (Hansla, Gamble, Juliusson&Gärling, 2008). However, this may not be always true. For example in the case of wind energy, large scale wind farms will have an impact on the community through noise pollution and changes to the natural landscape. Moreover, renewables such as wind and solar power are intermittent technologies that can be used only when resources are available. Furthermore, energy from biomass has been rather controversial as a result of the food versus fuel debate. Nevertheless, despite potential negative impacts, renewable energies are generally considered as "green", replaceable and environmentally friendly (Hansla et al., 2008). Similar to the global trend, the share of renewables in Germany's energy mix has been increasing since the early 1990s, and renewable energies are projected to be the cornerstone of the country's future energy supply (BMW, 2010). The German public and the mass media tend to view renewables positively. As such, we propose that affects toward renewable energy sources will be positive:

Hypothesis 2: Affects toward renewable-based energy sources (wind, solar and biomass) will be positive.

Around the world, energy generation from nuclear power is attracting renewed interest as countries look to increase the diversity of their energy supplies and provide a low-carbon alternative to fossil fuels (EIA, 2010). However, there is considerable uncertainty and controversy surrounding nuclear power due to issues of concern such as plant safety (e.g. Chernobyl), long-term radioactive waste disposal and terrorism (EIA, 2010). Such issues

continue to raise public concern worldwide and contribute to the negative image of nuclear power in the public's mind. Similarly, in Germany, despite the apparent benefits of nuclear power (e.g. low electricity production cost, reliable and relatively clean source of energy), nuclear energy tend to be viewed negatively by the general public. Large-scale protests have been staged against nuclear energy in the country with widespread coverage by the mass media. As such, we would expect negative affective responses toward nuclear energy:

Hypothesis 3: Affects toward nuclear energy will be negative.

In the following section, we will focus on potential moderators of affects toward energy sources.

Evidence from accumulated research findings show that women tend to exhibit higher levels of concern toward technology and the environment than do men, especially toward nuclear and other technologies that are often seen as posing risks of contamination (e.g. Barke et al., 1997; Davidson &Freudenburg, 1996). As such, we would expect gender to significantly moderate people's affect towards different energy sources:

Hypothesis 4: Women differ from men in their affects toward different energy sources

Besides gender, researchers observe that the knowledge which a person gains through his/her participation in certain activities e.g. field of research also appears to moderate perceptions and affect towards energy technologies and associated hazards (Barke& Jenkins-Smith, 1993; Barke et al., 1997). This suggests that the knowledge that one has is associated with the discipline in which a person is active is. We propose that such moderating effect of discipline may already manifest itself at an earlier stage, when people engage in learning activities in their field of study in school, leading us to formulate the following hypothesis:

Hypothesis 5a: Knowledge gained through field of study will moderate affects toward energy sources.

In addition to education (i.e. field of study), experience (defined as active acquisition of knowledge e.g. through interest, work experience, participation in events and interaction with experts) and exposure (defined as passive acquisition of knowledge e.g. through familiarity by living near power plants or having family/friends working in energy sectors) to energy sources and related issues could also add to one's knowledge. Previous studies suggested that knowledge gained through experience and exposure influence people's perceptions of energy sources (e.g. Ashworth et al., 2009; Finucane et al., 2000; Zarnikau, 2003), leading us to formulate the following hypotheses:

Hypothesis 5b: Knowledge gained through experience will moderate affects toward energy sources.

Hypothesis 5c: Knowledge gained through exposure will moderate affects toward energy sources.

Method

Research approach

The underlying continuum, based on our proposed model, is the respondents' types and degrees of affect toward different energy sources. Word association technique is used to elicit images and affects toward seven energy sources. This technique minimize the researcher bias typically imposed in closed questionnaires (Leiserowitz, 2005), and studies using this technique have demonstrated a strong relationship between imaginary, affect and decision making (e.g. MacGregor et al., 2000; Slovicet al., 2007). In our study, respondents are asked to provide the first three images that come to their mind for each energy source, and to rate each image from very positive (+3) to very negative (-3) with neutral in between. To obtain an overall index for each energy source, the scores for the images generated it by each participant are then averaged in our analysis. Additionally, respondents are requested to provide demographic information relating to age, gender and knowledge. The questionnaire was back-translated between English and German to ensure consistency.

Sample

234 students from a leading German university in the field of natural resources and energy participated in the survey on their perceptions toward alternative energy sources in 2010. 95 responses were excluded from further analysis as respondents were unable to complete the word-association exercise or refused to provide information

necessary to test the study's hypotheses. Of the 139 completed questionnaires which are subjected to analysis, males constituted 52.5% of the sample and the majority of the students (72%) are from business studies.

Results

In the center of the study stood an investigation into the types of affects associated with seven energy sources i.e. coal, oil, natural gas, solar, wind, biomass and nuclear. From the 139 questionnaires analyzed, a total of 2,659 images of the seven energy sources and their corresponding affective ratings were elicited, an average of 2.7 images per respondent per energy source. Of special interest are the affects related to the elicited images.

On the whole, the mean affective ratings for the seven energy sources ranged from medium to weakly negative/positive, suggesting that respondents did not hold strong affective views toward different energy sources. Affective ratings for fossil energy sources (i.e. coal, oil and gas) tended toward the negative, providing support for hypothesis 1, with medium negative affective ratings for oil ($m=-1.29$) and coal($m=-1.03$), and weak negative affecting rating for natural gas ($m=-0.38$). Support for hypothesis 2 is provided by the positive affective ratings observed for renewables. Respondents felt most positive about solar ($m=1.19$), followed by wind ($m=0.52$) and biomass ($m=0.34$). Surprisingly, though mean affect for nuclear was negative ($m=-0.56$), which supported hypothesis 3, an almost equal distribution of positive and negative affective ratings was observed for nuclear power, suggesting that affect towards nuclear energy is not consistently negative (see Table 1).

TABLE 1: MEAN AFFECTS (S.D) TOWARD DIFFERENT ENERGY SOURCES

	Coal	Oil	Gas	Wind	Solar	Biomass	Nuclear
Affect(s.d)	-1.03(1.30)	-1.29(1.39)	-0.38(1.68)	0.52(1.40)	1.19(1.30)	0.34(1.55)	-0.56(1.53)

N=139

The second objective of the present study is an investigation of potential moderators of affect toward energy sources. Gender and knowledge are observed to be important moderators of affect and perception in previous studies. The present study utilizes the ANOVA analysis to investigate these two factors as moderators of affective responses toward the seven energy sources.

Partial support for hypothesis 4 is provided by substantial affect variation found between female and male respondents towards nuclear energy ($F = 20.12$, $p<0.01$), with women exhibiting significantly higher mean negative affect ($m_w=-1.14$) than men ($m_m=-0.46$) towards nuclear energy. However, no significant differences are found between female and male respondents in their affects toward the other energy sources (see Table 2).

TABLE 2: EFFECTS OF GENDER ON AFFECTS <MEAN (S.D)>

Gender(N)	Coal	Oil	Gas	Wind	Solar	Biomass	Nuclear
Female(66)	-1.06(1.09)	-1.19(1.36)	-0.55(1.76)	0.56(1.37)	1.13(1.24)	0.52(1.72)	-1.14(1.38)
Male(73)	-1.00(1.48)	-1.38(1.41)	-0.23(1.60)	0.49(1.45)	1.24(1.35)	0.17(1.37)	-0.46(1.48)
F-Value	0.06	0.60	1.22	0.08	0.25	1.74	20.12**

Total N=139 Significance:* $p<0.05$ ** $p<0.01$

Advancing previous studies, our study tested the influence knowledge bases i.e. field of study, experience and exposure on affective responses toward seven energy sources. Our findings provided partial support for hypothesis 5a that field of study moderates affects toward energy sources. Substantial variation in affects toward nuclear energy ($F = 3.16$, $p<0.05$) is observed, with business students exhibiting the highest negative affect towards nuclear power at -0.77 , while business engineering and engineering students exhibited significantly less negative affect of -0.40 and -0.41 toward nuclear energy. Surprisingly, those from the field of studies natural sciences and others exhibited positive affect towards nuclear energy at 0.19 and 1.22 respectively (see Table 3).

TABLE 3: EFFECTS OF FIELD OF STUDY ON AFFECTS <MEAN (S.D)>

Field of Study(N)	Coal	Oil	Gas	Wind	Solar	Biomass	Nuclear
Business (100)	-1.02 (1.34)	-1.33 (1.34)	-0.44 (1.71)	0.53 (1.41)	1.24 (1.17)	0.30 (1.60)	-0.77 (1.57)
B.Eng. (13)	-1.31 (0.75)	-1.03 (1.27)	-0.01 (1.53)	0.76 (1.49)	1.40 (1.50)	0.99 (1.12)	-0.40 (1.31)
Eng. (13)	-0.32 (1.50)	-1.29 (1.64)	0.28 (1.51)	0.08 (1.30)	0.44 (1.53)	0.28 (1.45)	-0.41 (1.07)
Nat. Sciences (7)	-1.09 (0.94)	-1.19 (1.51)	-0.86 (1.77)	0.52 (1.73)	0.93 (1.80)	-0.48 (1.79)	0.19 (1.45)
Others (6)	-1.03 (1.30)	-1.33 (2.14)	-1.08 (1.56)	0.83 (1.09)	1.89 (1.56)	0.64 (1.30)	1.22 (0.98)
F-Value	0.57	0.14	1.10	0.48	1.76	1.14	3.16*

Total N=139 Significance: *p<0.05 **p<0.01 B.Eng=Business Engineering; Nat. Sciences= Natural Sciences

Similarly, findings suggested that experience significantly influence respondents' affects toward nuclear energy. Respondents that rated themselves as having more extensive experience with energy related issues exhibited significantly less negative affects toward nuclear energy ($m_{\text{more extensive experience}} = -0.18$) as compared to the other two groups ($m_{\text{less extensive experience}} = -0.89$; $m_{\text{same experience}} = -0.80$; $F = 3.22$, $p < 0.05$), providing some support for hypothesis 5b (See Table 4). However, our analysis shows no support for hypothesis 5c, suggesting that the level of exposure has no significant impact on affect towards energy sources in general (see Table 5).

TABLE 4: EFFECTS OF EXPERIENCE ON AFFECTS <MEAN (S.D)>

Experience (N)	Coal	Oil	Gas	Wind	Solar	Biomass	Nuclear
Less extensive (100)	-0.97(1.19)	-1.25(1.02)	-0.53(1.55)	0.35(1.36)	1.32(1.11)	0.21(1.62)	-0.89(1.43)
Same (13)	-0.96(1.08)	-1.29(1.46)	-0.30(1.77)	0.53(1.31)	0.85(1.32)	0.18(1.80)	-0.80(1.62)
More extensive (13)	-1.12(1.52)	-1.32(1.54)	-0.34(1.71)	0.62(1.51)	1.38(1.36)	0.54(1.27)	-0.18(1.46)
F-Value	0.25	0.03	0.21	0.41	2.40	0.83	3.22*

Total N=139 Significance:*p<0.05 **p<0.01

TABLE 5: EFFECTS OF EXPOSURE ON AFFECTS <MEAN (S.D)>

Exposure (N)	Coal	Oil	Gas	Wind	Solar	Biomass	Nuclear
Less extensive (35)	-1.28(1.02)	-1.46(1.26)	-0.84(1.38)	0.39(1.38)	1.26(1.00)	-0.12(1.70)	-0.74(1.53)
Same (57)	-1.04(1.19)	-1.29(1.30)	-0.07(1.62)	0.54(1.35)	1.18(1.28)	0.41(1.63)	-0.50(1.40)
More extensive (47)	-0.83(1.58)	-1.17(1.59)	-0.41(1.89)	0.59(1.51)	1.16(1.52)	0.59(1.27)	-0.51(1.70)
F-Value	1.19	0.45	2.33	0.216	0.07	2.26	0.30

Total N=139 Significance:*p<0.05 **p<0.01

Discussion

Our first research question attempts to determine empirically whether and how affective responses toward different energy options differ in Germany. Our findings show that affective responses toward renewables (i.e. wind, solar and biomass) tend to be positive while affective responses toward fossil energy sources (i.e. coal, oil and gas) tend to be negative. Used as a heuristic (Slovic et al., 2007), affect towards an energy source could consequently guide energy judgments and decision-behaviors. Both observations from Germany and evidence from international studies provide support for the key role of affect in influencing and guiding energy-related judgment and decision behaviors as proposed in our research model. Positive affects observed for renewables would explain the strong German public support for renewable energy sources observed in the Eurobarometer study (EU, 2007), and the willingness of energy consumers in the USA to pay a premium for electricity from renewable sources (Borchers, Duke & Parsons, 2007). Similarly, negative affects to fossil energy sources would explain the German public's resistance to fossil related technologies such as CCS technologies (Fröhlingsdorf et al., 2009), in addition to the high level of perceived risks from fossil energy sources and the resulting limited support for fossil-related energy technologies by the public in both USA and Australia (Ashworth et al., 2009; Jenkins-Smith & Herron, 2007).

Surprisingly, our results regarding nuclear energy show a rather equal distribution of negative, neutral and positive affects. This appears contra-intuitive in the public opinion sphere, especially in view of the recent anti-nuclear mass protests in Germany. However, as proposed in our conceptual model, affect could be influenced through continuous feedback by several aspects including complex risk/ benefit judgments, and by moderators such as gender and discipline in addition to contextual conditions. These could have contributed to the rather equal distribution of affects toward nuclear energy observed in our study, as well as findings from previous studies (e.g. Jenkins-Smith, 1993; Peters & Slovic, 1996) that imagery to nuclear issues are not consistently negative.

Extending previous studies, our second research question investigates potential important moderators of affect in the energy context. Our findings suggest that gender and knowledge play a significant role in moderating affect, especially towards nuclear energy. Consistent with previous studies that documented moderating effect of gender and discipline (e.g. Barke et al, 1997), our results show that women, business studies students, and those having less extensive experience with energy-related issues tend to exhibit stronger negative affects toward nuclear energy, indicating that respondents are far from homogeneous in their affective responses toward energy sources. An explanation for the observed gender difference could be that women, being generally more risk adverse (Slovic, Flynn, Mertz & Mullican, 1993), may be especially influenced by the potential risks posed by nuclear e.g. in view of devastating accidents such as Chernobyl. Our results also suggest that the moderating effect of knowledge manifests itself earlier (determined by field of study) than previously assumed. Interestingly, though experience is found to be a significant moderator of affect to nuclear energy, no differences are observed for other energy sources. This appears to contradict studies which found that intensive exposure to information about energy issues could lead to shifts in perspectives and attitudes for energy sources in general (e.g. Ashworth et al., 2009; Zarnikau, 2003).

In our study, except for nuclear, no gender and knowledge effects are found for other energy sources. This is surprising considering the potential risks/benefits associated with fossil and renewable energy sources, and suggests that there are aspects about nuclear energy that distinguish it from other energy sources. Hence, a promising avenue for future research will be the investigation of what makes nuclear energy distinct from other energy sources in people's minds, especially in economies with different contextual conditions.

In addition, interestingly and much to our surprise, exposure to energy-related issues is not found to have an impact on affect for all seven energy sources. We would expect a person living near a nuclear plant (for example) to have more motivation to actively search for intimate knowledge of associated risks/benefits by virtue of proximity and access. Yet an effect on affective responses from differing levels of exposure to energy-related issues could not be observed. One potential explanation may be that respondents failed to differentiate between experience and exposure. Alternatively the results may simply suggest that exposure, and experience to a lesser extent, does not matter. Either way, further research is needed to better understand the role of experience and exposure (as bases of knowledge) in moderating affect in the energy context.

Conclusion

Decisions about energy options and technologies are frequently influenced by affect-loaded discussions. As such, management and policy decision-makers can neither ignore public opinion nor -consequently- affective decision-making. Our findings support a model of affective evaluation that emphasizes the role of affect in energy decision-behaviors. Furthermore, it highlights the importance of the level of economic development and existing institutional and cultural contexts on respective decisions, and of specific factors such as gender and knowledge (through field of study, experience and exposure) as moderators of affective responses.

Though our study provides valuable insights into public's affective responses towards different energy sources and factors which could potentially influence such affective responses, there are some limitations which require further study, yet at the same time offer opportunities for future research.

First, as Germany is a prime example of a developed and industrialized country, our findings regarding affective responses to different energy sources would most likely apply to other Western democratic countries with similar institutional and cultural environments and level of development (e.g. USA, France, UK). Especially in economies with different level of development, institutional and cultural environments from western industrialized

nations, we expect public affective responses toward different energy options to differ significantly from post materialistic economies where environmental issues are often highly salient in both politics and society. Hence, a replication of our present study in for example China, Indonesia or India may provide valuable insights into how public perceptions and affective responses toward different energy sources differ among countries with different contextual conditions. This will contribute to a better understanding of how global citizens differ in their acceptance and support of different energy options, with implications for global sustainable development efforts.

Second, current high profile occurrences (e.g. Gulf of Mexico oil spill and nuclear protests in Germany) may have influenced survey responses to various energy sources. As we did not control for this in the present study, it would be worth repeating surveys on affective responses to different energy sources frequently or developing methods to control for possible biases.

Third, we distinguish between (active) experience and (passive) exposure to energy-related issues in our study. However, respondents may have had difficulties distinguishing between the two (complicated) concepts. In addition, it is not possible to determine whether subjective assessments of experience and exposure by respondents are comparable. Future studies could avoid these problems by providing objective questions to assess experience and exposure which are quantitatively measurable.

Furthermore, it may be possible that in assessing affect towards an energy source, what we actually measured is the dominant affect felt by the respondent toward the risks and benefits perceived (whichever is more salient) for that energy source. A deeper understanding of which dimensions of different energy sources (e.g. environmental, societal or economical) are most salient to the general public, and their corresponding influence on general affect and perception toward the energy sources would have wide-ranging implications for societal and energy decision-makers. Future studies could thus develop efforts to investigate this potential relationship.

Finally, drawing on evidence from studies in the field of ethical marketing that there are distinctive segments of ethically orientated consumers (Auger, Devinney, Louviere & Burke, 2008), and that variations in attitudes towards social and ethical issues occur across countries (Auger, Devinney & Louviere, 2007), it may be fruitful for future studies to investigate whether there are distinctive segments of “ethically orientated energy consumers” in different countries with varying contextual conditions.

Practical implications of our findings are manifold. A better understanding of public opinions about alternative energy options, and their acceptance and support for innovation in corresponding energy technologies could facilitate better strategic planning and budgeting efforts, as well as more efficient channeling and investment of funds in energy research and development. It is thus of considerable interest to societal and energy decision-makers to find out what are the public’s affective responses to different energy sources, and what are the potential moderators of their affect. Our study contributes to these efforts and to insights into affective rationality in the controversial fields of energy policy and management by empirically investigating affective responses to a full range of energy sources (fossil, renewable and nuclear) and important factors moderating such affects. Furthermore, it highlights the importance of contextual conditions (level of development, institutional and cultural environments) in the proposed energy affective evaluation model. By putting affects of public citizens in the spotlight, the present study thus contribute to efforts by societal and energy decision makers to develop sustainable energy policies and investment decisions which will be supported by the majority of their stakeholders, and to the development of better targeted programs to change stakeholders’ opinions by communicating convincing arguments.

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Toward modern Logistics: comparisons between Logistics and Green Logistics

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Abstract

In the early researches on Logistics the reverse return was omitted, but development of Reverse Logistics in the company in recent years has been very significant mainly due to the possibility of gaining competitive advantage through it (Fleischmann et al., 2000; Pohlen and Farris, 1992, Rogers and Tibben-Lembke, 1999; Stock, 1992, 1998).

In this paper we analyze from the perspective of Operations Management what these two functions of the company are and the most relevant differences between Logistics and Reverse Logistics in order to better understand both functions of the organization like important source competitive advantages for the organization.

1. Logistics and Reverse Logistics

Logistics function is part of a series of primary activities that make up the value chain of a company and can therefore be a source of competitive advantage.

Concept of integrating perspective of cost management and provision of services to primary problem of transport of goods is what man has called Logistics (An and Fromm, 2005; Andel, 1995). In addition, Logistics has many meanings, one of them is which is responsible for the efficient distribution of products within a certain company at a lower cost and excellent customer service (Bienstock et al., 1998; Bowersox, 1974). Logistics thus seeks to strategically manage the procurement, movement, storage of products and inventory control, and all the associated information flow, through which the organization and distribution channel is channeled in such a way the present and future profitability of the company is maximized in terms of cost and effectiveness (Bienstock et al., 1998; Bowersox and Closs, 1996; Bowersox, 1974). Also, Logistics coordinates and determines in good form right product, right client, right place and right time (Majumder and Groenevelt, 2001; Brandeu and Chin, 1989).

In general, authors who have studied the concept of Reverse Logistics (e.g. Fleischmann et al., 2000; Rogers and Tibben-Lembke, 1999; Stock, 1992, 1998; Pohlen and Farris, 1992) usually define it without the reverse flow. Therefore, we propose a definition of Logistics in which clearly integrate both functions, so relying on the definition of Rogers and Tibben-Lembke (1999) we can define Logistics as the process of planning, development and efficient flow control materials, products and information from the place of origin to final consumption of consumer needs are satisfied, recovering residue obtained and managed in a manner that is possible reintroduction into the supply chain, giving added value or getting a proper elimination. In this definition we present the two flows within the logistics function of firms. Moreover, in the definition of Reverse Logistics we can consider 6 elements:

1. Some authors define Reverse Logistics as a task or a set of skills, but most of them do it as a process. Concept of process is much more general and it includes tasks and activities to investigate a specific goal. Indeed, Reverse Logistics uses different skills for specific activities, but it is not only a set of skills, so it is a process adapted to the objectives of Reverse Logistics (Soto, 2005).

2. Most authors agree that inputs used are waste products, used products or parts of products, previously rehabilitated, waste and no waste. These inputs identify Reverse Logistics process but we must also take account of the packaging, information, processes, inventory, raw materials and finished goods. It is a complete reverse flow of goods into the supply chain.

3. Tasks and activities that are undertaken with the inputs are very similar to those in traditional (direct) Logistics, but Reverse Logistics includes additional tasks and have greater uncertainty in the frequency with which they are carried out and the amount of product used. Among these activities, which are discussed in detail below, are (Soto, 2005): Planning, implementation and operational efficiency and cost effective flow of goods, the collection,

transport (including packaging), storage, processing, reduction, management, shipping, and product adaptation. These tasks and activities seem similar in Logistics and Reverse Logistics, but systems what are incorporated in both functions are quite different.

4. Authors state that objectives of the Reverse Logistics is the reuse, recycling, remanufacturing, shipping, reduction and recapture value of the inputs, and all these activities must be included in the definition.

5. Authors agree that Reverse Logistics process starts from the consumer, including return from the distributor, retailer and consumer.

6. The main factor to consider if the Reverse Logistics is a process or not is to know whether the goods have been returned to the point of origin.

Over time, several authors in their investigations have addressed the topic of Reverse Logistics, one of the first research is by Stock (1992) which analyzes, among other things, Logistics related to the return of products from consumer to producer, recycling, reuse of materials and components, and waste disposal operations overhaul, repair and remanufacturing. This paper begins to use and the concept of Reverse Logistics.

Another significant research is by Thierry et al. (1995, 117) they define the concept of recovered product management, which aims to "recover as much economic value (and ecological) as possible, thereby reducing the final amounts of waste." These authors defend the idea that companies should develop an effective policy for the management of recovered products, without significantly affecting its cost structure. In their paper are classified and analyzed for the first time the options available to businesses to efficiently manage the flow of products from consumer to producer, suggesting a number of factors that favor the implementation of a recovery system out-of-use.

Carter and Ellram (1998) conducted a comprehensive review of the literature on Reverse Logistics till date, analyzing the main contributions made in three distinct themes:

1. General and theoretical developments;
2. Transportation and packaging;
3. Final markets.

They point out that most of the studies analyzed are "descriptive and anecdotal," and published in trade journals, detecting the absence of theoretical developments that build a framework for research.

Stock (1998) recovers the topic of Reverse Logistics in what purports to be a White Book on this subject. Author analyzes the role of Logistics in areas such as product returns, reduced waste generation, recycling, repair and remanufacturing through developing management models that combine engineering and logistics business decision models in order to capitalize on the return flow of life products.

Dowlatshahi (2000) brings together the studies and work done on Reverse Logistics into five categories:

1. General concepts: Noteworthy among others, the research work of Giuntini and Andel (1995), Koepf (1993), Krupp (1993), Melbin (1995), Willits and Giuntinni (1994).
2. Quantitative models: highlight the work of Guide et al. (1996), Clegg et al. (1995), DiMarco et al. (1994), Krupp (1992), Shu and Flowers (1995).
3. Distribution, storage and transportation: They are the works of Handel (1995), Dawe (1995), White (1994), and Witt (1995).
4. Company profiles: Here are the works of Hefling (1995), Phelan (1996), and Russel (1993).
5. Industrial applications highlight the work of Byrne and Deeb (1993), Kroon and Vrijens (1995), Pohlen and Farris (1992), Thierry et al. (1995), Webb (1994).

Dowlatshahi (2000) detected certain deficiencies in these works, mainly with regard to the existence of a common framework on which to sustain, that is, a theory of Reverse Logistics has not be developed to give substance to the various elements that compose. Dowlatshahi (2000) goes a step further in this direction, identifying strategic and operational factors considered essential for effective development of systems for Reverse Logistics. Among the strategic factors points to the cost of these systems, the quality of recovered products, customer service, environmental and legal constraints. Among the operational factors Dowlatshahi identifies the functions of logistics systems, transportation, storage, production (remanufacturing and recycling), packaging, etc.

Along with the theoretical development of the concept of Reverse Logistics there have been few empirical studies that have allowed building a framework and analysis of the topic much more appropriate. These

case studies are characterized by the use, design and resolution of the models, different techniques of operational research.

Bloemhof-Ruwaard et al. (1995) analyzed for first time the relationships and interactions between operational research and environmental management from two perspectives:

1. The impact on supply chain and discuss how environmental issues affect the planning of production, distribution, inventory, location and overall, the set of logistics activities.
2. The environmental impact on the chain, looking at how operations research techniques can contribute to a better formulation and resolution of environmental issues. In this pioneering work, and concluded on the importance of recovery has recovered products in managing the supply chain.

Fleischmann et al. (1997) compiled a set of quantitative models designed for the analysis of the inverse function of direct logistic, grouped into three distinct categories:

1. Distribution systems.
2. Inventory management.
3. Models for production planning.

This paper refers to more than 30 quantitative models, mostly designed and resolved through operational research techniques. The authors conclude that Reverse Logistics is a young scientific field in which the contributions are still too biased. They indicate that there is a huge imbalance between the large number of empirical studies related to the reuse or recycling of products and the few, for the moment, theoretical developments that provide a comprehensive overview of this issue.

More recently, Fleischmann (2001) studies, among other things, how can describe the characteristics of Reverse Logistics systems through quantitative models and, thus, improve our decision making process.

Development of Reverse Logistics is becoming a reality. We can find development of doctoral theses (Fleischmann, 2001; Krikke, 1998; Thierry, 1997), publications in prestigious academic journals (European Journal of Operational Research, International Journal of Production Economics, Interfaces, Omega, etc.), opening new research or the creation of specific research groups on this subject (Revlog European Working Group, RELOOP, Reverse Logistics Executive Council), among others, and all of them are contributing to Reverse Logistics begin to gain importance within the academic and professional world.

In the definition of Council of Logistics Management 2003 on the logistics, and clearly shows interest on return flows (reverse), as organizations began to take special interest in being competitive in a way that would allow them to manage the delivery effective products and otherwise to once again returns in the retail channel, all this emphasis on time and resources to this industry within the concept of Logistics is already known as Reverse Logistics. During the nineties the Council of Logistics Management started publishing studies where Reverse Logistics was recognized as relevant for business and for society. In 1992 the Council of Logistics Management published the first known definition of reverse logistics (Stock, 1992, 12): "... The term commonly used to refer to the role of logistics in recycling, waste disposal and handling of hazardous materials; a broader perspective includes everything related to logistics activities carried out in reducing input, recycling, substitution and reuse of materials and their disposal. "

At the end of the nineties, Rogers and Tibben-Lembke (1999, 43) described Reverse Logistics including the purpose and processes (logistics) involved: "The process of planning, implementing and controlling efficient and cost effective flows raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin with the purpose of recovering the primary value or dispose of them properly. "

However, the European Group on Reverse Logistics, Revlog (1998), went beyond the definition of Rogers and Tibben-Lembke (1999) using the following definition: "The process of planning, implementing and controlling the flow of raw materials, inventory in process and finished goods from point of use, manufacture or distribution to a point of recovery or proper disposal, "as we see this definition is broader because it refers not to the point of consumption and while accepting even more flows because a party does not necessarily return to the same point it left.

Yet another definition to clarify this concept is that of the Reverse Logistics Executive Council (2003), "Reverse Logistics is the process of moving goods from their typical final destination to another point, in order to

capture value that would otherwise not be available for the proper disposal of the products, which introduces the concept of value recovery of the components in the chain (one of the most important concept.)

In the literature on supply chain, the concept of Reverse Logistics has been associated with the product life cycle (Tibben-Lembke, 2002) guaranteed returns (Teng et al., 2005) operating systems (Knemeyer et al., 2002; Tibben-Lembke, 2002; Tibben-Lembke and Rogers, 2002). Also discussed the strategic advantage (, Tan et al., 2003; Stock et al., 2002), the implementation of case studies (De Koster et al., 2002; Ritchie et al., 2000) technology information (Daugherty et al., 2004), the e-recycling (Nagurney and Toyasaki, 2005), and strategies of green supply chain (Sheu et al., 2005, Simpson and Power, 2005).

As for the activities of Reverse Logistics, design quality, quantity and time of the flow of returned material is a very important part of the Reverse Logistics (Srivastava and Srivastava, 2006). On the activities of Reverse Logistics in the literature on this topic speaks of a location that facilitates processing of raw materials, access to end markets or the location of waste (Pushchak and Rocha, 1998; Appa and Giannikos, 1994; Giannikos, 1998; Brandeau and Chin, 1989; Schmenner, 1982). We can observe the flow of reverse logistics activities in Figure 1.

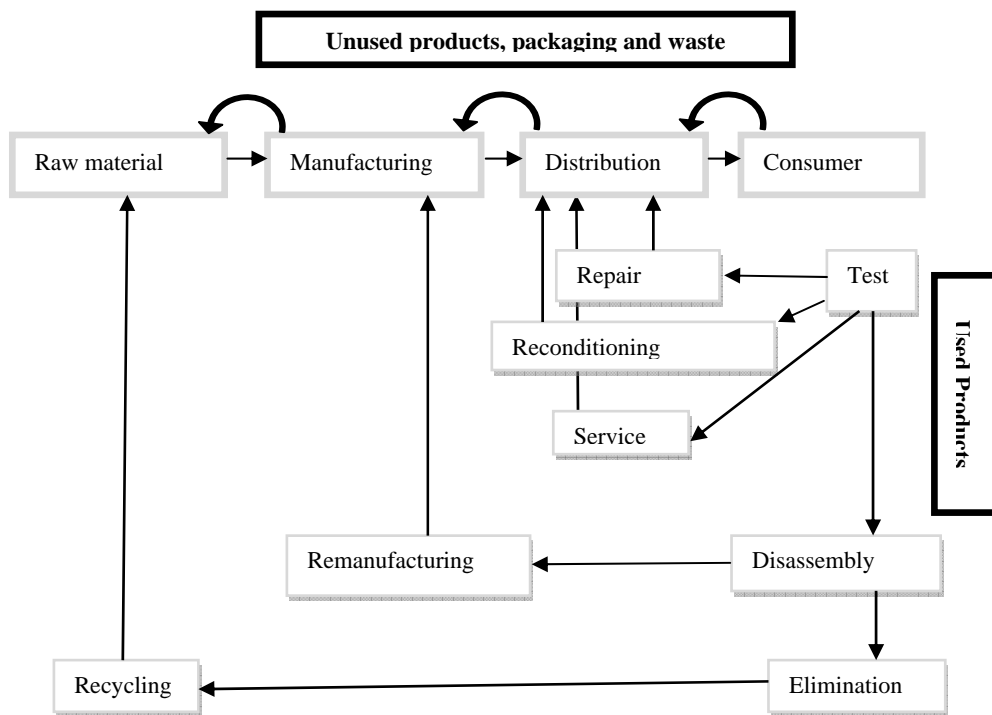


FIG 1. FLOW REVERSE LOGISTICS ACTIVITIES- (KRUMWIEDE AND SHEU, 2002; SRIVASTAVA 2008)

Thus, the recovery process would consist of the following stages (Srivastava, 2008): collection, inspection / management, preprocessing, location and distribution, determination of capacity; remanufacturing.

Collection is the first and most important stage in the recovery process, where products are located, selected, collected and, if required, transported to facilitate remanufacturing and get back to work with them (Srivastava and Srivastava, 2006) . The products used come from many different sources, Cairncross (1992) suggests based their classification as it does reach the consumer or the manager of the waste.

Inspection / management can be done at the time of collection or after (post-harvest positions or in positions to

facilitate the refactoring). The items collected need to be sorted normally. The inspection requires skills in management of used products (Ferrer and Whybark, 2000). This can be combined or not with the pre-processing.

The pre-processing ranging from how to sort, separate, partially or completely disassembled to minor repair and overhaul activities. It can be carried out at collection centers or positions to facilitate remanufacturing, depending on technological and economic factors.

Location and distribution (design of the network), is the most important area of Reverse Logistics. In many cases, recovery networks are not configured independently, but are the logistical structures.

Capacity decisions, focus on providing the right amount (how much) in the right place (eg, facility location) and at the right time (when). The capacity is determined by the size of the physical facilities are built (Schroeder, 1993). In general, decisions on the ease of location depend on the estimated returns, costs, competitive behavior and strategic and operational considerations. Strategies on the installation of new capacity are also more complex the more you increase regulation and consumer demand for recycled / reused (Srivastava and Srivastava, 2006). Bellmann and Khare (1999, 2000) developed the concept of critical mass of returns for a recycling / remanufacturing cost. They affirm that the efficiency of Reverse Logistics could be increased by ensuring that product design takes into account the requirements of a post-using/post-recollecting, a management and recycling.

Remanufacturing is the process of disassembling used items, inspecting and repairing / re-working components, and using these in the manufacture of new products (Majumder and Groenevelt, 2001). The product is considered remanufactured if its primary components come from used products (after making sure that those are functional). Consumer preferences, environmental activism, and legislative pressure are forcing companies to manufacture environment-friendly (Majumder and Groenevelt, 2001).

It looked so far, we see that Reverse Logistics and Logistics show remarkable differences, which are convenient to analyze in the next section.

2. Differences between Direct Logistics and Reverse Logistics

There are many differences between Logistics and Reverse Logistics justifying the development of different theories for each area. Several authors point to as the Reverse Logistics affects different areas of the company (Van der Laan and Salomon, 1997; Krikke, 1998; Thierry et al., 1995). We focus on operations management to present these differences. Within this, we can talk about differences in 6 areas:

1. Location and logistics network design: optimization concerns the localization of products and the ability to facilitate the flow of goods. Demand and operating costs are considered inputs in the traditional logistics model. To Reverse Logistics the demand is envisaged in distribution facilities but also includes receiving the products. Logistics in the direct flow or Direct Logistics is a launch system (pull), while the Reverse Logistics is a launch system and push (push). Traditional Logistics entire system adapts to the need to serve the customer. Reverse Logistics, the extended producer responsibility, cannot influence the amount of waste supplied to the reverse logistics system (push), and must be matched with demand (pull). Eliminating this waste can be an escape, but is limited by law (Krikke 1998). Networks in Reverse Logistics systems have a high degree of uncertainty in the supply, in terms of quantity and quality of products returned by consumers. This is critical for proper structure, since, for example, that increased product quality justifies higher costs of transport, to even make it unfeasible for the low value of the goods transported. Moreover, if it is not known but the number of products, is increasing uncertainty in the design and network planning logistics (Fleischmann et al., 1997).

2. Prediction: To estimate the magnitude, location and quality of returned products is a difficult task in Reverse Logistics. In addition, the lack of secondary market information makes more difficult to estimate the number of buyers in these markets.

3. Inventory Control: The efficient management of inventories of returned products is also important and more difficult because: a) lack of certainty on the quantity of products to receive, b) the difficulty of identifying products, for example, bar code deteriorated, c) sometimes the product is accompanied by other promotional product that really is another new product with a new code, and in return, only get the product without the promotion, inventory

with the new code of both, which creates complications in the inventory balance. Therefore, reverse logistics must be adjusted control mechanisms (Krikke 1998).

4. Remanufacturing: Includes the three subsystems of disassembly, remanufacturing and reassembly. The problem arises in the remanufacturing products are manufactured with 3 components: a) components that are derived from recovered products, of unknown quantity; b) components are always buying new; c) components that can be purchased new or obtained from returned, depending on the availability and cost.

5. Operations that are necessary to convert a returned product in a new one depend on the conditions of actual product (which returns for a new one). Companies do not know the quality of the product until you are returned and checked, and may decide to re-use after a certain number of tests, in contrast with traditional manufacturing, as there are no well-determined sequence of steps in the remanufacturing, which increases the uncertainty (Fleischmann et al., 1997).

6. Disassembly operations are a new activity that is not present in Direct Logistics. Some authors call "Manufacturing." Here we must consider several issues, if necessary this disassembly, the quality of components, the level of disassembly, damage to the product after use. To address this problem the companies working in the disassembly process design.

7. Inverse distribution: The design of a distribution network is also a problem that requires specific solutions. The new products should, for example, be easily arranged on the pallets, which allow companies to better plan the capacity of their vehicles. Returned products should correspond to a few or only one unit of product, and also often do not come well packaged, so that to establish a distribution network is more complicated. The uncertainty in the supply, in terms of quality and quantity, is more difficult in Reverse Logistics (Fleischmann et al., 1997).

In addition, Tibben-Lembke and Rogers (2002) note other differences between Direct and Reverse Logistics are analyzed in Table 1.

TABLE 1 DIFFERENCE BETWEEN LOGISTICS AND REVERSE LOGISTICS

Logistics	Reverse logistics
Forecast / relatively simple planning	More difficult to forecast
One for long transport	Many for transport
Uniform product quality	Non-uniform product quality
Clear destination/route	Unclear destination/route
Uniform product packaging	Often damaged product packaging
Standardized channel	Channel not standardized
Clear choices	Unclear provisions
Price relatively uniform	Price depends on many factors
Direct distribution costs closely monitored by the accounting systems	Less visible reverse flow costs directly
Consistent inventory management	No consistent inventory management
Manageable product lifecycle	The most complex product lifecycle
Simple negotiation between the parties	Negotiation complicated by additional considerations
Known marketing methodology	Marketing complicated by several factors
Readable information in real time for each product	The less transparent process visibility

Thus, as many authors have suggested, Reverse Logistics planning is more difficult than for Logistics because of the degree of uncertainty that presents Reverse Logistics (Flapper, 1995, Guide et al., 2000). In the remanufacturing is not only necessary to plan customer demand, which is always changing, but also planning the availability of product to be remanufactured. However, you can see some general trends. Reverse Logistics flows tend to follow the flow of Direct Logistics, with some variations (Tibben-Lembke and Rogers, 2002). For example, the huge influx of holiday sales of the new product, followed by a wave of post-holiday return product. When sales and promotions are scheduled, the marketing department is already working with Logistics to ensure that the

Logistics function can meet the demand created by marketing efforts. Like traditional Logistics, Reverse Logistics can benefit from information about these plans. When the big sales of an item is expected to be followed by large volumes of returns, can be organized to advance the relocation of this material returned. The prognosis is complicated by the fact that different products have different rates of return. Customer decisions to return a product will be influenced by factors related to product usability, clarity of instructions, buyers remorse, which can vary significantly from one product to the next from the same manufacturer (Tibben- Lembke and Rogers, 2002).

As Fleischmann et al. (1997) note, one of the biggest differences between Direct and Reverse Logistics is the number of points of origin and destination. Direct Logistics usually the product moves from one source to many destinations, the reverse movement of a product is on the contrary, from many sources to a destination. In theory, it may seem that the combination of forward and reverse transport would be savings in transport, why send a second transport to collect a returned product, once you have been sent there to deliver a new product. Not so for two reasons: first, because the independence of the Logistics and Reverse Logistics system avoids the difficulties presented when trying to create coordinated transportation schedules acceptable to both systems, so the savings is combined transport limited (Fleischmann et al., 1997). The second reason is because the physical linkage of both is difficult, so the flow of returned material requires different stops to be picked up at the different locations and stops, for example, refurbishment, while the new product also requires of several stops at various points where it is stored, so that the combined flow of both transport becomes more complex and could be longer.

The new product comes fully packed with protections for transportation, allowing easier handling of it, may also be palletized, deposited in warehouses and counted more easily. In contrast, most products in the reverse channel may not have a complete package. If the product is not sold, returned to the retailer, and can be damaged during their return to manipulate it, or the customer can open curiosity to examine it, and do not return the package correctly. Even if the packaging is correct, the shipment of the returned product is more complex than the case of a new product (Tibben-Lembke and Rogers, 2002). The new product is normally shipped in large quantities. The large number of cases that go to a particular destination allows pallets with ease. In contrast, most returns are in small packages (about 1 pallet per week). With these small volumes is more difficult to create a well-trained pallet that is easy to manipulate. The result is that most pallet arriving at the return centers consist of haphazardly stacked and damaged merchandise. The greatest damage is that if the product falls off the pallet damage to more fragile containing the pallet, and also because the product, not being packaged properly, it is easier to fall or be beaten, damage (Tibben -Lembke and Rogers, 2002). Besides being poorly packaged, its identification more difficult.

To facilitate the Reverse Logistics system, you may need to spend significant time determining where and how to send a particular article. Some merchants require the manufacturer to certain products are "demarcated", i.e., that all information on the identity of the seller of the product is removed before re-sold. The seller could also allow the sale of products demarcated certain intermediaries, and not others. By contrast, traditional Logistics rarely happens (Tibben-Lembke and Rogers, 2002).

The new product, having a uniform quality, would have a uniform price, but the reality is that the new product price is not the same for all retailers. Likewise, the seller sells the same product to different customers at different prices, depending on the type of customer, its importance, the amount of purchase, and the total amount of orders placed by the customer, among other factors. The price range for the reverse flow is even greater by the fact that not all reverse flow product is top quality. When the returns center the company has received and identified the product, determine which companies try to sell it. The company knows the prices paid intermediaries in the past, for the different conditions of the product. At present, the agent might want to pay a different price for different reasons. If the intermediary has a large volume of a particular product by hand, might not be interested in buying more. Also, the role of the life cycle, which we review below, plays an important role. Some brokers specialize in products for domestic markets, for example, others, products for least developed countries, then it is hard to tell whether or not it will appeal to a particular broker. In reverse flow, not being new products, brokers often want to inspect before bidding on them, restricting the number of intermediaries that a company may be bidding for a particular batch of articles. If the intermediary often cannot bid on the items, he will not do so in the future. The company has estimated that small group of intermediaries are those who offer higher prices for a particular item or lot of items, with specific conditions, and offer it to those (Tibben-Lembke and Rogers, 2002).

In direct channel, it is important to fill orders quickly to keep the customer satisfied. In reverse flow, the

ultimate destination is the intermediate product (from the standpoint of the retailer). However, the broker has placed orders for these products, so if the return process is slow, these "customers" will not complain. Thus, for seasonal or seasonal products, when returned, the season or the season may have already passed, so the product is worth considerably less than if it had been resold during the season, in this case there is already a significant loss of value that the broker gets a little later. For technology products, however, this loss of value if it is considerable, given the relatively short life cycle of these products (Tibben-Lembke and Rogers, 2002).

Also direct Logistics Cost is not necessarily the same than Reverse Logistics, as we have seen, and the best performance in Direct Logistics need not be the best for Reverse Logistics. Direct Logistics, costs are well defined and well understood. The accounting system is designed to handle the cost includes the development and displacement along the canal. Companies specializing in Direct Logistics are not usually very effective in managing detailed product non standardized traveling back by the company and the channel. Inventory costs can change the sorting, transporting, handling and storing these products. Table 2 shows some of the ways that reverse logistics costs may differ from Direct Logistics costs. The new product is not subject to refurbishment or re-packaged. Now the product to be resold at a cost greater than the new product. However, the increasing cost of reused product could still be less than manufacturing a new product.

TABLE 2. REVERSE LOGISTICS COSTS

Reverse logistics of costs:	Compared with the direct logistics costs is:
Transport	Greater
Inventory maintenance costs	Minor
Losses (steals)	Much less
Collection	Larger (less standardized)
Sort, diagnostic quality	Much greater
Handling	Much greater
Obsolescence	May be much higher
Reconditioning/re-packing	Significant for logistics reverse, does not exist in logistics network
Changes in the value of the product	Significant for logistics reverse, does not exist in logistics network

(Tibben - Lembke and Rogers, 2002)

In traditional Logistics the cost of ordering is an important factor that determines how often to order the product, and volume. In Reverse Logistics, the largest cost is the cost of transport. This is due in part to the fact that shipments are smaller here. For example, a store could get a lot of new product every week, but the material can be returned only two pallets at the same time.

The traditional order quantity and methods to manage it require a certain distribution and information about the uncertainty of demand, such as mean and standard deviation of demand per week. None of these scenarios is given in Reverse Logistics. In traditional inventory models, the uncertainty is in the amount of product that will be demanded and the price at which the product will be sold is assumed to be known. Reverse Logistics, the arrival of the returned product is often random, and the price is also unknown. The result is that traditional models of inventory management cannot be applied to these situations.

As Tibben-Lembke (2002) suggests, the product life cycle plays a distinct role in Reverse Logistics than Logistics. Changes in the product life cycle involve specific changes in the configuration of Reverse Logistics. This is especially when the demand drops and the product moves towards the end of the cycle of life. So, if you know that the product will be manufactured, the value on the secondary market will be low. But if it is known that a new product model will be manufactured, the value in secondary markets will be high, since interest in product is still high, and the retailer will want to offer a version of a popular product and a lower price.

In traditional Logistics, where provider and buyer negotiate a sale, negotiations are about to ship the product at a future time. In Reverse Logistics negotiation is more complicated than traditional Logistics since product quality is not uniform, and the potential buyer might want to inspect the product before placing your bid (Rogers and Tibben-Lembke, 1999). In addition, vendors may require that the product is demarcated, or could

restrict the set of intermediaries that the product could be sold. Direct Logistics, the seller can sell to any company wanting to make an order, Reverse Logistics, however, vendor will only sell to those brokers that you trust, usually based on a long history of past transactions. In addition, in determining the price, another point of negotiation is to include a manufacturer's warranty, which is rare with the new product. The product will sell a low price at the retail level, so it is sold to middlemen cheaper, while including a warranty is sold to middlemen at a higher price (Tibben-Lembke, 2000). The dealer usually does not like to buy small quantities of product from different backgrounds, but prefers to buy large quantities in a small number of items. Possessing large quantities available increases the value of the product. However, if a large quantity of a product is available, it could be because the product did not sell well in the retail channel, which will cause the secondary market value is very low.

3. Conclusions

In this paper we proposed to clarify the concepts of Logistics and Reverse Logistics, setting out the main similarities and differences between the two functions of the organization. To better understand the concept of Reverse Logistics, one must begin with the traditional logistics, which is used in the direct flow of goods from manufacturer to consumer. When analyzing the Logistics and Reverse Logistics noted that although the Reverse Logistics from traditional Logistics, both functions show remarkable differences in the processes they employ, in costs in the management and the requirements posed. Reverse Logistics includes additional tasks and have greater uncertainty in the frequency with which they are carried out and the amount of products used, is also planning more difficult, but the reverse logistics is also very necessary to deal with the new environment of high uncertainty in which businesses operate.

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Ethically Constrained Optimization of Dynamic capabilities: Institutional Matrix and Strategic Organizational Renewal Towards Global Sustainability

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Abstract

The pursuit of efficiency and profitability does not preclude the introduction of innovative, disruptive business models embedded in ethical preferences to keep abreast of new scenarios. In fact, the evolutionary dynamics of the business environment and firms' actions as adaptive systems need to be consistent with the managerial decisions to deploy resources that are specifically in tune and shaped for future challenges and opportunities. Simply put, the normative questions are back in the board room in search of strategic answers to the changing global business environmental turbulence, technological revolution and novel consumer demands backed by strong institutional arrangements. This conceptual contribution via *meta*-theoretical analysis seeks to theorize how dynamic capabilities of organizations are now reconfigured towards a new consumption pattern in response to institutional changes. The systematic analysis offers illustrative cases from the pharmaceutical industry and puts forward objective policy recommendations, managerial implications, and concludes with directions for future research.

Introduction

The pursuit of efficiency and profitability does not preclude the introduction of innovative and disruptive business models and product re-engineering embedded in ethical preferences to help organizations keep abreast of new scenarios constrained by issues of sustainability. In fact, the evolutionary dynamics of the business environment (Baum and Singh, 1994) and organizations' actions as adaptive systems (March, 2006) need to be consistent with the managerial decisions to deploy resources that are specifically in tune and shaped to meet current and future opportunities and challenges. Simply put, the normative and sustainability questions are back in the board room in search of strategic solutions to the changing global business environment backed by strong institutional arrangements. Here, global consumers' demand for corporate social and environmental responsibility, and the need for ethical response and sustainable technological revolution (Campbell, 2007) seem to constrain how firms seize opportunities, capture value, and strategize via resource configuration to meet the new demands that are skewed towards emerging markets as well as markets at the bottom of the pyramid (Prahalad, 2005; Yunus, 2010).

Following Nielsen (2003), the main premise of this paper is that organizations as social arrangements (with a shared purpose and interest) and ethics (as moral principles that are praiseworthy because they are socially desirable) are two concepts that are inextricably bound, and hence, cannot be separated. Drawing heavily on the works of Adam Smith, *Theory of Moral sentiments* (1759) and *An Inquiry Into the Wealth of Nations* (1776), all on ethics and organizations, Nielsen compellingly articulates his thesis that just as "it may not be possible to have an operational organizational theory without an at least implicit ethical or normative foundation; it is also not possible to actualize social ethics without an organizational form" (2003: 476). Implied here, however, is that different organizations may optimize different factors taking into account the spatial and temporal dimensions of the organizational life cycle. Optimization of, for example, shareholder value under certain constraints (such as environmental sustainability) that affect the broader society is simply complex but not impossible and it is based on the individual proclivities and values of the managerial owner. The gap between what is constrained and what is optimized strikingly differs under different institutional environments or societies and types of organizations over time. This poses great challenges for organizations and the societies which sustain them. For Smith business owners should pursue self-interest that does not hurt other constituents but rather increases their welfare.

The purpose of this theoretical contribution is two-fold. First, it seeks to explore the common theories in current strategic management and organization discourse and how they may be pulled together to explain strategic renewal in organizations and how dynamic capabilities lead to sustainability and value creation in the context of emerging economies. Second, it seeks to develop a wider framework that allows a complex but comprehensive and sophisticated reinterpretation of the theories and their practical application within varieties of institutional contexts.

What is the relevance of such theories if they cannot be linked to the overall sustainable need of the present era and its social trends in terms of market and social institutions? To this end, the temporal dimension and contextual utility of this new framework are made explicit in the analysis. This study is important because while the focus of dynamic capabilities seems to centre on adaptation, market dynamism (Porter, 1985; Eisenhardt and Martin, 2000; Augier and Teece, 2008) and long-term competitive advantage, the research on sustainability seems to be more of an interesting rhetoric about the sensitivity to scarce resources and social justice. This leaves the ethical man mostly out of the discourse. Nevertheless, both fail to identify the time logic, systemic variables and the institutional elements which constrain organizational strategic decision making towards the maintenance of competitive advantage in order to ensure that sustainability happens in the first place, while taking society into account. This provides a match between social and economic interests. The implication is that there are substantial opportunities for a pragmatic multidisciplinary approach in enriching and coalescing different theoretical strands into a systematic framework that takes into account current global phenomena in emerging economies.

Three principal themes run through this paper: One, the normative and ethical concerns about social and environmental sustainability constrain how dynamic capabilities, business models and firms' resources are directed towards a new form of competition and adaptation. This describes a shift from the firm centeredness and resource based view (which precludes ethics and stakeholder questions but places emphasis on efficiency no matter the social cost towards the extension) to the dynamic capabilities with the ethical entrepreneur with his innovative co-evolutionary posture. On this, illustrations from the pharmaceutical industry are offered throughout the paper.

Two, the paper focuses on Williamson's (2000) path-dependence account of the political, economic and judicial systems of each society which consist of "a web of interconnected formal rules and informal constraints that together make up the institutional matrix which have led economies onto different paths of development and hence general welfare of their people". These same institutional changes shape the markets especially in terms of the type of new innovations and product architecture as well as strategic decisions by individual managers in response to the sustainability and poverty issues at the bottom of the pyramid. Thus, institutions also determine the form of capitalism (Hall and Soskice, 2001). It is argued that environmental turbulence and institutional dynamics (Scott, 2001; DiMaggio and Powell, 1983) now affect managerial decisions in ways that turn business leaders into entrepreneurial managers (Penrose, 1959; Saravasthy et al, 2008; Dimov, 2007). This leads to the design of new mechanisms (via product architecture and renewable innovations) and the effectuation of strategic changes (Saravasthy et al, 2008) aimed at meeting the current sustainability demands in order to anticipate the future concerns and expectations of consumers and stakeholders (Freeman, 1984) especially in once neglected markets in emerging economies which hold huge potential for business growth and expansion.

The third part analyses how different organizations optimize distinct mechanisms, processes and innovations at different historical points (Nielsen, 2003). It is argued that an organization's resource endowment and pursuance of dynamic capabilities *per se* would not translate into higher performance and greater wealth creation relative to its competitors (Augier and Teece, 2008; Ambrosini and Bowman, 2009). Rather, when managerial entrepreneurs search for opportunities with the willingness to take risks, considering the ethical, normative and sustainability issues in their reconfiguration of resources, they stand a greater chance of achieving success and having a sustained competitive advantage in this era. This conjecture is supported by the fact that given the new consumption patterns, such capabilities are designed in response to institutional changes (industry standards, governmental regulatory frameworks), cultural-cognitive changes (Scott, 2001) as well as social pressures consisting of the society's demand for ecologically sensitive technologies, production and distribution systems and respect for human rights. In essence, this study looks at how formal and informal institutional structures (Williamson 1975; DiMaggio and Powell, 1983), which represent culture crystallized by social arrangements, shape prevailing conditions, systems and processes in various organizations and how organizations in turn adapt to their dynamically changing environment.

Central questions

The above considerations lend themselves to the following questions:

- Why does ethically constrained optimization of dynamic capabilities in organizations within diverse institutional contexts represent both an analytical and practical (*gestalt*) shift from firm centeredness to an

amalgamation of strategic management theory, ethical philosophy, organization theory (OT), and entrepreneurship?

- Why is strategic organizational renewal towards “glocal” sustainability and ethical concerns regarded as both corporate responsibility (CR) and innovative adaptive approaches toward sustained competitive advantage via institutional legitimacy?

Methodology of Analysis

Theories and paradigms in strategic management abound but so too do their levels of fragmentation and disconnectedness (Tsoukas and Knudsen, 2003). There has however been a shortage of the much needed relevance of these theories to both policy makers and practitioners, thus, emphasizing the gap between theory and practice (Starkey and Madan, 2001; Abrahamson and Eisenman, 2001) as well as the lack of steam for the furtherance of scientific knowledge in the above mentioned theories (Miner, 1984; Pfeffer, 1993). It follows that a deeper reflection about the validity and relevance of knowledge (Miner, 1984; Leedy and Ormrod, 2005) and its purpose for understanding the organizations vis-à-vis their external environment should be encouraged. This is because how knowledge is generated and how the validity of such knowledge and elegant theories is scrutinized are challenging questions that need further enquiry. Such thoughtful contemplations lend themselves to *meta* questions whose very essence goes beyond the generation or testing of organizational theories. Rather this process of raising critical questions and engaging in reflexivity about the validity of knowledge, its purpose, and for whom it is practically relevant “makes the generation of theory itself an object of analysis” (Tsoukas and Knudsen, 2003:5).

Here, the analytical shift from non-pragmatic approaches to pluralism (interdisciplinary approach) allows for the translation of relevance into practicality and that is put into context in terms of its useful application by practitioners and the extent to which it generates more explanatory notions and questions for the furtherance of scientific research. Reflexivity in the process of probing allows the detection of biased assumptions about sustainable corporate practices, sometimes viewed as a cost, which underlie some theories. Moreover, *meta* theoretical analysis helps to understand how some notions are more persuasive than others in explaining social and organizational phenomena. Many theories and constructs in organizational and strategic management theories present a high level of incommensurability, due to the lack of general consensus. The presence of ambiguity in several constructs and how they are viewed from the micro or structural levels also present a problem (Tsoukas and Knudsen, 2003). This is the bridge that the foregoing contribution attempts to build via *meta* theoretical analysis. Clearly there is a theoretical and empirical link between the notion of ‘ethically constrained dynamic capabilities’ and neo institutional theory to explain how sustainability issues present an emerging new form of competition for which an organizational renewal is a prerequisite. The conceptual framework of *meta* theoretical analysis is able to draw together the resource based view (Barney, 1991; Wernerfelt, 1984), by extension the dynamic capabilities perspective, entrepreneurship and organizational behavior on the micro level, and institutional analysis on the structural level. This aims at bridging the micro-macro gap with what happens in organizations in practice; thereby doing justice to the questions of relevance in the theoretical framework. The analytical framework attaches much importance to the issues of sustainability in emerging markets and the role of the entrepreneurial manager in actualizing those issues.

Theoretical and Practical Perspectives

Over half a century ago, Bowen’s (1953) systematic account of the importance of organization-society interface accentuated his definition of corporate social responsibility (CSR) as “the obligation of those businessmen (and women) to pursue those policies (based on norms and moral principles), to make those (strategic) decisions or to follow those lines of action (strategy implementation and new business models) which are (socially) desirable in terms of the objectives and values of our society” (Bowen, 1953: 6). No longer are the reduction of negative externalities and other impacts of the firm or social responsibility decisions and actions on society and the environment deemed a public good at the non-affordable private costs which put the firm at an unfair disadvantage

against its competitors. Ethical behaviors such as the limitation of pollution was once considered a cost that puts the firm at disadvantage until the huge boost from environmental laws and stakeholders' support for environmental causes (Ruckelshaus, 1993). Such a reductionist view in which the firm exists only to maximize profits at the expense of its employees, consumers etc, as was sustained in the past by Friedman (1970), Jensen (2002), Sundaram and Inkpen (2004), Levitt (1970), and Drucker (1974) does not reflect present realities where social responsibility is no longer viewed as a problem that needs to be solved by governments. This also demonstrates the link between organizations and public policy. There is now a socially responsible movement of creative capitalists who will only put their investments where their values direct them (Davis and Thompson, 1994). For the modern firm, it is rather about legitimacy and proper use of political power in a competitive environment (Scherer and Palazzo, 2007; Mitchell, 1989). As many firms adopt the approach of sustainability there is considerable evidence to substantiate the fact that it is to the competitive disadvantage of the firms that ignore these normative and ethical concerns. This constrains how dynamic capabilities and firms' resources are optimized and directed towards a new form of competition and adaptation. Vogel (2005) argues that the institutional environment will decide whether there is market for such virtues. It is argued here that renewal is not only about markets but about organizations adopting innovative mechanisms as a social contract without rendering their dynamic capabilities obsolete and non-competitive.

Social responsibility towards communities and employees via better employment conditions increases motivation and employee satisfaction leading to higher productivity and performance (Porter and Kramer, 2002). Adherence to environmental standards via energy cost reduction, lower pollution level, and disruptive business models, which take advantage of economies of scale for markets at the bottom of the pyramid and emerging markets, reduce poverty and increase economic development (Yunus, 2010; Meyer, 2004). Processes embedded in ethical preferences – low-cost and energy-saving product development through cutting edge innovative processes are gradually becoming the rule rather than an exception. For example, the application of human genomics and molecular modeling in the pharmaceutical industry aims at reducing time and cost of the drug development process and life cycle. This also increases safety conditions for trial subjects in developing nations as well as for final consumers.

The **first proposition** from the above theoretical analysis is that: *Organizations which do not consider ethical questions in the optimization of dynamic capabilities and effectuation of organizational renewal run a high risk of creating a competitive disadvantage that renders them obsolete in what they can offer market and society given the institutional and market dynamics. Therefore, the greater the ethical preferences in the optimization of dynamic capabilities (sustainable innovations) are, the greater will be the organization's level of legitimacy in society and hence its sustained competitive advantage.*

Organizational Culture and Institutional Change

The organisational culture is defined variously as shared patterns and meanings, values (ethical or unethical), beliefs and ideologies which underlie internal behaviour and managerial decisions as well as the way organisations react with and adapt to their external environment (Schein, 2004; Smichich, 1983; Hofstede et al, 2002). What is important here is that managerial belief systems, vision, and values affect decisions. This in turn will affect response to the changes in the institutional matrix to either enable or inhibit organisational renewal towards sustainability as Linnenluecke and Griffiths (2009) maintain. To the extent that we wish to understand what is optimized in organisations and the institutions which constrain such optimization, the link must be drawn between the former and the latter. Changes in institutional matrix (of socio-economic and political dimensions) refer to the “fundamental and comprehensive changes introduced to the formal and informal rules of the game that affect organizations as players” (Peng, 2003: 275). Scott (2001:48) views institutions as composing of social structures that have attained a high measure of acceptance and stability. These comprise cultural-cognitive, regulative and normative building blocks coupled with “activities and resources (that) provide stability and meaning to social life”. For Hofstede et al (2002: 800) “institutions are the crystallization of culture, and culture is the substratum of institutional arrangements.” Hence any attempt to claim causality link between the two is a useless endeavor (Peng and Pleggenkuhle-Miles, 2009). Institutions have near spontaneous origins in their creation and diffusion via various modes including relational systems, symbols, routines and social artifacts; they may be formal or informal institutional structures

(Williamson, 1975; Scott, 2001). These social structures are imposed and sustained over time by the actors from the individual level to organizational level as a social behavior. Once they attain a status of inertia, they become normal behavioral patterns which are via the process of socialization re-enacted and continuously routinized and taken for granted. Powell and DiMaggio (1991) offer a fresh look at institutional theory from a sociological point of view with the rejection of rational actor models which view institutions as independent structures. Rather, their more socially embedded and holistic approach of neo institutionalism takes into consideration the “cultural-cognitive explanations and an interest in properties of supra-individual units of analysis that are irreducible to aggregations or direct consequences of individuals’ attributes or motives (1991: 8).”

Explaining organizational isomorphism

For DiMaggio and Powell (1983), four analytical tools are used to aid understanding and explaining the reasons and means by which certain cultural practices and structures govern social behaviors with such a strong rigidity to mutations in a particular population (e.g., in an industry) that they dictate the population’s isomorphic nature. These devices include ‘carriers’, ‘mechanisms’, ‘field logics’ and ‘source of influence’. Mechanisms and carriers refer to the nature of the reified beliefs (or forms of social facts) which present themselves in the form of rules and regulations and particular cultural elements such as norms, values and the mechanism via which they are diffused across organizations. For DiMaggio and Powell (1983), institutional isomorphism is created either via coercive, mimetic, or normative modes. These are, however, not mutually exclusive but are analytically linked. Coercive isomorphism is created through political influence and formal authority or governance systems, thus, formally imposed pressures on one hand and soft “forces of legitimacy in terms of fairness and reasonableness” on the other. The normative refers to the moral principles imposed by society via its informal structures. While state legislations and other formal regulations as well as ratified standards by agencies with legal authority may represent powerful coercive forces, they nonetheless do not amount to the only elements of coercive power. Social pressures and public opinion about organizational conduct may govern isomorphism. This is also because stakeholders in particular and society in general attach reputational value to organizations and this social construction may have either positive or negative ramifications on a firm. Mimetic behavior on the other hand is prevalent under conditions of uncertainty, vagaries and ambiguity. Actors may mimic or emulate a market leader as the archetype in the population either inadvertently or on purpose. For example, in pursuit of legitimacy, organizations may embark on sustainability programmes by copying other successful organizations.

Implied here are three considerations for **proposition 2**: *The optimization of dynamic capabilities is constrained by (i) changing industry specific norms, (ii) new formal rules by governments about sustainability issues, and (iii) the opportunity seeking motive of the firm to pursue competitive advantage which in turn is dependent on ethical managerial decisions to meet social and environmental demands with sustainable innovations.*

Why do organizations engage in ir/responsible business?

In a ground breaking article, Campbell (2007) argued compellingly that institutional environments are the inhibitors or enablers of responsible or irresponsible behavior. This is consistent with the view of Jackson and Apostolakou (2010) and Williamson (1975). Campbell cites both private and public regulatory frameworks under which the organization operates, the presence or absence of nongovernmental organizations (NGOs) which monitor firm behaviour, institutionalized norms within which corporate actions are deemed acceptable, and the pattern of behavior that is consistent and accepted in a particular industry. He further asserts that organized dialogues among organizations and their stakeholders are among the reasons for responsible and ethical behaviour. What is missing, however, is the role of organisations in the context of weak or strong institutions. By strong institutions I refer to the ability of the formal structures to enforce rules and regulations and the informal institutional environment to organize its influence against what is deemed unacceptable corporate behavior. The entry into new markets through legitimate means and institutional recognition by regulators and governments is always a prerequisite. This is readily verifiable from Global Compact (2010) and United Nations Millennium Development Goals by the sheer number of pharmaceutical companies that are taking the initiative to contribute to poverty eradication efforts in the health sector in developing economies in order to appear socially responsible and not as exploitative entities. This is also a way of demonstrating the new trend whereby economic activities of organizations are socially embedded especially

now that there are such partnerships between business entities and NGOs to embark on R&D to produce drugs for neglected diseases etc. Typical cases are those of GlaxoSmithKline and Bill and Melinda Gates Foundation (see the websites). The increasing phenomenon of organizational search for legitimacy, power and influence through their role as political actors is explained by the neo institutional theory and CR in the works of Campbell (2007), Scherer and Palazzo (2007), Mitchell (1989) and Crane and Matten (2007).

It seems plausible from the foregoing analysis that when sustainability plays the central role in a firm's strategic operations and the development of its dynamic capabilities, there is an implicit need for organizational renewal vis-à-vis other organizations in the same population which affects managerial decisions to effectuate and configure firms' internal resources to meet the stakeholder demand (Saravasthy et al, 2008). Markets have evolved significantly, but so has competition increased in several industries to meet today's CR demands which are modeled to capture emerging needs. Strategic goals towards engineering and product design as well as changing core competencies that are geared towards innovations at lower social costs, higher positive externalities and cost-effective processes become the core of management thinking. At the same time, strategic renewal of internal capabilities and social demands are pressuring firms towards a more transparent and accountable governance which lead to positive social impact both for internal stakeholders in particular and society at large (Lee, 2008; Peng and Pleggenkuhle-Miles, 2009).

What is optimized and what is constrained?

Different organizations naturally optimize distinct mechanisms, processes and innovations at different times, for example, shareholder value, legitimacy, power, family wealth etc. under particular constraints (Nielsen, 2003) such as issues of sustainability and social pressure. Again what is optimized and what is constrained according to Nielsen have varied across space and time, the type of organizations as well as the social and institutional context. Simply put, the mantra is "with the occasion and place comply". Ethically constrained dynamic capabilities towards sustainability and CR via processes embedded in ethical preferences and social concerns are overwhelming issues which are generally accepted across the board. Such change processes spur innovation and they are the key sources of sustained competitive advantage of organizations (Augier and Teece, 2008; Porter 1985; Drucker, 1974). The space between what is optimized, e.g., dynamic capabilities, and what is constrained, e.g., sustainability and social justice, is filled with conflict (Nielsen, 2003) of ethical and normative nature. Weaver, Trevino and Cochran (1999) imply that managers with higher ethical commitments are directed by their ethical preferences more in practice than firms that engage in ethical actions as an *ad hoc* program in responses to external pressures. This perhaps explains why some firms strategically renew their capabilities to allow them to offer the optimal value propositions to emerging markets while others stick to the old books.

For March (2006), organizations characteristically pursue intelligence. Thus, they seek to adopt courses of action that will eventually lead them to outcomes that are deemed satisfactory in the long term, taking into account any changes in their hopes, beliefs, value system and ethical preferences as well as the interpretations of these over a period of time and the dilemma over all the above. Important here is the fact that rational technologies permit firms to survive day by day. Rational technologies involve an attempt to understand complex changing systems of causal factors on the basis of imperfect, ambiguous, and contested knowledge of the environment (March, 2006). This process also involves the anticipation and shaping of the environment that is also characterized by other organizations which seek to equally and concurrently 'anticipate' and 'shape' their environment. This means there is a process of confronting inconsistencies in preferences, benchmarking across organizations and making intertemporal appraisals. It follows that adaptive systems are sustained by a process of exploration and exploitation. Therefore, theory, ideology and technologies of rationality in organizations (involving abstractions, values-based decisions) are embedded in a philosophy which holds that the implementation of organization's decisions or strategies (Porter, 1985) should be the "product of the mind and choice", not magic or tradition (March, 2006). This way of reasoning answers many questions about a firm's decisions in response to a dynamic environment but it leaves other theoretical problems if not practical ones unanswered.

McKinley and Mone (2003) pose the question about the inconsistency of competitive strategy. Porter (1985) asserts that organizations must establish unique positions using the metrics of cost leadership, product or service differentiation, pursue sustainable competitive advantage and the possibility of a long-term survival in a dynamic

and competitive market. This is made possible via organizations' core competencies (bundle of skills and expertise) that are unique and inimitable (Prahalad and Hamel, 1990). On the other hand, the neo institutional theory (Meyer and Rowan 1977; DiMaggio and Powell, 1983) holds the premise that organizations' conformity to institutionalized practices is to gain legitimacy and reduce uncertainty rather than to improve technical and financial performance. While McKinley and Mone (2003) view competitive strategy and neo institutional theory as incommensurable, it can still be argued that firms remain institutionally isomorphic due to the market environment or the legal framework that constrains them to mimic each other to attain legitimacy. On the other hand organizations pursue differentiation and other strategies which accentuate their uniqueness in terms of core competencies and dynamic capabilities to attain higher performance while conforming to the expectations of their context. Alexander and Rudolph (1985) and Donaldson (1995) question in their neo-contingency model, in which they theorize how organizations adapt to contingencies (e.g., environmental state, manufacturing technology or firm size), why some organizations continue to exist, while others get extinct under similar environmental conditions. Peter Drucker (1974) poses the same questions. It seems plausible that organizations are both shaped by their environment and they can in turn also use their internal structures to shape the environment. Thus, both are reciprocally dependent. This means that questions of operational efficiency based on capabilities and high quality skills will in turn adapt to environmental dynamics, e.g., sustainability demands. This leads us to the extent to which environmental changes influence internal structures and resource endowment and how they are renewed over time to adapt.

Analysis of Concept of Sustainability

Two levels of analysis are pursued here; the organizational level and the broader structural level of the institutional environment. At the former, organizational culture, dynamic capabilities and the entrepreneurial manager are the focus of analysis, while at the latter three key characteristics of institutions are used with the theoretical lenses of institutional theory (Scott, 2001; DiMaggio and Powell, 1993).

Defining sustainability and environmental turbulence

The concept sustainability has a long history of activism and environmentalism to its present prominence across the globe (Linnenluecke and Griffiths, 2009). A report *Our Common Future* published by the World Commission on Environment and Development (WCED), a UN established body, defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43). Its main content as espoused by NGOs, business leaders and civil society was for businesses to pursue their interests while taking into account social and environmental impacts. Sustainability practices refer to the efficient and effective application of innovative *modus operandi* in the use of human, environment and time as limited resources. Sustainability is a buzzword now on corporate websites to indicate organizational commitment to stakeholders' environmental needs. It is known to allow the firm and national economies to enjoy a competitive advantage in the long term since it systematically protects their eco-systems.

Employees working under conditions conducive to productivity certainly have the motivation and cutting edge skills to implement sustainable agenda which is woven into the corporate strategy of the organization through their expertise. Equally important are the national laws which fight against discrimination against women and minorities at work places as well as coercive ways to increase the work-life balance of employees in all industries by treating workers with dignity. This can be achieved through innovative waste disposal and recycling techniques, renewable energy that reduces different forms of pollution while cutting costs, or new production engineering which all aim at reducing the carbon footprint and protecting the fragile ecosystem and its inhabitants (Global Compact, 2010). Sustainable strategies increase firm competitiveness and adaptability to the changing environment and respond to social demands. The governments in developing and emerging economies see this as a way of ensuring that current wealth creation activities are not in any way impeding future generators from creating worth for themselves. This in part explains why there seem to be systemic changes across the board to adapt to this new way of strategy implementation.

Dynamic capabilities of organizations

The resource based view (RBV) (Barney, 1991; Wernerfelt, 1984) traces its origin from Edith Penrose (1959). It essentially states that the heterogeneity and immobility of different organizational endowments will translate into valuable resources which will sustain over time the competitive advantage to earn “super profits or above-average profits” as consistent with Barney (1991), and Priem and Butler (2001). While this notion holds all things static, its shortcoming is that it does not explain how future valuable organizational resources can be generated, nor does it explain how the current stock of resources can be reconfigured to suit the dynamic needs of the market and society. Besides, it fails to see that the firm confronts not only markets but institutions. From where the static nature of RBV ends, dynamic capabilities take over to explain the evolutionary nature, time and context of the organizational direction in relation to the organizational environment and the role of the organization-society interface.

Augier and Teece (2008: 1190) define dynamic capabilities as “the particular (non-imitable) capacity a business possesses to shape, reshape, configure and reconfigure assets so as to respond to changing technologies and markets and escape the zero profit condition”. More to the point, it refers to the ability of the organization to anticipate, seize opportunities and adapt to its environment in a way that permits it to exploit both the internal and external enterprise-specific competencies and deal with the organization’s dynamic environment (Augier and Teece, 2008). Thus, beyond the mere possession of competencies in the short term, the long-term survival is attained by learning and new innovative attributes, continuous process of renewal, and superiority in an organization’s value propositions. These attributes must be able to capture potential opportunities at a rate that is quicker than the competitors’ and concurrently effectuating organizational renewal through entrepreneurial leadership. In effect, it has been found that CR in itself provides new business opportunities via innovation (Hockerts and Morsing, 2008).

Teece et al’s (1990, quoted in Ambrosini and Bowman, 2009) working paper presented in Finland was the first contribution towards the theory of dynamic capabilities. In it, they point out that (p. 11) “our view of the firm is somewhat richer than the standard resource-based view...it is not only the bundle of resources that matter, but the mechanisms by which firms learn and accumulate new skills and capabilities, and the forces that limit the rate and direction of this process”. The refined version of these ideas was formally published in 1994 by Teece and Pisano. Ambrosini and Bowman (2009) and Teece and Pisano (1994: 537) assert the primary importance of the dynamic nature of the external environment as well as the role of strategic management which essentially concerns the process of “adapting, integrating and reconfiguring internal and external organizational skills, resources and functional competencies toward the changing (market and institutional) environment(s)”. The core message here is to perceive the organizations as systems which are embedded in socio-economic, political and technological realities as well as the managers’ cognition. This adaptation is a process of renewal towards sustainability as echoed in the title of this paper.

Summary of previous studies

There seems to be an element of value co-creation in Teece and Pisano’s conceptualization of dynamic capabilities view (DCV). The ethical posture of the manager is crucial in strategic decisions (Augier and Teece, 2008). DCV consists of knowledge articulation, processes and operational routines. Capabilities are not machines and robots. They are competencies and core skills that employees are endowed with in order to implement desired sustainable processes. Pointing to a more sociological aspect of it in OT, it becomes evident that its ethical nature should always be taken into consideration. The ethical posture of the manager is crucial in strategic decisions for the optimization of dynamic capabilities in the light of markets and institutions. This thus seems to be missing in all the five most cited works on dynamic capabilities in Table 1 below.

TABLE 1: SUMMARY OF DYNAMIC CAPABILITIES AS A THEORETICAL FOUNDATION FOR SUSTAINABILITY

Study	Type of study	Definition
Teece and Pisano (1994)	Theoretical contribution on dynamic capabilities providing key conceptualization.	As adapting, integrating and reconfiguring internal and external organizational skills, resources and functional competencies toward the changing (market and institutional) environment(s) (p. 537).
Eisenhardt and Martin (2000)	Theoretical contribution on specific and identifiable processes, exploiting dynamic capabilities	Dynamic capabilities are a set of specific and identifiable processes such as product development, strategic decision making, and alliancing. They are neither vague nor tautological.
Zollo and Winter (2002)	Empirical contribution on mechanisms through which organizations develop dynamic capabilities.	A learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness.
Helfat et al (2007)	A book on understanding strategic change via dynamic capabilities.	“The capacity of an organization to purposefully create, extend, and modify its resource base” (p. 4).

Figure 1 presents a model of ethically constrained optimization of dynamic capabilities towards sustainability. The cusp refers to a threshold or a transition from one historical point to another where environmental turbulence and internal pressures force organizations to renew their structures in order to adapt to the external environment. The optimization of dynamic capabilities is strongly influenced by environmental turbulence, which consists of external forces such as environmental changes (climate change and air pollution), human rights issues, and pressures from external stakeholders (e.g. consumer demand for eco-friendly technologies, new industry standards and governmental regulations). The optimization is also influenced by internal pressures such as demands from internal stakeholders (for e.g. gender equality and employee safety and transparency in corporate governance). This changes the dynamics of the nexus between the firm and society. Environmental turbulence must not be construed only as market and institutional disorder but also as new opportunities especially in emerging economies constrained by the larger society of which the firm is part. This means the ability of the firm to adapt strategic decisions and reconfigure resources and capabilities via managerial entrepreneurship underscores the creation of competitive advantage in new markets in emerging economies. As Helfat and Peteraf (2009) put it, DCV is the Holy Grail which attempts to answer the specific question of firm’s sustainable competitive advantage in a changing environment. This “inside out” view fails to consider the ethical constraints which lead to the successful optimization of dynamic capabilities.

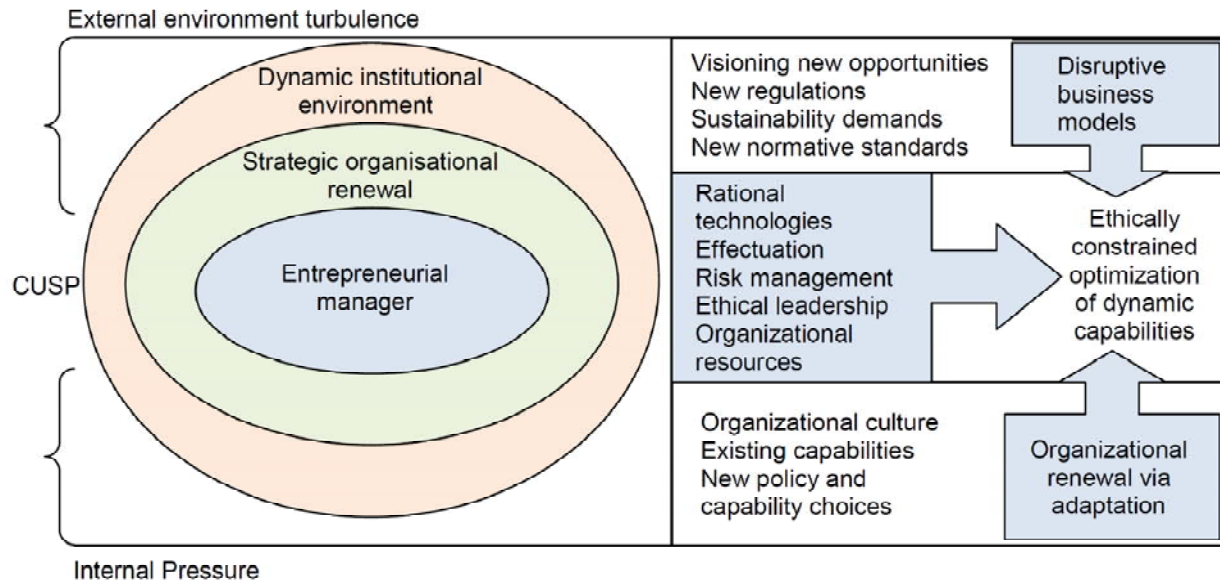


FIG. 1: A MODEL OF ETHICALLY CONSTRAINED OPTIMIZATION OF DYNAMIC CAPABILITIES TOWARDS SUSTAINABILITY

The dynamic capabilities and managerial entrepreneurship allow for creativity in developing sustainable and cutting edge products and services that in turn allow organizations to differentiate or become cost leaders or present unique value propositions to consumers and other stakeholders. These unique and compelling messages represent the cornerstone of firms' reputation as they search for both market and institutional legitimacy via mimetic, coercive or normative mechanisms depending on the industry, sector, circumstances and context (DiMaggio and Powell, 1983). Implied here is that isomorphism does not preclude organizational uniqueness and the creation of competitive advantage due to inimitability of dynamic capabilities constrained by the ethical decisions of the managerial entrepreneur to use business solutions for social issues at profit. Defining socio-economic or technological problems worth solving for profit is a win-win initiative. This however requires dynamic capabilities, strategic decisions and relationships for building the needed novel technologies in managing complex operations under different institutional milieus which present marketing opportunities. Markets and rent seeking matter but institutions may be everything. Addressing it may be non-trivial.

Balancing Entrepreneurship, strategic renewal and sustainability at the bottom of the pyramid

Changes in organizations may also involve superficial façades and genuine deceptions, to paraphrase Starbuck (2010). It is undeniable that persuasive apparatuses to deceive stakeholders pervade organizations. Implied here is that before substantive changes and learning can be very effective, firms must diligently unlearn as well as learn about the changes in industry and institutions (Cohen and Levinthal, 1990; Nyström and Starbuck, 1994). This is easier and practical via collaborative efforts with governments, NGOs and other non business actors with knowledge of the special needs of certain market segments. High profits stem from moving away from the zero sum trap (Augier and Teece, 2008). However, this is also dependent on partial monopolies based predominantly on location-specific advantages in neglected markets of developing economies, sustained reputation and licenses etc (Starbuck, 2010). How Western and Emerging Economies' pharmaceutical organizations can capture the profitable and scalable emerging markets remains a question? This requires a process of visioning new opportunities i.e. 'sensing', 'seizing' and capturing these markets in the long term. This is what Louche, Idowu & Filho (2010) refer to as corporate responsibility that moves from mere risk management to innovativeness and value creation. Such organizational changes are also performance driven Donaldson, (1999).

Recent changes that have transformed the pharmaceutical industry besides scientific and technological advancements are the structure of the markets as well as their geographical configuration. Pharmaceutical firms can now access several types of technical support and knowledge (research centre, laboratories, and engineering and design centers even in developing economies; Malhotra and Morris, 2009). Knowledge-based operations have become as mobile as the physical activities and this is no different in developing economies. It is maintained here that an economically flourishing society is clearly a precondition for markets to thrive (Lee, 2008) due in part to a growing middle class and the existence of scalability; volume and potential consumers both in the middle and at the bottom of the pyramid markets. This in essence becomes the rationale behind the architecture of novel demand-based products that are also contextualized. Since the dawn of the millennium, the world has been undergoing very profound changes in its socio-economic, climatic, market and institutional underpinnings. Such changes have deeply affected ideologies, systems, and organizational thinking in terms of the markets firms operate in and organizational responses to their environment. These changes include policy reforms, liberalization of markets, and privatization, as well as the architecture of new technologies to meet the contextual demands of the new markets. Such changes are also based on both technical and non-technical innovations aimed at achieving a competitive advantage (Porter, 1985) not only based on the ability to create entry barriers etc but based on sustainable innovations of a different kind. These innovations are based on the principle of faster, cheaper, and sustainable products and services that are commercially viable and aimed at matching the developmental agenda of these economies at profit. These forms of demand are predominantly in energy, education, health, transport, atypical financing, agriculture and less of luxury, entertainment and pure rent seeking. The business model innovation also requires the optimization of dynamic capabilities and substantive organizational renewal to incorporate ideas of collaboration between businesses and NGOs and governments. The business model innovation here according to Casadesus-Massanell and Ricart (2011) refers to as consisting of ethical preferences and consequences which are enveloped in three main choices of asset choice, policy choice and governance choice. Such models must characteristically be aligned with the firm's goals in ways that yield expected results. They also need to be auto-reinforcing, complementary such that they promote synergy, robust enough to fend off quick imitation by players, and they should increase bargaining power and limit firms' complacency and substitution by rivals (Casadesus-Massanell and Ricart, 2011). In the same vein, Chesbrough (2010: 362) argues that the fundamental "role of leadership is to ensure effective governance of business model experimentation" in emerging markets. For Kosonen and Yves (2010) strategic sensitivity to various developments requires leadership unity to make quick decisions and fluid resources that are easily and readily configured and deployed to capture emerging opportunities.

Operations in these markets are no longer going to be based on rent seeking and exploitation. Such a shift in thinking requires strategic organizational renewal (Agarwal and Helfat, 2009) that will be balancing the external demands of social good with firms' success (sustained growth and survival). Both incremental and radical innovations will then be required to meet the new market opportunities (Dimov, 2007). As Eggars and Kaplan (2009: 473) conclude on cognition and renewal, "managerial cognition and (ethical decisions) organizational orientation are important factors in understanding firm response to new technical opportunities". This is consistent with Bansal (2003) who argues that managerial values lead the firm to certain consequences and are constrained by institutional

pressures to affect CSR directions. Waldman asserts that organizational values and belief systems affect the processes by which firms identify and set agendas (Waldman et al, 2006).

I define strategic renewal as the profound organizational changes at varying degrees of transformations in a firm's dynamic capabilities and other resources that allow it to adapt productively and maintain competitive advantage over a long period of time. This process consists of shaping and being shaped by the environment constrained by market opportunities and challenges on one hand and institutional constraints and enablers on the other. All these are centered on the ethical sensibility of the entrepreneurial manager.

As an inductive theory building exercise after the *meta*-theoretical analysis, key terms are hereby defined. The reference to varying degrees of changes describes removal and replacement of old business models and the institutionalization of a new mindset, as well as structural and technical changes. The transformation is rather slow, relatively minor, but substantial enough to adapt to while in some cases very radical transformation in terms of organizational structure, culture, and capabilities is required to exploit the new windows of opportunity which promise scale. For Agarwal and Helfat (2009) major transformations may also present themselves as both large and multidimensional, making the firm less useful in serving the radically changing markets that affect business models, technological capabilities and the organizational mindset. Agarwal and Helfat (2009: 282) define strategic renewal as 'the process, content and outcome of refreshment or replacement of attributes of an organization that have the potential to substantially affect long term prospects'.

Key findings, implications and relevance

On the basis of the *meta*-theoretical approach, a reflection on common traits and comparison of theoretical perspectives of seminal works on dynamic capabilities and neo institutional theory is made. How to make sense of them even though they appear irreconcilable at some points when explaining organization-society interface? All this is done in the light of how the process of organising is enacted in response to external dynamics. As indicated in the title, the optimization of dynamic capabilities is a means of outcompeting rivals in ways that are partly dependent on managerial ethical decisions and external pressures within industry and in the wider institutional environment. What is constrained in current business discourse and practice? The building of dynamic capabilities also denotes an intertemporal choice whereby context and lifecycle of products and services matter in managerial decision in order to capture institutional needs and correct organizational renewal. The possession of core competencies such as skills and expertise alone are meaningless in some contexts unless such technical and rational technologies are linked up with the contextual value co-creation process via alliances to produce sustainable results. Adaptation may also mean the application of rational technologies and intuition to anticipate potential threats and opportunities (environmental turbulence) and being prepared with the organization's capability to cushion shocks or capture opportunities. Ethical and rational technologies alone do not guarantee long-term sustainable actions. The institutional elements of regulatory and normative standards serve as checks and balances to create order in society and markets and to constrain adherence to established rules or emerging standards and demands whilst making transaction costs bearable. This is how strategic management, ethics and the institutional environment in which they are embedded are brought together to make sense of the process of organizing in a new era.

Theoretical contribution of the present paper lies in the gap it fills in bridging the contingency theory with a population type of theory through a meaningful analysis which can be applied in empirical work. The managerial implications concern the applicability of this original notion that if development of dynamic capabilities such as expertise and cutting edge technologies are embedded in ethically shaped rational technologies, they stand to adapt in the environment by way of legitimization and institutional recognition which represents value for both the organization and the consumer or the broader society. While Teece et al (1997) and Eisenhardt and Martin (2000) do a great job with their insightful scientific contributions, the present paper contributes something unique because missing in their analysis is the institutional environment of regulatory, normative, and ethical posture of decision makers which are the sources of influence to shape dynamic capabilities. Beyond the aforementioned, the study offers a new perspective and *meta*-theoretical reflection about the existing theories that they are not redundant but they can be reinvigorated in fresh global discourses (Peng and Pleggenkuhle-Miles, 2009) to give them practical relevance, which in fact is the very essence of scientific research. The ultimate objective of research is the search for truth or a better understanding and making sense of data. Here, the pursuit is not after generalizations but

applicability and relevance. The wide spectrum of theories reviewed presents a drawback of being too broad, but on the other hand it provided different perspectives and new theoretical lenses through which to see ethical questions in the pharmaceutical industry. Such a process of *meta*-theoretical analysis encourages pragmatism and reduces parochialism in theoretical choices. The crystallization of culture in organized and social arrangements translates into institutions and that helped to contextualize and focus on the pharmaceutical firms and how they ethically strategize to build their capabilities.

Conclusions and Directions for Future Research

Beyond the boundaries of strategic management theories, a more pragmatic look at other theories helps to explain that the firm's success depends to a large extent on how it employs its endowments, managerial expertise, relational assets, core competencies, and other intangible resources in a way that coincides with the expectations and concerns of society and the dynamism of markets and institutions. This is the firm-society interface which makes dynamic capabilities from management theory and neo institutional theory from sociology interesting. The discussed theories expose practical mechanisms by which society and organizations shape and engage each other. On this basis, we can conclude that: Ethical leadership fused into managerial entrepreneurship in an innovative organizational culture within an enabling institutional context allows new advancement in organizational renewal and R&D, new business models, entry into new markets with "smarter, better and cheaper" technologies and environmentally safe products. This permits sustained competitive advantage. This is clearly an area of inquiry and practice that changes society and the business landscape but most importantly puts the entrepreneurial manager at the centre of the discourse of change.

On the macro level, questions of legitimacy and legal constraints are solved when firms bend no rules, while the rate of dynamic capabilities' optimization increases firm performance and adaptation as a self-sustained and competitive entity vis-à-vis rivals in a dynamic environment. Managerial entrepreneurship enables creativity and innovativeness among employees while diversifying firm resources into emerging markets to solve socio-economic snags at profit. This increases the organisation's chances of survival and adaptability both in the industry and in the larger environment. It follows that the institutionalization of ethical obligation and voluntary actions by organizations towards sustainability reflects the current world order of popular culture that demands ethical actions from organisations albeit the presence of institutional structures that are the main determinants of the extent to which organizations live up to such an order.

That notwithstanding, unethical ideas and rational technologies, thus organizational actions that are not sustainable and dynamic will hardly create value for firm and society as a whole, thereby inhibiting the firm's long term sustainable competitive advantage in this speedily changing market environment. Sustainability is therefore a common denominator of issues pertaining to social responsibility towards employees in a firm as part of a larger society and the environment. Normative concern about environmental sustainability constrains how dynamic capabilities and firms' resources are directed towards a new form of competition and adaptation. This represents the *gestalt* shift (practical and theoretical) in existing theories and their socio-political relevance as well as their managerial implications. The ideas presented here are logically linked, the examples are meaningfully engaging and the process of inquiring and untying the knot of strategic management and ethics theories is pragmatic as a nuanced research into existing knowledge. The model presented herein is still in the phase of development, that notwithstanding it is an attempt to grasp the organization-society interface and the role of ethical managerial decisions. While neo institutional theory seems to answer most of the questions, it faces a bigger dilemma where corporations seem to be even more powerful than certain countries where they operate. There is the need for comparative institutional analysis that allows for theorizing under what conditions firms operate sustainably in countries where institutions are weaker but the market abounds. From here, research will be directed towards this perspective. Campbell (2007) does not say to what extent the presence of NGOs influences firm's actions. I conjecture that the presence of stakeholders and NGOs *per se* does not translate into a formidable force or urgency to coerce organizational change. The greater the power of NGOs' constellations, the greater their influences; but that

influence is empowered by their organizational power to pull fragmented groups together in order to garner more institutional power and support.

Jackson and Apostolakou (2010) and Hall and Soskice (2001) posit that variations in national institutional environments affect the strategic coordination of corporate entities which are put into two groups of unique models of market actors: liberal market economies in the Anglo-Saxon economies and coordinated market economies in the continental Europe. Considerations about developing economies are either taken for granted or their former colonizers' economic systems are used as a proxy to analyze such markets. Nevertheless, most emerging markets operate under completely different socio-political and economic conditions. As Mangham (2003) maintains, unregulated capitalism produces a different ethical climate from regulated capitalism in that managerial values-based decisions are irreducibly social and never idiosyncratic. Going forward, I am persuaded that a comparative institutional analysis of organization-stakeholder relations and what motivates certain forms of innovations in developing economies will provide empirical exposures about how well we understand the emerging markets. Here, the transaction cost economics perspective will help explain governance choices and actions of organizations under conditions of uncertainty in developing economies. This is because hitherto the concept has been applied to advanced countries with stable market and institutional conditions which makes contractual choices feasible (Hoskisson et al, 2000).

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Reaching out to Markets at the “Base of the Pyramid”: Ten Latin American Business Cases

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Abstract

Based on qualitative research, the author studied the experiences of ten firms, each one operating in a specific country in Latin America, among Peru, Mexico, Guatemala, Colombia, Ecuador, Chile and Argentina, from different industries and at different stages of implementation on their Base of the Pyramid incursions. Through an analysis, the author uncovers what factors were critical for the decision making processes of the studied firms and what other factors were at that moment underlying, but afterwards help to reinforce the value proposition. One of the conclusions of the study is that the person and its needs should be the drivers to develop creative solutions to address low-income consumers' problems.

Objective and methodology

The objective of this article is to find, through theoretical and qualitative research, common factors among firms that have been attending consumers from markets at the Base of the Pyramid (BoP) in Latin America. The author selected ten examples of firms operating in seven different countries in the region, from various industries and with different sizes and levels of maturity and deployment on their BoP incursions.

World Poverty

Conventional definitions of poverty had been referring to a shortfall in income levels (Akindola, 2009), until Rowntree (1901) started studying those aspects of poverty not related to income, which he called 'secondary poverty', referring to habits and behavioral patterns that affect the commodity composition of a family's consumption. Those patterns are related to a 'culture of the poor', concept first suggested by anthropologist Oscar Lewis, based on ethnographic studies he conducted with families in Mexico, Puerto Rico and New York in the 1950s and 1960s (Lewis, 1959, 1961, 1966).

Nobel Prize laureate Amartya Sen (1999) suggests that we need a much deeper understanding of the multidimensional nature of poverty and that the poor cannot reach development because they do not have enough liberty, as they lack the opportunities to increase their income on their own. Sen (2009) indicated that we must learn to identify and remove the constraints that prevent those in poverty from realizing their full potential.

Growth and Inequality in Latin America

In 2010, real world GDP is estimated to have expanded by 3.9 percent, but by 5.7 percent for Latin America and the Caribbean (World Bank, 2011). As with other developing countries, the economies in Latin America had 'decoupled', and will continue to boom even as the economies of the United States and other rich countries grapple with recession (Bishop, 2008).

General economic progress does not improve the levels of the very poor (Todaro, 1997), and some developmental economists contend that the growth processes typically 'trickle-up' to the middle classes and especially the very rich (Norton, 2002). The first calculations of inequality across world citizens were done in the early 80s (Berry, Bourguignon & Morrison, 1983; Grosh & Nafziger, 1986). Since then, Latin America has had the world's worst income inequality (The Economist, 2011; Lopez & Perry, 2008). With a Gini Coefficient¹ of 0.53 in the mid-2000s, Latin America was 18 percent more unequal than Sub-Saharan Africa, 36 percent more unequal than East Asia and the Pacific, and 65 percent more unequal than the high-income countries (López-Calva & Lustig, 2010). According to

some researchers, inequality in Latin America is the result of state capture by elites, capital market imperfections, inequality of opportunity, labor market segmentation, and discrimination against women and nonwhites (Atal et al., 2009; Barros et al., 2009).

A new survey by the World Economic Forum points that widening economic disparities and failings in global governance are the two main global risks over the next decade (World Economic Forum, 2011).

The Base of the Pyramid

The presence of multi-dimensional personalities means that not every business should be measured by the single objective of profit maximization, since businesses have a key role in society (Yunus, 2007). However, the main attention of businesses to poverty had been regarding Social Responsibility Programs; until 1999, when C.K. Prahalad and Stuart Hart wrote an article titled 'Strategies for the Bottom of the Pyramid: Creating Sustainable Development' (Prahalad & Hart, 1999). This work was the first that introduced the BoP concept, attempting to raise awareness of the world economic pyramid and the vastly untapped market of 4 billion people living on less than \$1,500 Purchasing Power Parity (PPP) ² per capita income. The poor at the base of the global socio-economic ladder, primarily transact in an informal market economy, due to the cost, complexity and unfamiliarity of transitioning to the formal economy (London, 2007), and the BoP perspective relies on the view that unmet societal needs are also potential business opportunities (London & Hart 2004; Prahalad, 2004; Prahalad & Hart 2002; London, 2010).

The BoP perspective relies on a proposition of mutual value creation: the greater the ability of the enterprise to meet the needs of the poor, the greater the return to the partners involved. However, profit, rather than any other measure of corporate activity, is the first estimate of how much value a business creates for society and we should encourage businesses to make profit, even if we think about other goals (Wilson & Wilson, 2006).

According to the BoP literature, a BoP venture is a revenue-generating enterprise that either sells goods to (BoP-as-consumer) or sources products from (BoP-as-producer) those at the base of the pyramid, in a way that helps to improve the standard of living of the poor (Prahalad & Hammond 2002; Prahalad & Hart 2002). An specific BoP venture can adopt either or both, approaches (Anupindi & Sivakumar, 2007), and in order to evaluate a BoP venture's impact on poverty alleviation, we should consider respect, dignity, inclusion, choice, security, and transparency, among other aspects of well-being that must be measured (London, 2007).

Base of the Pyramid and Core Competences

A Core competence of a company is a form of economy of scale that results from a company's ability to excel in certain aspects (Milgrom & Roberts, 1992). According to Prahalad and Hamel (1990), a core competence provides potential access to a wide variety of markets, should make a significant contribution to the perceived benefits by customers of the end-product, and should be difficult for competitors to imitate. As in any other business ventures, an enterprise getting into BoP markets should first focus on its core competences.

Base of the Pyramid and Inclusive Scheme

Co-creation business logic implies that the most competitive business models will emerge from a deep understanding and dialogue with front-end users or producers, which in the cases under study comprises the BoP. This requires 'honest and open' long-term relationships (Grönroos, 2000; Normann, 2001). Corporations that succeeded at BoP, have the capabilities of investing or developing associations, developing new competences and experimenting in new and untested markets (Hart & Milstein, 1999).

Base of the Pyramid and Innovation

Market creation is fundamentally different from market entry. According to Simanis (2010), even considering the BoP's 'basket' of compelling needs, the BoP is not actually a market. In order to 'create' a market, firms should focus on products or services that could be 'embedded' into the BoP consumers' lives.

Consumer Needs at the Base of the Pyramid and Wrong Assumptions

Before thinking about consumer needs at BoP markets, we should first think about a *wrong assumption*, which usually blocks managers from thinking about poor people as consumers. As an example, some of these wrong assumptions with reference to poor people are: 'they don't need to use a mobile phone', 'they would not pay for glasses', 'they would not use make-up', or 'they are not capable of investing money with success'.

Base of the Pyramid in Latin America

The World Bank has emphasized the importance of making markets work for the poor, and the need for those in poverty to actively contribute to this process (Narayan et al., 2000; The World Bank, 2001). The World Resources Institute (WRI) conducted a study with the International Finance Corporation to better understand the size and aggregate purchasing power of the BoP. It identified nearly 4 billion people at the BoP across Africa, Asia, Eastern Europe, Latin America and the Caribbean (Hammond et al., 2007). Using data from household consumption surveys, the report estimates total annual household income at the BoP at \$5 trillion PPP (or \$1.3 trillion when adjusted to U.S. dollars). In another study with the Inter-American Development Bank (IDB), WRI also relied on household survey data to examine the BoP in 20 countries in the Latin America and the Caribbean region, finding a BoP population of 361 million in the region, with an aggregated annual income of \$510 billion (World Resources Institute, 2006).

The Selected Cases

Through in-person and telephone interviews, we used the case research method (Yin, 1984) to collect the data and analysis of the ten firms. That kind of research is qualitative, which is useful for studying phenomena in their natural settings, attempting to make sense of, or to interpret it in terms of the meanings people bring to them (Denzin & Lincoln, 2000). Our analysis is divided in the following parts: *Company Background*, *Consumer Needs and Problem*, *Wrong Assumption*, *Value Proposition*, and *Results*.

Global Alimentos (Peru, Packaged Foods)

Company Background

In 1996, Maltería Lima (ML), a firm dedicated to processing malt, corn and other cereals, mostly for a brewing Peruvian group -Corporación Backus (CB)-, launched a barley cereal in form of flakes, which competed successfully with oats, under the brand 'Angel'. That cereal was consumed almost exclusively at breakfast and as the consumption of oats, it needed to be cooked. 'Hojuelas de Cebada Angel' reached a market share of 30% among the Peruvian oats category, competing with Quaker Oats and other imported cereals. In 2003, ML launched an instant corn cereal, 'Hojuelas de Maíz Angel', attempting to compete with Kellogg's and Nestle. By then, ready-to-eat cereals in Peru were mostly distributed at supermarkets, and because of price and accessibility barriers, practically out of low-income consumer's shopping lists. In 2004, CB was acquired by a larger foreign brewing group, interested just on beer-related businesses. As a spin-off from ML, its cereals unit was sold to two seasoned ex-executives from that firm, who founded Global Alimentos (GA). Even though they didn't have the economic resources from CB, that venture brought them plenty of flexibility and independence in terms of investment and

priorities. With a project for a high-quality and low-price instant cereal already launched, they reinforced the value proposition of the product and practically, created a market.

Consumer Needs and Problem

The consumer needs addressed were nutritive feeding, good taste and to share good moments in family, during breakfast. The problem is that low-income Peruvians couldn't afford to buy good quality cereals for their breakfast.

Wrong Assumptions

Some executives thought that low-income Peruvians won't appreciate instant cereals, so they don't deserve the opportunity of tasting good quality cereals, and that low-income housewives don't value their time, so they don't have problem about investing too much time cooking cereals for breakfast. Regarding consumer acceptance, it was thought that a small serving size for corn flakes at an accessible price, wouldn't be attractive.

Value Proposition

GA executives realized that low-income Peruvians don't have an 'atrophied' palate to appreciate ready-to-eat cereals, but an 'sleepy' palate. Also, they realized that low-income housewives value their time. The product is manufactured at state-of-art facilities, with top quality ingredients, a valuable vitamins & minerals fortification, comes in different forms and flavors, and is also available on small individual sizes (22 grams), with an underlying message that 'you don't need to eat more for good nutrition and satiety'. The price was really competitive -the equivalent to ten cents of dollar for the individual size- and all the sizes come in bags instead of boxes -saving more money-, with a similar expiration time-frame.

Results

The market in Peru grew from 1,000 TM a year (2003) to 5,000 TM (2010), and besides absolutely leading the category in Peru, GA now exports to 14 countries in Latin America and have more than 20 different varieties of ready-to-eat cereals, all under the brand 'Angel'.

El Trome (Peru, Newspaper)

Company Background

Founded in 1839, 'El Comercio' (EC) newspaper, with a line of independent journalism and with no political affiliation, gained trust and credibility and was the leading newspaper in Peru among top socio-economic levels (A and B). However, by 2001, EC group depended on a single product and segment, and wanted to compete in the low-price segment of newspapers, niche then dominated by some empty content newspapers, offering entertainment for a low-price (50 cents of Nuevo Sol, equivalent to 14 dollar cents), with useless information and plenty of slang and nude women.

Consumer Needs and Problem

Through consumer research, EC executives realized that low-income consumers need not just information and entertainment, but education and usefulness. Since low-income Peruvians don't have too much time for reading, they are not interested on political analysis or complex schemes, and as they don't have too much money to spend, they demand more for what they pay.

Wrong Assumption

Low income people just need slang and informal style communications, with empty content and just entertainment. They wouldn't appreciate a more valuable newspaper.

Value Proposition

They launched a newspaper named 'El Trome'³, that brings more value, and for all among the family (not nude girls, as is common in the category), with selected information and entertainment articles, and straight educational and utility articles, with practical issues and 'hands on' tips-. The price was 50 cents of Nuevo Sol, while "El Comercio" cost 2 Nuevos Soles).

Results

In Lima, average annual readership went from 1.95 million (2000) to 5,15 million (2010), accounting 'El Trome' for 2.95 million readers, becoming the newspaper with more sales worldwide, among Spanish media.

Yaqu Soluciones (Peru, Utility and Construction)

Company Background

Yaqu Soluciones (YS) was founded in 1999 and its main activity was to sell water tanks and other systems related to water supply. In 2003 YS decided to offer those products and systems to low-income consumers, piloting projects at shanty towns in the Peruvian departments of Lima and Ancash, with support from the Fund for the Americas and the NGO Being.

Consumer Needs and Problem

There is a lack of water supply and sanitary facilities (neither piped water nor public sewage network available), and a need of additional cleaning of waste.

Wrong Assumption

Low-income Peruvians don't appreciate a toilet service like high-income customers do; cesspool or other common solutions are enough for them, and they are not willing to pay for such a more practical system.

Value Proposition

A water supply system, with a sink, shower and toilet, was developed using a digester and a water tank, for areas where regular supply is via a delivery truck and toilet service is not available. The complete system costs around US\$ 1,090.

Results

In years 2004 and 2006, YS won the prestigious award "Creatividad Empresarial", for their creative systems. However, they have just focused on very small niches, lacking a good financing system.

Crosland (Peru, Motorbikes)

Company Background

Founded in 1962, Crosland imported diesel Rolls Royce engines for boats operating in the fishing industry, as well as pumping equipment and power generators. They also manufactured alternators, which were applied to generators

and hydroelectric plants. In 1992, Crosland started importing 3-wheelers motorbikes⁴, but they didn't know how to sell that vehicles.

Consumer Needs

There was an opportunity to provide efficient and cheap transport solutions for low-income people living in places not easily accessible. Regarding the 3-wheeler's owners, the primary need is to make some profits.

Wrong Assumption

3-wheelers could be sold only through a formal distribution network (exclusive distributors).

Value Proposition

Crosland maximizes the value of the Bajaj 3-wheeler, as an efficient transportation alternative, with a more powerful engine, lower parts costs, better durability and better public preference than competitor's products. The price is ranged between US\$ 3,000-3,500 per unit. They started using informal distributors, whom are very close to the potential clients and work with a very low margin. Regarding the service component, Crosland developed 120 sales outlets, 350 spare parts agents, and 160 authorized service centers, continually training the network and creating a spare parts loyalty program, with points and prizes.

Results

In 2010, Crosland leads the 3-wheeler market, with the brand Bajaj, with more than 18,000 units a year, reaching a 25% of market share.

Banco de Antigua (Guatemala, Banking)

Company Background

Banco de Antigua (BA) was founded in 1997, and through commercial and corporate banking, it was focused mostly in medium and high income people. In 2008 BA was acquired by Canadian banking group Scotiabank, turning it into a more solid institution, with higher expansion opportunities. That allowed BA to focus in other segments and consumers in Guatemala.

Wrong Assumption

Since low-income consumers don't deal with banks, it will be almost impossible to reach them.

Needs and Problem

In 2008, BA executives noticed that low-income entrepreneurs and consumers, first of all, want to progress, and since they don't have time, they don't visit banking offices. Traditional banks in Guatemala offered long credit validation processes, mostly at the banks facilities. On the other hand, for low-income Guatemalans, it was difficult to demonstrate the existence of sources of income, since they live under informality.

Value Proposition

BA invested on updating their technological platform and training their personnel, to offer short processes and better accessibility, bringing credits without collaterals or guarantee. BA re-formulated their processes, including their recruitment and training process, creating a sales force with a strong focus on autonomy, speediness and customer service.

Results

BA has been positioned as one of the leaders in consumer finance and micro lending, with 56% of their portfolio composed by small business credits and 31% by consumption credits. From 2007 to 2010, the total number of credits was duplicated, reducing the risk exposure to the tenth. On December 2010, the firm Pacific Credit Rating rated BA with 'Grade of Investment', due to their credit risk control and all their solvency indexes, with top results among the sector.

Frogtek (Mexico, IT Services)

Company Background

Frogtek is a social enterprise founded in 2008 by people with strong technical background, focusing on developing smart-phone technology to improve the operations of micro-retail supply chains in Mexico and Colombia. They realized the opportunity when personnel from Frogtek's main investor, Women's World Bank, were making 'due diligences' with PDAs tools to store-keepers, for credit approvals, and they became aware of the opportunities among low-income business-to-business customers.

Wrong Assumption

Since good shopkeepers have memorized almost all their products' prices and are very customer oriented -they know their customers preferences, birthday, credit profiles, etc.- they are not interested on tools to improve the way they do business. On the other hand, they wouldn't afford paying for sophisticated technological devices.

Needs and Problem

The main need is business development. Most of these business-owners do not know their break-even sales level and cannot analyze an investment opportunity, nor optimize their purchasing decisions. All of these limitations combine to keep micro-retailers operating in a sub-optimal manner, reducing profits, limiting growth and making life more difficult for their suppliers. In addition, corporations selling through these channels don't have accurate information regarding sales and related factors, as they do have with supermarkets channels.

Value Proposition

The product is a point-of-sales software application that allows micro-retailers to record all store expenses and revenues directly on a mobile phone. An external bar code reader connected to the phone via a wireless connection allows micro-retailers to record transactions at the product level. In exchange, micro-retailers gain access to financial reporting, personalized recommendations and additional value-added services. The hardware and software is very accessible and the only required equipment than a smart-phone. The price is US \$400, which could be charged in 4 or 5 parts.

Results

Until now, Frogtek have been selling the product in a few Mexican markets with success. A recent survey with Frogtek's customers shows that they have improved their income, without stocking out of products anymore, and that they now know their margins, having also separated their personal income from the business's flows. Frogtek is now focusing on building a strong sales-force, and plans to sell systematic market research data from the micro-retail channel to large corporations.

Aliar (Colombia, Food Processing)

Company Background

Aliar was founded in 2007 as a firm dedicated to cultivate agricultural products, and to process and market high quality food, based on pork and related meats, following the highest standards of sanitation and hygiene, to bring a better nutrition to the great part of Colombians.

Consumer needs and problem

The key need to attend is nourishment, since 6% of Colombians suffered nutritional deficiencies, with no access to protein from meat nutritive feeding, with good taste and hygienically presented. In 2008, the per-capita consumption of meats was 42.5 Kg. in Colombia, 86 in Brazil and 81.3 in Chile. Regarding pork, Colombian per-capita consumption was 4.5 Kg., while Brazilian was 13.4 and Chilean 20.2. Besides, among Colombians, there are cultural barriers among pork's meat, viewed as a non-healthy, and associated with some kind of mortal bacteria.

Wrong Assumption

Since low-income Colombians don't appreciate pork, they wouldn't appreciate a high quality pork meat. It is almost impossible to bring accessible meat-processed products.

Value Proposition

Aliar launched a brand, calling it 'La Fazenda'. They use the whole pig, without missing any single part. In that way, they could offer more value for the whole animal, bringing quality at low prices. That let the consumer to tryout different products on different occasions and budgets, making it faster to familiarize with the meat of pork. Aliar strongly focused on a vertical integration, and under the concept 'from soil to the basket', invested on crop production of corn and soy, seed development, as well as in state-of-art facilities for pork feeding and treatment, and even started launching their own retail stores.

Results

Currently, Aliar sow more than 30,000 acres of corn and soy, has a grain treatment plant for more of 12,000 tons, and produce 2.700 pigs per week. La Fazenda is becoming a meaning of quality, and the per-capita consumption of pork meat in Colombia has started to grow, from 4.5 Kg. in 2008 to 6.7 Kg. in 2010.

Universidad Politécnica Salesiana (Ecuador, Education)

Company Background

The Universidad Politécnica Salesiana (UPS) was created in 1994 in Ecuador and, according with the policies for the Salesian⁵ presence in higher education in the world, offers to the youth a high quality formation, which helps the insertion to the labor market and motivate a responsible social commitment that surpasses the immediate market needs, and transcend to a necessary change to improve the quality of personal and social life. In 2002, the UPS authorities realized that in order to expand their presence among marginal areas in Ecuador, they should adopt an on-line education approach.

Consumer needs and problem

Low-income Ecuadoreans targeted by UPS were specially the most marginalized; as the indigenous and peasants who live in remote zones and couldn't access to high quality education.

Wrong Assumption

It is almost impossible to bring marginalized Ecuadoreans who live in remote territories, a good quality professional education. Furthermore, they don't have neither the interest nor the skills to participate via virtual sessions.

Value Proposition

UPS brings high quality education for low-income young Ecuadoreans, who have limited possibilities to achieve high value professional degrees. Through semi-virtual and pure on-line options, UPS aims to impact on self-improvement of their students, creating habits of reading and self-education. UPS value the multi-cultural nature of the indigenous, and offer loans with very flexible payment options.

Results

The students, in special the indigenous, were more proud of their ethnic origin and start viewing their relations with their families and the community in a more positive way. Currently, UPS offers 24 different pre-graduate and 18 post-graduate programs, and is positioned among the top ranked universities in Ecuador.

Hipermercados Líder (Chile, Retail)

Company Background

Líder is the supermarket and hyper-market chain from Chilean-North American group D&S, currently owned by Walmart. Líder's first retail format was created in 1995 as Ekono Líder, with basically large storehouses with low-cost products, sold by bulk. In 2001, D&S executives realized that they weren't serving correctly to low-income consumers, or as they called, 'emerging' consumers.

Consumer needs and problem

Housewives from low-income families struggle to save money by buying more with less, in order to take care of their families. Those ladies, as well as her families, need to find all their products in a whole place, saving time and money, but also need to be respected and appreciated while shopping.

Wrong assumption

Low-income consumers just look for low prices, not regarding on the service.

Value proposition

D&S launched Hiper Mercado Líder (HML), a Hyper-Market based not just on product variety, but on customer service and in-store support. The format has large stores (around 110,000 ft²), with a broad variety of products and sections -as grocery, home, electronics, appliances, fashion, hardware, toys, pharmacy, movie rentals and coffee shops-, with a strong financing system through its own credit card -Presto-, and with even insurance products -through Presto Insurance Broker-. They try to bring always more value for less, as by offering high quality perishable products. The credit process to get the Presto credit card is easy and fast accessed, with a friendly debt renegotiation. HML also has a Loyalty Program, under the name of 'My Club'.

Results

In 2010, HML has 67 stores and since 2005, Presto is the number one independent credit card -non from a bank- in Chile, reaching in 2009 more than 1.5 million cardholders. The loyalty program 'My Club' has more than 4 million members, who account for 75% of all the transactions. Thanks to HML, which accounts for more than 60% of D&S

sales, the group has more than 33% of market share, and Líder is recognized as the tenth brand among the 100 leading Chilean brands.

Edenor (Argentina, Energy)

Company Background

Edenor is the largest electricity distributor in Argentina in terms of number of customers and electricity sold (both in GWh and Pesos). The concession, with a 95-year term, covers the north of Buenos Aires (corresponding to 25% of the city) and the north-east of Greater Buenos Aires, representing Buenos Aires and Greater Buenos Aires, 40% of the Argentinean power market. In 2003, Edenor executives wanted to increase their pay electricity usage among low-income consumers.

Consumer Needs and Problem

After the Argentinean crisis in 2002, over 20% of the population was unemployed. For these people, food and health was the priority, with services such as electricity often not paid. Some low-income Argentinean inhabitants opt to 'hang', making their own connections to obtain the service at no cost. Such action is illegal and penalized, but was very common in this situation. Low-income consumers from Buenos Aires need electric fluid at low cost, with a way that they can control it.

Wrong Assumption

Low-income consumers in Buenos Aires prefer rather 'hanging' electricity instead of paying for it, and they don't value the cost of energy from the utility operator.

Value Proposition

A system with a prepaid-card-based power meter, which works as a 'dual-body' meter: part of the meter -installed within the house- has a keypad and a meter, where the customer enters the code that appears on the card, bought from a vending machine. The other part of the meter is installed outside the house, usually on an elevated line pole. The minimum amount to re-charge the card is one dollar.

Results

Edenor discovered the fact that there was willingness among low-income consumers to remain within the formal system and avoid breaking the law. The main financial benefit for Edenor was saving on costs associated with disconnecting bad debtors or illegal users. Even though this figure was not significant for the pilot test, it was very significant when projected for those 200,000 users with permanent difficulties. The company earned the confidence of low-income consumers: for 93% of their customers the prepaid system helped their household economy, for 52% the system was very good, and for 71%, purchasing electricity in installments was very convenient.

Key Findings

By extensively reviewing the abovementioned cases, it can be concluded that there is always a strong presence of the *wrong assumption*, which is connected to the needs and problems of the low-income consumers. However, in the decision making phase, when the company executives are studying the opportunity and have not yet decided to make the incursion, there is always an *underlying factor*, which is strongly related with the way low-income consumers actually will react while interacting with the product or service. We summarize the ten cases in Table 1, which shows such connection of those underlying factors with the needs. If we don't think of the low-income consumers as second-class consumers, and see on them the same aspirations and needs as more wealthy consumers

have, we could tailor a more powerful value proposition, in connection with the firm's core competences. The key issue is that BoP consumers want to be treated as persons, as any of us want. If we see persons instead of just consumers, then the energy, commitment and resources a firm employs on that business endeavors will have an extra driver, since we need to make a profit, but serving more.

TABLE 1: ANALYSIS OF THE TEN FIRMS

Company	Wrong Assumption about BOP consumers / markets	Key Needs & Consumer Drivers	Underlying Factor	Key attributes on Value Proposition
Global Alimentos	"They couldn't value high quality cereals" "Less product isn't enough"	Nourishment, Taste	"They also value their time" "Bags are as good as boxes"	Package format, Size, Variety
El Trome	"Just want entertainment, with empty content"	More for less, Information, Utility	"They appreciate a newspaper that they could share with the family"	Hand-on tips, straight style
Crosland	"They would just buy from formal distributors"	Progress, transportation	"There is people with not capital but willing to rent the 3-wheelers"	Customer service, financing system
Yaqu Soluciones	"Don't appreciate a piped-water and sewage service like high-income customers do"	Water supply and sanitary facilities	"They gain social respect"	All-in-one solution
Banco de Antigua	"Can't be reached, at a reasonable cost"	Progress	"They want to be respected"	Quick credit approval, customer service
Frogtec	"Don't appreciate technology support"	Progress	"They quickly adapt to technology"	No hardware required (just mobile phone)
Aliar	"Couldn't afford a high protein meat"	Nourishment, Taste	"They start tasting pork with more frequency"	Hygienic, Variety
Universidad Politécnica Salesiana	"Can't be educated" "Can't use technology"	Progress	"They reinforced their ethnic origin"	On-line, Academic excellence
Hipermerc. Líder	"Just want to buy cheap"	More for less, Self respect	"They value their time and want to be respected"	Financing, Services
Edenor	"It doesn't matter how cheap we can go regarding the electricity cost, since they could always steal it"	Accessible electricity	"They don't want to steal electricity"	Flexible pre-paid card

Limitations of the Study and Future Research

Although this research provides relevant and interesting insights to understanding the role of firms in venturing into BoP markets, it is important to recognize the limitations associated with the study. From the methodological point of view, the framework is a theoretical research and should be validated with empirical data, with quantitative analysis.

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End Notes

- ¹ Gini Coefficient is a standard measure developed as a summary of income inequality in society. The minimum value is 0 for the minimum inequality and the theoretical maximum is 1 for the maximum inequality.
- ² Purchase Power Parity (PPP) is a standard that considers the exchange rate between currencies, creating a unique monetary unit, so that the money of different countries should have the same purchasing power and command the same basket of goods. PPP is useful to compare incomes among different countries.
- ³ 'Trome' is a Spanish slang word that means 'ace' or 'champion', someone very astute, and generally admired.
- ⁴ Colloquially known in Peru as 'Mototaxis', these three-wheeled vehicles are used as taxis, carrying the driver plus 2 seated passengers, covered with a roof.
- ⁵ The Salesians of Don Bosco (or the Salesian Society) is a Roman Catholic religious order founded in the late nineteenth century by Saint John Bosco.

Towards a sustainable approach to clustering small-scale farmers to market their agricultural produce

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Abstract

The University of the Philippines Mindanao and Curtin University have been organising small-scale vegetable farmers in Mindanao into cluster marketing groups to improve their access to markets and returns from the sale of their vegetable products using the 8-Step Clustering Approach for Agroenterprise Development developed by the Catholic Relief Services (Philippines). This paper reports on an action research investigation with around 30 marketing clusters. Cluster marketing has led to: better and wider market access, improved prices, reduced costs, improved human capital and social capital, and higher incomes. However, the current process may not lead to sustainable cluster marketing without support and may lead to dependency. This paper discusses strategies to overcome key challenges identified and deficiencies in the current process and suggests changes to the 8-step process so that it may improve the chances of cluster success and sustainability.

Introduction

Smallholder vegetable farmers in the Philippines struggle to compete in an increasingly globalised environment, particularly with the entry of the Philippines and China into the World Trade Organisation and the increasing sales of vegetables through supermarkets rather than traditional wet markets. While the presence of high value chains would seemingly provide an opportunity for smallholder farmers, the need for consistency of supply, quality assurance and traceability are serious hurdles to their participation. Traditional supply chains operate in an environment of diseconomies of size, poor infrastructure, poor access to inputs, credit and information, and high transaction costs (Murray-Prior, 2008). In these markets there is little incentive or ability to provide market signals for quality and consequently quality is poor and highly variable. In the past, smallholder farmers in the Philippines were organised into cooperatives, but many of these cooperatives were unsuccessful (Murray-Prior, 2008). Many of these failures appear to be related to lack of a comparative advantage for the cooperative over alternative marketing arrangements and difficulties in maintaining trust in the cooperative and its management. However, poverty, illiteracy, low status and low power also make it difficult for smallholder farmers to collaborate successfully.

The University of the Philippines Mindanao and Curtin University (Perth, Western Australia) have been organising small-scale farmers in Mindanao into cluster marketing groups to improve their access to markets and returns from the sale of their vegetable products. Cluster marketing groups are formed by growers who commit to work together to market their product (Montiflor et al., 2008). Clusters are either area based, where neighbouring

farmers combine to market one or more vegetables; or commodity based, where farmers agree to plant a particular vegetable crop and combine their product for sale. The clustering has been based on the 8-Step Clustering Approach to Agro-enterprise Development for Small Farmers developed by the Catholic Relief Services (CRS-Philippines, 2007). This paper reports on some initial findings of an action research investigation funded by the Australian Centre for International Agricultural Research that seeks to overcome the key challenges for cluster marketing groups and suggest changes to enhance the 8-step process to improve the chances of cluster success and sustainability.

Method

The methodology used to investigate the CRS clustering approach involves an integrated Participative Action Learning and Action Research Process with over 30 cluster marketing groups in Mindanao in Davao City and the provinces of Bukidnon and South Cotabato. The CRS Clustering Approach to Agroenterprise Development is referred to as the 8-step clustering approach (CRS-Philippines, 2007), the 8 steps of which are summarised in Fig. 1.

It begins with identifying the project site, building partnerships with farmers and other stakeholders such as local businesses, local government and NGOs and forming a working group. Step 2 is a participatory process in which the working group identifies the community's resources, products, and production and marketing practices and then decides on the product or products that will be the focus of the cluster group. Step 3 involves the working group undertaking a market chain study. Farmers are trained in market chain studies and conduct market visits in which they develop understanding of the chains for their selected products and conduct initial negotiations with potential buyers.

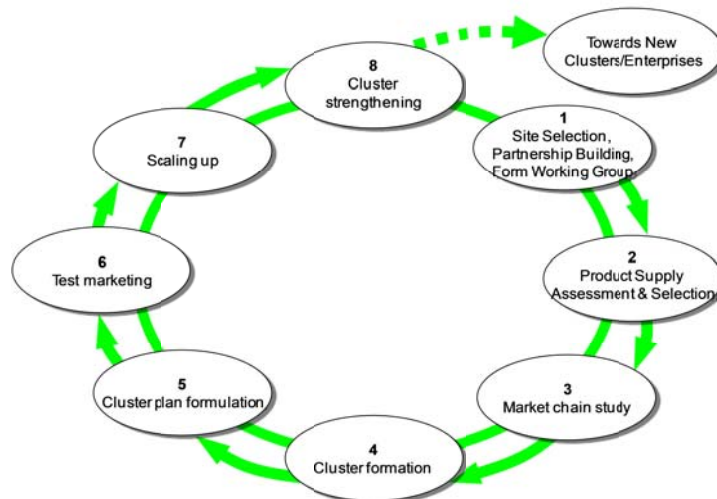


FIG. 1: 8-STEP PROCESS OF THE CLUSTERING APPROACH TO AGROENTERPRISE DEVELOPMENT

Step 4 is the cluster formation phase, in which interested farmers are invited to participate and are provided an orientation on what has been found from the previous phases. The cluster is then formed, leaders selected and a basic cluster agreement and objectives are agreed. Step 5, or cluster plan formulation involves planning a planting and harvest calendar for the products of the cluster and deciding on the test marketing plan which consolidates market, supply, management and financial plans. The test marketing activities of Step 6 involve at least four trial product deliveries. After each, meetings are held to assess performance and adjust the plan to enable improvements. After the test markets are judged successful, the next Stage 7 involves planning and conducting a scaling up process. Readiness for scaling up is appraised against criteria that assess cluster willingness, level of product supply, market performance, management performance and financial trends for the cluster. Scaling up involves producing more products or additional products to supply the existing markets or to more diversified markets. The final step of cluster strengthening involves undertaking activities that expand cluster capacity and networks with other clusters

and businesses. The objective is to improve cluster maturity. Detailed information about the CRS clustering approach can be found in the booklet entitled 'The Clustering Approach to Agroenterprise Development for Small Farmers: The CRS-Philippines Experience' (CRS-Philippines, 2007).

Action Research on the CRS Clustering Approach

The University of the Philippines Mindanao through its UP Strategic Research and Management Foundation (Upstream) has taken over some existing CRS clusters and facilitated the establishment of additional cluster marketing groups in Davao city, Bukidnon and South Cotabato. These groups have been taken through the CRS 8-step process by field officers from Upstream, which is essentially a Participative Action Learning process for farmers. At the same time, research officers from the University of the Philippines Mindanao are involved in an Action Research process which documents each group's activities and investigates issues as they arise; such as problems with and solutions to the financing issue and changes and improvements to the clustering process. Surveys have been conducted of farm household resources and production activities and the relationships between farmers and wholesalers and traders, farmers and the cluster, clusters and traders, wholesalers and institutional markets and back the other way. Case study reports are prepared on each cluster and on selected farmers within the clusters. Findings from these investigations, discussions between the researchers and field officers and evidence from the literature and experiences of the researchers, field officers and farmers are used to identify and evaluate changes to the clustering activities and process.

This combined Participative Action Learning and Action Research process has identified that an enhanced clustering process has to incorporate processes that overcome issues such as: input financing arrangements to replace loans from informal moneylenders and traders; risks associated with production failures; maintaining relationships with buyers; and building group resilience and independence so that donor agencies have an exit strategy.

What to do about the input financing problem

Smallholder farmers in the Philippines and elsewhere have limited or no access to the formal lending sector. Thus they have to rely on informal moneylenders including local traders, landlords, commodity wholesalers and other village moneylenders (Robinson, 2001; Llanto, 2007). These loans are often at rates well above those charged by commercial microfinance institutions (Robinson, 2001; Llanto, 2007) because the markets sometimes have characteristics of monopolistic competition (Robinson, 2001). However, when smallholder farmers market their produce through a cluster marketing group, such as those created using the CRS 8-step clustering process, the farmers may not have access to loans from local traders and commodity wholesalers. These lenders often loan money for inputs on the expectation that they will be able to buy and market the product at prices which are advantageous to them and sometimes threaten smallholders with not lending money or buying their product if they sell through a cluster. This appears to be a fairly common phenomenon (Llanto, 2007).

Some authors (Llanto, 2007; Campaigne & Rausch, 2010) suggest that lending to farmers who are connected to an integrated supply chain is more feasible. Some of the cluster groups from the Bukidnon and South Cotabato provinces have had access to finance through microfinance institutions, partly because they are organised groups. However, their outcomes have been mixed (Axalan et al., 2010; Real et al., 2010). When production fails due to weather or disease problems, farmers who have loans from microfinance institutions face additional burdens which can affect both the viability of the cluster and its marketing arrangements and also lead to default on repayments by farmers. In Bukidnon (Real et al., 2010), squash, sweet pepper and bitter melon clusters were unable to meet their contractual obligations to deliver produce due to disease and weather problems. Since the loans had been obtained because the farmers were members of a cluster marketing group, some clusters had farmers who withdrew because they expected they would be liable to repay the loans of cluster members. On the other hand, members of a sweet pepper cluster in South Cotabato who received loans from a microfinance institution had fewer problems, partly because they did not have the same level of production failures, but also because of the way in which their loans were structured (Axalan et al., 2010). Other clusters from the Davao City area do not have access to microfinance and therefore have to self finance or obtain some funding from informal money lenders.

In light of the literature on microfinance, there are some possible lessons to be drawn from these examples. Firstly, microfinance loans can increase the risk to farmers because they lead to greater investment in inputs, which may not be recovered if production problems occur. Often farmers involved in new cluster marketing groups are involved in learning about and implementing many new and interrelated behaviours. Adopting new behaviours and crops is inherently risky, but in this case farmers are adopting new marketing arrangements, often growing new or expanded areas of crops, and are learning to cooperate to produce, market and deliver their crop to a particular market at the particular time. If farmers in the early stages of the clustering are provided with loans, the combination of these risks can leave farmers and clusters in a perilous financial position, as happened to the clusters in Bukidnon.

Secondly, in one case the loan was linked to a particular crop and marketing arrangement (Real et al., 2010). The microfinance institution lent the money on the expectation that the crop would be sold through a particular agent who would deduct loan repayments and pay the farmers the remaining money. When production difficulties arose, the agent didn't accept the clusters' product and hence repayments were not made. Since the repayments had been linked to a particular crop and payment arrangement, the farmers did not feel as obligated to repay from other sources.

Thirdly, some of the loans made to clusters in the Bukidnon province were based on overoptimistic assumptions about yields and prices (Real et al., 2010). As indicated above, in the early stages of clustering, farmers are learning and adopting many new skills and behaviours and the likelihood of failure is high. Consequently, budgeting for loans must be conservative to allow for the level of production and price risk. This decreases the risk of over indebtedness. Also our experience is that loans should only be made for physical inputs such as seed, fertiliser and pesticides and that the farmers need to finance part of the crop out of their own resources. Hermes and Lensink (2007) suggest that credit rationing can increase the likelihood of loan repayment, which is consistent with this view. In addition, there is some evidence from our clusters that loans are only necessary for crops that are more expensive to grow and not for all crops, at least in the initial trial stages of the process. As farmers gain experience with crops and cluster marketing and expand production, loans may become more necessary.

Fourthly, a comparison of the lending strategies followed by the microfinance institutions in Bukidnon and South Cotabato and their successes and failures supports some of the principles underlying the Grameen Bank and the Association for Social Advancement methods (Llanto, 2007). These include compulsory savings or capital build-up, progressively larger loans based on demonstrated competence, and financial education for loan recipients in budgeting, saving and managing debt (Llanto, 2007; Cohen, 2010).

Finally, donor agencies need to be careful when promoting and supporting loans to cluster marketing groups, because it can lead to the impression that the loans are a gift. Farmers are used to charitable institutions providing gifts and even where the loan is provided by a microfinance institution, if it is linked to the support of the donor agency for the cluster marketing group, it can be perceived as a handout. Our experience with loans to the Bukidnon clusters suggests this was a contributing factor to problems with repayment by at least some farmers.

Risks associated with production failures

Vegetable farming in the Philippines can be a risky business with production quantity and quality varying widely due to climatic conditions and pest and disease outbreaks. Dry periods can lead to poor crop emergence and growth, while wet periods can dramatically affect flowering, product quality and yield. Wet weather also intensifies fungal diseases, which can increase costs of control and/or dramatically reduce yields. Similarly, poor seed selection can result in disease outbreaks (as occurred for the bitter gourd cluster), while pest and disease outbreaks can occur as a result of climatic conditions, poor rotations or poor crop hygiene. These variations in yield and quality not only reduce farmer returns, but also make it more difficult for clusters to be consistent suppliers to institutional markets.

One strategy to manage the risk is to adopt lower input and lower yield production systems that require lower financial outlays and reduce yield variability. Many clusters are in relatively remote areas, so imported fertilisers and pesticides are expensive and difficult to obtain reliably. Consequently farmers have been investigating use of organic and 'natural farming' (Jensen et al., 2006) systems. These systems use local inputs, such as organic fertilisers, pesticides and composts. Further investigation is needed to see what effects these systems have on levels and variability of yield and quality.

Another strategy is for the cluster to only commit a proportion of their expected yield to a particular buyer, particularly if this is an institutional buyer who wants consistent supply. A common figure is 60% of a conservative estimate of yield, although this varies depending on the crop and the number of buyers. This strategy has additional advantages in that farmers are then free to sell their surplus product to other buyers, particularly if there is a spike in prices. They can also maintain their relationships with traditional buyers who provide other services such as credit. It also spreads their risk if one of their buyers defaults or refuses to accept product for whatever reason.

Maintaining relationships with buyers

Modern value chains have mostly been developed in advanced economies and are therefore suited to medium to large farmers because they require consistent quantity and quality of supply and processes for ensuring food safety. Smallholder farmers in the Philippines have little understanding of these markets because they have traditionally only dealt with local traders, rarely visit the wet markets where most of their product ends up, and almost never interact with institutional markets associated with value chains. The clustering process tries to overcome this deficiency by training farmers to conduct their own market chain studies, including talking to buyers from the various markets. Farmers are also taught negotiating skills, which improves their confidence and ability to negotiate prices, volume and quality with institutional and other buyers. However, smallholder farmers generally take some time to develop their knowledge of market operations and requirements and this can create misunderstanding and conflict between the cluster and buyers - especially institutional buyers. Conversely, institutional buyers often come from cities and have little understanding of the constraints faced by smallholder farmers which exacerbates misunderstanding and conflicts with smallholder farmers. This combination has led to the breakdown in relationships between buyers and clusters and smallholder farmers.

One additional strategy to reduce the effect of this issue that forms part of the clustering process is the series of test marketing activities that are conducted as part of Step 6. After each trial, the performance of the clusters trial product deliveries is evaluated in terms of the quantity and quality of the product that was delivered versus what was planned. However, there can still be misunderstandings between the cluster and their buyer and sometimes the donor agency has to facilitate a discussion about the causes of the misunderstanding. Sometimes the problem is with the farmers, but equally sometimes the problem is with the buyer who can try to take advantage of the farmers, possibly because that is what they have been used to doing.

This is a learning process for both sides and it appears that in some cases it requires a couple of years, including periods where the cluster sells to other buyers, before a sustainable relationship is achieved. In other situations, a sustainable relationship may not be possible due to a whole range of reasons. The donor agency that is facilitating this process needs to have patience and to act as an honest broker by not taking sides and attempting to identify the root causes of the problem. It is important for farmers to be involved in discussions and negotiations with the institutional buyers as this is the only way in which understanding and mutual respect can be gained and sustained. One method that has helped is for the buyer to be taken to the farms where the product is grown to give them an appreciation of some of the difficulties faced by the farmers in getting a quality product to market.

Enhancing the clustering process

Cooperatives and cooperative marketing arrangements have a poor record in the Philippines. Many of these cooperatives were set up for political reasons such as agricultural development, pacification of revolutionary activities and distribution of subsidised inputs. Most failed when institutional supports were removed. Outside support can enhance the chances of success of smallholder cooperatives (Murray-Prior, 2007), but it can encourage dependency which means the cooperatives are not sustainable once external support is withdrawn (Shigetomi, 2006). If cluster marketing is to be a successful alternative, processes have to be developed that develop resilience in the groups so that they can survive with minimal external support. This also implies building in an exit strategy to the clustering approach to agroenterprise development. In this section we discuss this issue with a view to hypothesising a framework for the clustering approach to agroenterprise development that will develop resilience and build in an

exit strategy for any donor agency using the process. It is based on our experiences with the CRS 8-step process, other experiences with collaborative marketing groups and the literature on this issue.

Two key factors important to the success of cluster marketing arrangements are a comparative advantage over alternative marketing structures and trust in their fellow cluster members and its management (Murray-Prior, 2007). The clustering approach addresses the first of these issues through its focus on developing a marketing plan and its test marketing activities. The group is unlikely to form unless they see a comparative advantage for cluster marketing over their existing marketing arrangements. The second issue is addressed in a number of ways (CRS-Philippines, 2007). Firstly, the process is participatory and transparent and considerable effort is devoted to activities including involving cluster members in conducting the market chain investigations and development of the production plans, and keeping records on deliveries and payments that are accessible to all members. The cluster agreement, cluster enterprise plan, review of test marketing activities and business policies and systems are all developed by members. Regular meetings of the cluster are a feature and the leadership team is elected by the members. Numbers in each cluster are normally kept to 15 or less so that trust can be maintained through group pressure. In addition, the clusters and their leaders receive training in group processes and leadership. The evidence from the trust measures collected by the research officers indicate that currently cluster members have high levels of trust in their cluster.

While comparative advantage and trust are essential to the successful operations of cluster marketing groups they are not sufficient, nor are they guaranteed in the long run. We propose a framework that builds on and enhances the processes outlined in the CRS 8-step process. It incorporates three phases: Phase 1 - Establishment; Phase 2 - Building Resilience; and Phase 3 – Implement an Exit Strategy. Each of these phases is a type of Participatory Action Learning cycle and contains a series of steps that may be repeated depending on the maturity of the group.

Phase 1: Establishment

This phase essentially follows the first six steps of the CRS process (CRS – Philippines, 2007) with minor modifications and normally takes from 1 to 2 years. In Step 1 (Site selection, partnership building and formation of working group), greater emphasis needs to be put on investigating input financing arrangements, both the existing informal lending arrangements and potential microfinance lenders if farmers are not involved with them already. Orientation needs to be provided on saving, loans and financing alternatives in addition to the orientation on marketing that is currently provided.

In Step 2 (Product supply assessment and product selection), potential crops and products should be considered rather than decided on. This product selection is to be re-evaluated in Step 3 (Market chain study) which is expanded to include an investigation of input requirements for particular crops, potential sources and costs of those inputs and the ability of farmers to finance these inputs. At this stage financial institutions may be invited to contribute to the discussion as part of the consideration of the risks associated with growing and financing potential crops.

Similarly in Step 4 (Cluster formation), the normal process of orientation on marketing basics and clustering needs to be broadened to include briefing on production issues, sources of inputs and financing implications of particular crops. At this stage it should be emphasised that individuals will have to self finance, or arrange their own loans through the finance institution, and that financing is not the responsibility of the cluster. In this context it is interesting that there is evidence in the literature that individual-based lending is more profitable and that the Grameen Bank and BankSol (from Bolivia) are now using individual-based loans (Hermes & Lensink, 2007). Step 5 (Cluster plan formulation) would then proceed essentially as normal. The Test marketing step (Step 6) would go through a number of stages including:

- Assessing cluster commitment and capability of members
- Identify information and training needs and conduct trainings to overcome deficiencies
- Evaluate buyers and establish a good working relationship
- Make refinements to agroenterprise plan.

The next step is a linking step to Phase 2 (Building Resilience) in which the group decides whether to stop or continue deliveries and whether it is ready for scaling up. The criteria for these have been outlined in a table on

page 122 of CRS-Philippines (2007) and the group and the group facilitators use these criteria to decide whether they are ready for the next phase.

Phase 2: Building Resilience

The focus of Phase 2 is essentially cluster strengthening and capacity building – an expansion of Step 8 (Cluster strengthening) in the CRS process. In our experience, groups will often go through periods of decline in activity, often caused by production or marketing problems. Marketing problems may sometimes be caused by a lack of capacity and immaturity in the cluster, but can also be caused by buyers not paying or complying with their agreements. For instance, some problems experienced by cluster groups with key markets include buyers' cheques not being honoured, buyers who won't accept their product because of problems with their processing activities and buyers who try to decrease prices or change quality specifications without consultation with the farmers. Problems like these have the potential to cause a collapse of the cluster, but equally if the donor agency is able to support the cluster in developing strategies to deal with these problems, the clusters develop confidence in their own abilities and are in a better position to deal with future issues without assistance. Kaganzai et al. (2009) argue that this 'repair and maintenance' support from donor agencies may be necessary in the scaling up phase of collaborative marketing groups. In fact, it could be argued that one of two of these difficult periods is part of the process of developing resilience. Production problems have been overcome by approaches including establishing links with seed companies to provide better quality seed and changing production practices with the assistance of local government advisers. Marketing problems have been solved by farmers going out and identifying new buyers and markets and subsequently diversifying their markets. In this Phase the role of the donor agency is to provide assistance when the cluster is struggling, to help enhance their networks and to build capacity. Less direct assistance is provided and the group is encouraged to draw on their own resources. The steps in this process are essentially an adaptation of the steps in the Establishment Phase. They include:

1. Revisit the product supply assessment step and assess training a support needs to produce the product.
2. Undertake a further market chain study with a view to assessing their performance in meeting their markets' needs, identifying additional markets and selecting the focal market chains. At the same time the other elements of the supply chain need to be reviewed including input supply, financing, logistics and packaging. Once again training and support needs are identified.
3. Review cluster membership and structures. This involves assessing commitment of existing members, recruiting new members and perhaps splitting the cluster to create additional clusters. This is also an appropriate time for the group to investigate acquiring a legal status. A mature group will be legally registered and will have appropriate management and control procedures in place.
4. Assess information, training and support needs and conduct trainings and capacity building activities to meet these needs. The donor agency will have an important role here because of their familiarity with the knowledge and skills required to enhance member and leader capacities and their links to other training organisations.
5. Formulate cluster and operational plans.
6. Conduct and review marketing activities.

One issue that has been identified for some institutional markets is that clusters have to combine their product so they are able to supply the volume and variety of products required. Clusters in the Davao region have established a federation to supply one of these markets. Currently, they have a comparative advantage over other suppliers to this market and are receiving higher prices for their product. However, the issue for the future is how to structure and fund this arrangement. The current model of clusters with 15 or less members minimises the problems with trust in the cluster, but combining clusters creates a much larger group with members from different areas and will potentially create jealousies and a lack of trust unless transparency is maintained. These larger groups 'are likely to have governance and cooperation problems ... [because their] ... members are smallholder farmers who lack the literacy, numeracy and management skills to govern a complex organisation' (Murray-Prior, 2008, p. 17). The other issue is how to fund this structure. Since the small clusters do not buy the product and collect relatively small service fees from their members, corrupt practices are less likely to arise and become a problem. However, the marketing

managers for the combined cluster federation will have a greater opportunity and incentive to be involved in corrupt practices, which if they occur, will probably lead to the collapse of the arrangement. Further investigation of this issue is required.

Phase 3: Implementing an Exit Strategy

Sustainability of cluster marketing arrangements is problematic as in the past many such groups have failed when the donor agency withdraws. Some contributors to this problem include: donor agencies taking control of marketing and hence replacing the middleman; donor agencies providing too many gifts and creating a 'handout mentality'; competition between donor agencies; donor agencies focussing on 'favourite' groups who have a 'reputation' for success; and a failure of donor agencies to develop exit strategies. Markelova and Mwangi (2010) call for donor agencies to develop viable exit strategies from the onset of their project in order to lessen dependency issues and that capacity building and effective participation are important parts of this process. This has been one reason for the decision to emphasise the Building Resilience and Exit Strategy phases in the revision of the CRS process. The Exit Strategy phase is expected to be implemented in years 4 or 5.

The CRS clustering process already includes a number of criteria for assessing cluster maturity, so the focus here is on how these can be incorporated into a process for implementing an exit strategy for the donor agency. These criteria are summarised in a matrix on page 140 of CRS-Philippines (2007), with maturity indicators for: organisational development, market position, supply capacity, business management capacity and financial resources. Minor refinements could be made to these indicators but are not discussed here. Similarly levels of performance required to proceed to graduation have been identified, but are also too lengthy to report here. The normal activities of the cluster marketing group outlined previously would continue, but would be augmented by specific steps for this phase which could include:

1. Workshop to assess maturity for graduation or exit of the donor agency. This would involve the farmers in rating their group on the maturity indicators and comparing and discussing their ratings with the donor agency team. Initially it is expected that the groups would not achieve high enough levels to graduate and the workshop would be used to identify strengths and areas for improvements along with planning for how these might be overcome.
2. Training in business planning and development of business plan. Each cluster or association of clusters would be expected to develop its own business plan as part of the exit strategy. Training in business planning would be the beginning of this process which would be facilitated by the donor agency.
3. Strengthen links with supporting institutions. While the donor agency should exit from its intensive support role, any farmer group will still need support or links with research and extension agencies, training agencies, microfinance institutions and markets. Similarly, formal and informal links with other clusters will be beneficial and should be encouraged. This is also an appropriate time to discuss the exit strategies with other donor and development agencies in the area, with a particular focus on not creating a dependency (as suggested by Markelova and Mwangi, 2010), but still providing an opportunity for capacity building in other areas, e.g. Landcare.
4. Group formulates business plan for their afterlife.
5. Participatory evaluation of the clustering process, their involvement in the process and the donor agency performance. Preferably this would be facilitated by an independent agency so that the results would be less biased and the donor agency could learn more from the experience.
6. Organise a graduation activity. This activity would signify the completion of the project and provide acknowledgement of the cluster groups achievements.

It should be made clear to the farmers from the beginning of the establishment phase that the donor agency will be providing support for a finite amount of time and that the cluster marketing group will need to build its resilience and become self sustaining.

Conclusions

Many donor agency development activities fail because they do not focus on an exit strategy from the initial planning stages. The CRS 8-step clustering process is expanded to three phases: Establishment, Building resilience, and Implementing an exit strategy so that the focus will be on the cluster marketing group becoming self sustaining. The process also needs to address access to finance from the formal lending sector, but this must be handled with care as it can increase risks for farmers and the donor agency must ensure that farmers do not get the perception that the loans are a gift. Building long-term relationships between cluster marketing groups and institutional buyers in the Philippines is a difficult process. A donor agency will have to invest considerable time and effort in facilitating this process and organising activities that build capacity and relationships between the smallholder farmers and institutional buyers, so that the cluster can undertake these activities after the donor agency exits.

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India - US Knowledge Initiatives on Agriculture - A Way Ahead

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Abstract

Agricultural education needs to be globally competitive. The true initiatives related to it by any government not only address the need of emerging market, society and country but also for the whole world with all the promises for a better today and tomorrow. This paper attempts to understand the important role played by the formal sector engaged in designing and implementing knowledge initiatives for agriculture in the US and focuses on various initiatives taken by the Indian and the US government. In the changed context, these initiatives focus on the challenges and designs a sustainable agriculture education framework to attain excellence in agricultural education, enhance employability of the graduates, develop human resources to fulfill commitments towards the millennium development goals, and improve the quality of life through sustainable rural development including innovative agricultural extension, and agri-business programs. Finally recommendations are given by researchers to gain the competitive advantages.

Key Words: Agriculture, Competitive advantage, Education, Knowledge, Sustainability

Introduction

Agriculture is the backbone of the Indian economy. As we enter the new millennium, the entire Indian economy is still being sustained by agriculture, which is the mainstay of the villages. Agriculture for India represents India's sovereignty, India's emergence as an independent country, and as a core component of our claims to a Super Power status. Yes, India is an agriculture power. Agriculture is a way of life, a tradition, which, for centuries, has shaped the thought, the outlook, the culture and the economic life of the people of India. Agriculture, therefore, is and will continue to be central to all strategies for planned socio-economic development of the country. But the socio-economic and agro-ecological situations with regard to Indian and American farming are vastly different. In the US model of agriculture, less than 2-3% of the American population depends on farming whereas in India, approximately 65% of our population continues to depend on farming and allied activities for their very survival. In India, agriculture is a way of life connected closely with knowledge evolved over centuries of experiential learning from nature, connected deeply with the culture of Indian peoples and their livelihoods. On the other hand, in the US, agriculture is an industry that is driven mostly by big agribusiness corporations. For the sustainable development of agriculture in any economy whether it is the US or India, knowledge and information is necessary for advancing the agricultural sector and sustainable agriculture. How sustainable agricultural development is defined will determine the capacity of education required for sustainable agricultural development. Historically, agricultural development is defined within rural development, human health and wellness, and farming. This paper focuses on various initiatives to promote agricultural education by the Indian and US government with recommendations by researchers to gain the competitive advantages.

Overview of Agricultural Knowledge Initiatives in India

The Indian government has taken several steps to ameliorate the conditions of farmers particularly small and marginal farmers. With vision is "to link India's small farmers to global supply chains in agriculture, so that nobody will go hungry in the country". The Indian government has also conceptualized several schemes for the benefit of the agrarian community and proved that the economy is capable of propelling itself at a much faster

rate if unnecessary barriers are removed. Key agricultural knowledge initiatives in India can be broadly classified into three categories:

- Government initiatives
- Government initiatives with other countries
- Private sector initiatives and Non-Government Organizations (NGOs) initiatives

Indian Government Initiatives

India's new agriculture policy seeks to promote technically sound, economically viable, environmentally non-degrading, and socially acceptable use of country's natural resources such as land, water and genetic endowment to promote sustainable development of agriculture. In order to sustain these efforts and to keep the momentum, some of these initiatives, programs, and schemes are related to Minimum Support Price, Investment in Agriculture, Credit Flow, Debt Waiver, National Food Security Mission, Rashtriya Krishi Vikas Yojna, Eastern India Initiative, Pulses and Oilseeds Villages, and National Horticulture Mission, etc.

In order to rejuvenate and reform existing agricultural extension support systems and to overcome systemic constraints being faced by the extension machinery in the country, Support to State Extension Programs for Extension Reforms scheme is under implementation in 591 rural districts of the country. The scheme has been recently strengthened to provide Specialist and Functionary Support at State, district, and Block levels and innovative support through a Farmer Friend (FF) at village level (one FF per 2 villages) to promote Farmer-to-Farmer learning. Around 10000 Farm Schools have already been set up. Besides this, Agriculture Clinics and Agriculture Business Centers (ACABC) schemes encourages setting up agriclinics and agribusiness centers by unemployed agriculture graduates. Under this scheme, 21579 agricultural graduates have been trained and 7667 agri-ventures have been set up. On the mass media front, tens of thousands of location specific agriculture related programs are telecast by Doordarshan Kendras and All India Radio every year. The Kisan Call Centers provides critical location specific information on a real time basis to the farming community through a toll-free, countrywide common number 1-800-180-1551. Kisan Knowledge Management System (KKMS) is being developed to provide instant information back up to the call centre agents while replying farmers' queries. Over 46 lakh calls have been received up to March 2010 through 25 KCCs located across the country.

Knowledge Incubator's Research in the area of Agriculture

There are various research institutes and universities in India that are imparting education to villagers through its various programs. Some of these research institutes and universities and their programs are as follows:

Indian Agriculture Research Institute

Initiatives are related to Crop improvement: Seed science and technology, Crop protection: agriculture chemicals, Entomology, Nematology, Plant pathology, Basic Sciences: Biochemistry, Microbiology, Nuclear research laboratory, and Plant physiology, Unit of simulation and informatics, Social sciences, and Agricultural economics.

Tamilnadu Agriculture University

Major Areas of Research are Weather, Soil, Water, Seed, Farm Enterprises, Nutrition, Post Harvest Technology, Bio Technology, Bio-Fuels, etc. Other areas are related to Dryland Agriculture, Watershed Management, Disaster Management, Integrated Farming, Organic Farming, Nutrition, Green Manuring, Bio Technology, Bio-Fuels, etc. Similarly there are various other initiatives to promote technologies related to Crop Production, Crop Protection, Crop Management, Seed Technologies, Bio Waste Management Technologies, Crop Improvement, Sustainable Agriculture, Organic Farming, Indigenous Farming, and other special technologies related to SRI-Systems of Rice Intensification, Precision Farming, Good Agricultural Practices, Good Laboratory Practices, and Good Manufacturing Practices, etc.

Anand Agriculture University

Various Initiatives in the area of Anubhav liquid bio- fertilizer, Anubhav Seeds and Seedlings, etc.

Chaudary Charan Singh Haryana Agriculture University (CCSHAU)

Crop hybrids and Varieties available with CCSHAU are High quality protein, baby corn and winter maize hybrids, Barley variety for malt quality, Guar varieties for industrial gum content, Commercialization of Medicinal crop varieties of mulahatti, isabgol, perwinkle&dhaincha, Male sterile lines, disease resistant hybrids of bajra and other crops, etc.

Jawaharlal Nehru Krishi Vishwa Vidyalaya

The initiatives are related to Basic Science: Physiological manipulations to break the yield barriers; Production of bio input from biodiversity, Genetic Potential Enhancement: Genetic enhancement of yield potential; Genetic stabilization of yields; Genetic improvement in input use efficiency; Plant biotechnology; Development of varieties of minor expoided vegetables (Kakora, Suran, Colosasia, Dolichus bean, winged bean etc.), Production System Development, Natural Resources and Environment Protection, Alternate Land Use System, Tree crop soil interaction studies, Agro techniques for vegetable cultivation and storage, Socio Economic Studies and Policy Research, Dynamic of socio economic changes and their impacts on technology dissemination, Agro technology generation for small and marginal farmers, etc.

Birsa Agriculture University

Steps in the area of Seed production: Breeder and foundation seed production of Rice, Wheat, Soybean and Groundnut etc as per need of Jharkhand state and eastern region, Enriched Vermicompost Production, etc.

Indian Government Initiatives with Other Countries

The Government of India places high priority on reducing poverty by raising agricultural productivity. Hence, policy makers in India took many initiatives in the form of tie ups with other countries to build a solid foundation for a highly productive, internationally competitive, and diversified agricultural sector. One of such initiative is “Indo-US Knowledge Initiative on Agricultural Research and Education.” The U.S.-India Agricultural Knowledge Initiative is helping Indian farmers improve marketing for their products, linking them with new technologies and extension and research facilities and helping them meet international standards for export. Some of the other efforts towards promotion of organic exports include attempts to collaborate with all the major organic importing countries.

Private sector Initiatives and Non-Government Organizations (NGOs) Initiatives

These initiatives are in the form of either taken individually by private sectors and NGOs or in the form of public-private partnership where the private sector can help identify research areas that have the potential for rapid commercialization, with a view to develop new and commercially viable technologies for agricultural advancement. There is a strong presence of Non-Government Organizations (NGOs) in India as active promoters of Organic farming in different agro-climatic regions. In India, the private sector is also recognizing its presence in the development of agriculture by providing education or through another measures. Wal-Mart, PepsiCo, and Tesco are just a few of the multinationals already betting on the country's ability to develop the as-yet unrealized potential of its farm sector. One of the steps taken by Indian Farmers Fertiliser Cooperative (IFFCO), a fertiliser producing and distribution cooperative, is planning to set up an institute at its plant in Paradeep in Orissa. In the proposed institute, farmers would be trained on best crop practices of cereals, pulses, oilseeds, vegetable, and horticultural crops etc. Similarly one of the major steps are taken by ITC. ITC's Agri Business Division, one of India's largest exporters of agricultural commodities, has conceived e-Choupal as a more efficient supply chain aimed at delivering value to its customers around the world on a sustainable basis.

The e-Choupal model has been specifically designed to tackle the challenges posed by the unique features of Indian agriculture, characterized by fragmented farms, weak infrastructure and the involvement of numerous intermediaries, among others. Launched in June 2000, 'e-Choupal', has already become the largest initiative among all Internet-based interventions in rural India. E-Choupal services today reach out to over 4 million farmers growing a range of crops such as soybean, coffee, wheat, rice, pulses, and shrimp in over 40,000 villages through 6500 kiosks across ten states (Madhya Pradesh, Haryana, Uttarakhand, Karnataka, Andhra Pradesh, Uttar Pradesh, Rajasthan, Maharashtra, Kerala and Tamil Nadu). E-Choupal also unshackles the potential of Indian farmers that have been trapped in a vicious cycle of low risk taking ability, low investment, low productivity, weak market orientation, low value addition, low margin, and low risk taking ability. Consequently, farmers and Indian agribusiness sectors became globally uncompetitive, despite rich & abundant natural resources.

Overview of Key Sustainable Agricultural Education Programs in the US

The United States Department of Agriculture's (USDA) Education and Research Alternative Farming Systems Information Center offers many training resources, publications, news feeds, education directory, and organizational links for farmers, ranchers, researchers, instructors, parents, and students to learn about sustainable agriculture (USDA Alternative Farming Systems Information Center Website). The USDA can prioritize agricultural farming research, education, and extension by emphasizing strategic participation and measurable accountability from the government, private sector, and local rural communities.

The Sustainable Agriculture Research and Education (SARE) program can serve as an example. The SARE program focuses on participation between farmers, ranchers, and educators, sustainable agriculture systems, local farm outreach and education, and consistent and well-coordinated program monitoring and evaluation. The EPA is focusing on a "holistic multi-media approach to environmental protection and public health relative to agriculture" (EPA, 2006). "Because agricultural operations tend to be multi-media operations functioning as a system, their problems and solutions are often multi-media in nature. Our challenge will be to use existing authorities while crossing programmatic and organizational boundaries to help the industry address environmental protection concerns" (EPA, 2006).

Sustainable Agricultural Education Challenges in India

It is here the challenge arises considering the imparting knowledge and agriculture education to rural people and implementation of the technology at various levels in India to rural communities. The need of the hour is not only imparting education, knowledge and application of the technology, but the adoption of appropriate education and technology, which would suit the particular level of Indian rural communities. In India, the farming practices are too haphazard and non-scientific and hence need some forethought before implementing any new measures. Required measures are essential in areas related to enhancing agricultural productivity, competitiveness, and rural growth, improving access to assets, sustainable natural resource use, land, and rural finance, strengthening accountability for service delivery, and strengthening institutions for the poor and promoting rural livelihood, etc.

Sustainable Agricultural Education Challenges in the US

The National Sustainable Agriculture Coalition (NSAC) is an alliance of farm, rural, and conservation groups and was organized to critically evaluate federal farm policy, agricultural research policies and programs and to advance the public good from federal funds. (NSAC, 2009). Historically, the United States Department of Agriculture (USDA) focuses on yield and production research and education. In addition, USDA funding in agricultural sustainability plays a small role. For this reason, the USDA requires a major shift to address current and future challenges. Agricultural research and education necessitates a strategic agenda to invite greater competitive capacity and infrastructure programs, risk management, internal coordination, comparative

technology assessments, evaluative metrics which emphasize outputs and inputs, along with a strong collaboration with the industrial or private sector, and interagency bodies within local, regional, national, and international levels.

The NSAC proposes “heightened attention to the statutory requirement that all such grants where applicable are consistent with the development of systems of sustainable agriculture. We further suggest that sustainability as an organizing principle for competitive and special grants should be expanded beyond agriculture to also include the food systems as a whole and to community and economic development” (NSAC, 2009). Generally, the USDA focuses more on the food system and rural economic development instead of sustainable agriculture and farming. However, the NSAC has a good point due to the lack of consistency within the USDA to advance systems of sustainable agriculture as described in Section 1405 of the National Agricultural Research Extension, and Teaching Policy Act of 1977. Thus, an effective and a competitive US agricultural sector mandates responsibility and transparency from the farmers, ranchers, and the USDA.

Many government agencies such as the EPA focus on “increasing education, incentives and funding opportunities for agricultural compliance with environmental protection goals” (EPA, 2006). Increasing education is a noble and necessary role, but without educational performance at the center of sustainable agriculture, it can easily become program funding maintenance. Adding integrated agricultural practices and systems to address the “uncertainty about the specific impacts of climate change” (NSAC, 2009) is vital for effective sustainable agricultural education. The goal of USDA’s climate change adaptation strategy is “to create the knowledge and technologies to ameliorate the detrimental effects of climate change and to take advantage of elements of climate change that may be potentially beneficial to agriculture, forestry, and rangeland, and natural resources management” through “a suite of strategies, sustainable practices, management actions, economic costs and benefits of producer and market responses, management actions, metrics, and life-cycle analysis” (GAO, 2009). Although, “outreach partnerships to provide training on risk management strategies to small farms and beginning limited resource producers” (GAO, 2007) is targeted for 2011, both strategies fail to address integrated performance and risk management approaches to determine the effectiveness of its multiple programs.

The US and other nations have underinvested in agricultural R&D. This may be due to agriculture’s low economic output in comparison to other industrial sectors. According to a 2008 income estimate from the Cornell Program on Dairy Markets & Policy, The Food, Conservation, and Energy Act of 2008 has consistently focused on large farms and not small farms (Novakovic, 2009). Results of farm competitiveness indicate that larger farms were more internationally competitive than smaller farms within the arable sector (Latruffe, 2010). However, in the agricultural food sector, size is not an issue as in the farming sector (Latruffe, 2010).

The Office of Economic and Community Development (OECD) reports “data on private research investments have been particularly difficult to obtain, even in relatively short time series, since the information is proprietary and even public companies are not obliged to publish the relevant information, in their annual reports, in a way that would be useful to economic researchers” (Alston, 2010). Thus, little is known about the benefits of private R&D for farmers, ranchers, consumers, and agribusiness education and “the dynamic structure linking research spending, knowledge stocks, and productivity” (Aston, 2010). Overall, agricultural research and development lacks a strong mechanism for enforcing agricultural research and development for pure technical and scale efficiency change.

There are a plethora of US government agricultural programs to assist small and beginning farms and ranches, and socially disadvantaged farmers or ranchers. However, there is a lack of participation and collaboration with interdisciplinary and multi-stakeholder research and strategic education processes. Furthermore, many USDA programs have focused on Food and Nutrition and health, plant health and production and plant products, animal health and production and animal products, food welfare programs, food safety, forest management, rural economic development, bio fuels, renewable energy, land grant universities, agriculture economics and technologies, rural communities, and environmental natural resources instead of farming. The USDA recently announced that the funding of research, education, and extension grants will provide the Agriculture and Food Research Initiative (NIFA) to address five societal challenges in “childhood obesity, climate change, food safety, global food security, and sustainable bio energy” (US Office of Communications, 2010). Perhaps, resource constraints and competing program requirements limit necessary education and training constrain the program’s ability to fully incorporate all of the service delivery actions.

USDA Secretary “Vilsack” acknowledges “In the past 40 years, the US lost more than one million farmers and ranchers. During that period, income from farming operations, as a percentage of total farm

household income, plunged to half of the previous level. Today, only 11 percent of family farm income comes from farming. In order to maintain viable households, rural Americans have been forced to seek alternative sources of support, and benefits such as health insurance. We need to reverse population declines, increase educational opportunities and opportunities for our young people in rural America. It's not just about the economic connections that rural America provides, but it's about the value system that it provides. We need to develop new strategies to bring prosperity back to rural America in a sustainable and significant way" (US Office of Communications, 2010). Secretary Vilsack further addressed that the 2012 Farm Bill will emphasize "broadband, renewable energy and bio-fuels, regional food systems and supply chains, forest restoration and private land conservation, ecosystem market incentives" (US Office of Communications, 2010).

On June 10, 2010 the USDA Risk Management Agency (RMA) reformed the Federal Crop Insurance Program's risk management tools to increase program sustainability and to reduce the Federal deficit. This program will assist farmers and ranchers to protect and manage their risk more effectively by receiving access to critical risk management tools. However, nothing is mentioned in detail if farmers and ranchers will receive education and training in how to better manage their risk (US Office of Communications, 2010).

Currently, there is a shift from US support and funding for R&D in the US towards developing countries. Most of the farms in the developing countries are very small (CSAW, 2010). Additionally, there are components that contribute towards a reduction in agricultural production such as climate change, land degradation, etc. Furthermore, due to the biological nature of the agricultural sector and its primary role in supporting human wellness it is essential to prevent further decline of R&D. The lack of R&D in the US agricultural sciences is leading to smaller and fewer US university agricultural science departments and programs. Will this trend lead to fewer US agricultural education and social returns? The agricultural industry structure is not similar to other industry structures in that it is significantly impacted by climate change, distance from markets, etc. Furthermore, the USDA should move away from a production/yield-oriented focus and more towards a sustainable agriculture systems focus (NSAC, 2009).

The Government Accountability Office (GAO) reports "USDA support programs may have unintended consequences, including incentives for producers to grow crops on land prone to drought or erosion. Without better oversight to ensure that farm program funds are spent as economically, efficiently, and effectively as possible, we pointed out that the USDA has little assurance that these funds benefit the agricultural sector as intended" (GAO, 2007). The GAO recommends the "USDA (1) track annually native grassland conversion to cropland to develop a comprehensive and current source of information in those geographic areas where such conversions can occur and (2) study the extent to which farm program payments and conservation programs, such as the CRP, may be working at cross purposes and report its findings to the Secretary of Agriculture and the Congress" (GAO, 2007). If the internal coordination of the USDA agricultural support programs are not effectively managed, then perhaps the USDA's education and training support for farmers and ranchers may likely have similar unintended consequences and cross-purposes. The Federal Agriculture Improvement and Reform Act of 1996 permitted flexibility in land conservation systems and provided farmers to self comply with conservation systems, (GAO, 2003). Furthermore, the USDA Natural Resources Conservation Service (NRCS) staff have difficulty in acting as advisor and enforcer to provide "assistance to farmers most of the year in the small communities where the field staff live and work and then have to cite some of the same farmers for noncompliance, which may result in the loss of their farm program benefits" (GAO, 2003). Moreover, training has "not been available since the mid-1990s, which has led to errors in assessing and reporting on compliance" (GAO, 2003).

Sustainable Agricultural Education as Competitive Advantage

Education is essential to increasing the competitive advantage of the US agricultural sector through entrepreneurship and incentives. Agricultural education and training requires an interdisciplinary education within the field of sustainability. The focus and concept of productivity within the USDA demands a new definition for the 21st century. The US agricultural sector can no longer afford to solely focus on agricultural production. Rather, the focus should include sustainable production, consumption and competition within an interdisciplinary framework.

Although the practice of sustainability may appear similar due to current marketing, integrated reporting, etc, the philosophy, incentives, and self-interest divide sustainability into different theories. This is why mixed methods risk-based data collection of interlinked systems within sustainable agriculture is necessary to address educational orientation, interpretation, and dissemination of sustainable data, and consensus capacity for effective systemic analysis. Generally, agricultural education is best served by formal, non-formal, organizational trainings, and online distance learning programs. However, the content of the education should not be limited to the agricultural sciences. Other disciplines are critical to effectively create innovative mechanisms to advance the educational capacity in sustainable agriculture. Therefore, agricultural education and training requires an interdisciplinary education and framework within the field of sustainability.

The US agricultural adult workforce is a dual workforce and consists of “(a) those engaged in agricultural institutions and businesses that serve producers and (b) the agricultural producers themselves, not to mention (c) entrepreneurs and the self-employed, both farmers and agribusinesses” (Rivera and Alex, 2008). Additionally, the agricultural workforce can be divided into four major categories “(a) those currently employed in agricultural institutions and (b) those self-employed or working on farm, there are (c) those preparing to enter the workforce and (d) those in transition from one agricultural job in farming or support services to another, or who are underemployed in the agricultural labor force” (Rivera and Alex, 2008). Agricultural workforce and interdependent sustainability indexes and data collection are necessary to develop flexible human resources in conjunction within a changing and continuous process at all levels of the public and private sectors. Overall, because agriculture is dependent upon a changing environment, risk management is essential to the core development of human resources. Therefore, high quality human resource development is essential for educating the agricultural workforce on risk management. Additionally, funding for education for sustainable development should include funding and technical training, educational outreach through local schools and universities, multi-media forms, and monitoring and evaluation.

Sustainable Agriculture Education Framework

Effective sustainable agricultural education frameworks should not utilize a one size fits all agricultural education program because each program plays a different role and should avoid comparing the agricultural programs with each other. Instead, a sustainable education framework should first implement program design to identify farmers, establish clear program goals, conduct strategic and other planning, second assessing needs to identify agricultural, farming, and learning needs, third tailoring services to ensure developmentally appropriate services, develop theory-based education approaches and evaluate content of services, fourth deliver frequent and ongoing services to ensure communication consistency and implement multiple channels to obtain community support, and fifth implement program evaluation and monitoring to collect output and outcome data, and conduct formal research and evaluation (GAO, 2004). Therefore, effective education frameworks require “theory-based educational approaches” (GAO, 2004). Self-certifying education does not necessarily lead to better learning and outcomes.

The education framework can address questions such as: what are the drivers of sustainable agricultural production and consumption? What are the sustainable agricultural patterns and impacts? What is the role of the farmer? The education framework should identify sustainability drivers with program priorities, prioritizing integration and risk efforts and opportunities and evaluate sustainability impacts such as natural and energy sources and consumption within strategic parameters. Overall, the education framework should develop an integrated and systemic view across the agricultural value chain with education and knowledge transfer flows and processes that align government, business, and farmer value drivers to design new processes or move existing processes to increase sustainable impacts.

Additional questions can further develop a sustainable agricultural education framework such as, Are coordinating and lineage efforts between agricultural programs strong? Do programs incorporate key agricultural education/evaluation actions? Or, do they leave others with limited information of program results? Do agricultural programs systematically collect data on agricultural education services or farmers? Do any of the agricultural programs conduct regular or nationwide impact evaluations of the sustainable agricultural education efforts and require a longer-term evaluation strategy? Does available research provide adequate information concerning if the programs have met their sustainable agricultural education goals? Will a cross-program and integrated approach to sustainable agricultural education / training is helpful? Does the education

framework provide opportunities to explore options to collect reliable data on services rendered and identify lessons learned?

Recommendations

Formal theoretical education can positively persuade agricultural technology, performance, and management practices. However, spending time off the farm may improve the farmer's abilities and education practices to share information and knowledge. Research and development is vital to advance the agricultural sector. However, sophisticated and demanding buyers of agricultural products are essential to the competitive advantage of the agricultural sector. The US farming sector cannot control labor, land, and capital assets, and is dependent upon the US consumers' demand for agricultural products.

Government subsidies can appear to simulate growth and create a dependant agricultural sector. However, government subsidies can duplicate private sector efforts. Government support or subsidies "misallocation of resources due to wrong government competitiveness may result in a misallocation of resources due to wrong government interventions" (GAO, 2007). Additionally, farmers and ranchers with good credit can receive private loans without government rural loan programs. Thus, government intervention can negatively impact the competitive advantage of the US agricultural sector. Therefore, sustainable agricultural education concerning a farmer's risk management and aversion from government subsidies is vital to the advancement of the agricultural sector with further research of government intervention to understand the impact of agricultural policy reforms and to advance the agricultural sector.

Federal Executive Order (EO) 13508 consists of "representatives from the US Environmental Protection Agency and the departments of Agriculture, Commerce, Defense, Homeland Security, Interior and Transportation-and charged it with developing a coordinated strategy "to protect and restore the health, heritage, natural resources, and social and economic value of the nation's largest estuarine ecosystem and the natural sustainability of its watershed" (EO 13508, 2010). EO 13508 focuses on restoring clean water, recovering habitats, sustaining fish and wildlife, conserving land and increasing public access, expanding citizen stewardship, developing environmental markets, responding to climate change, strengthening science, and implementation and accountability. There is an educational component to EO 13508; it will "initiate a robust elementary and secondary environmental literacy initiative", "support and enhance outdoor student environmental education programs", "provide high-quality professional development, tools, and resources for educators," and encourage the creation and maintenance of green schools, including schoolyard habitat and green facilities programs. (EO 13508, 2010).

Unfortunately, the focus is solely on the environment and with only the environment sphere creating environmental, social, and economic value. The focus should be on the systemic relationships of the environment, social and economic to effectively protect and restore the Chesapeake Bay watershed. Thus, education in sustainable development should not be an outcome of the strategic plan for EO 13508. Rather, education in sustainable development should be the driver for the strategy of EO 13508. This is why it is imperative for researchers and educators to analyzed and initiate sustainable agriculture trends.

Integrated Reporting is a good tool to advance sustainable agriculture and education. Sustainable agricultural education requires a stronger education framework. The education framework should focus on the interdisciplinary systemic relationships that impact sustainable agriculture. The International Integrated Reporting Committee along with the International Accounting Standards Board and the US Financial Accounting Standards Board, and the International Organization of Securities Commissions has launched Integrated Reporting. Integrated Reporting incorporates social, environmental, and governance (ESG) company performance alongside business and financial data (BSR, 2010). Although integrated reporting focuses only on the social, environmental, and governance spheres, it is a trend that will significantly impact sustainable agricultural education.

Integrated Reporting is a tool that is interdependent with business strategy and it is a mechanism that can assist agricultural education to develop local, national, and global farming educational business strategies and risk management. Thus, farmers can develop and implement "local sustainability reporting that prioritizes frameworks, internal coordination, and external engagement. Employing this type of approach helps companies manage costs while addressing the original motivations behind producing the report" (BSR, 2010). However, the focus of ESG in Integrated Reporting is a weakness due to different conceptual theories and practices of ESG and ethics.

Conclusion

Sustainable Agricultural Education has a reciprocal value relationship in sustainable development for both countries. Effective sustainable agricultural education should not focus on the grant and grantees use and performance of the grant. Furthermore, effective sustainable agricultural education should include inputs and outputs to ensure that the grantee not just the grant funding drives competition and is required by other sectors. Alternately, effective sustainable agricultural education cannot focus on managing program grants or the staff skills to manage grants. Rather, it must determine how the grant will be used to advance competitive advantage and to prevent maintaining society's dependence upon funding to achieve competitive and effective educational outcomes. Overall, effective sustainable agricultural education frameworks should ensure that sustainability standards are appropriate to the scale of farming, and incorporate training and technical assistance for beginning, small, and mid-size farms, and farmers with limited resources through public, private, and rural community partnerships. This can prevent "Farmers (who) have deliberately chosen alternatives to the industrial agriculture and food chain that privileges uniformity over diversity, centralization over widespread ownership and control, and sterilization over natural habitat" (NSAC, 2008). Thus, Indian and US policymakers should promote incentives and enforcement of mandatory requirements instead of voluntary agricultural practices and self-compliance to encourage the agricultural workforce to develop innovative sustainable agricultural education and practices.

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Green IT and Sustainable Development Strategies: An Australian experience

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Abstract

This paper reports on the development and facilitation of an intensive postgraduate unit (IS6) at Curtin University. IS6 aimed at enhancing Information Systems students' appreciation and awareness of their industry's impact on the environment, and their ultimate responsibility towards their communities and society. Throughout the seminars, students were keen to demonstrate awareness and sensitivity to the importance of sustainable development and business strategies in such a crucial time for people, planet and profits. Indeed, students were able to display an understanding of the fundamentals of Green IT, applying conceptual tools and frameworks to critically analyze and apply business decision-making practices and policies, translating theories, concepts and analytical techniques learnt into practice. The paper reports on quantitative and qualitative data collected throughout the semester from eighteen students, the diverse assessment methods applied, the three written journals, students' individual oral presentations including peer-evaluation and report writing of an IT Sustainable Strategy. This comes in addition to the feedback provided through informal channels and more importantly through 'eVALUate', a feedback system adapted by Curtin University. The preliminary outcome, though limited to Australian higher education, yet reveals a shift in the students' mindsets towards appreciation of the big picture, thus moving from merely concentrating on their software and hardware development into establishing the link between their specific industry and the society and environment.

Introduction

It is time for practitioners and academics to think seriously about the role they play in the world aiming towards acting in a more sustainable manner towards their stakeholders. As Newton (2003) posits sustainable development is seeking to protect and preserve the environment not only for this generation but for the seventh generation. Jagers (2009, p.182) indicates that sustainable development enhances the means for doing so in a 'manner consistent with their [World Trade Organization and human rights] respective needs and concerns at different levels of economic development'. In this regard, Epstein & Roy (2001) define five major components for businesses to organize their sustainability and economic matters: (1) corporate and business unit strategy, (2) sustainability actions, (3) sustainability performance, (4) stakeholder reactions, and, (5) corporate financial performance. According to Epstein and Roy, these major components play an important role not only for economic, finance and business structure, but also extend to cover recent attention paid to the power of shareholders. This comes as we are recently reminded by Amann et al. (2009) that sustainable development had 'led shareholders to be more attentive to the concerns of all stakeholders – personnel, clients and suppliers, investors and non-governmental organizations – [which] conveys the expectations of society as well as the environment of the company' (Amann et al. 2009, p.338). Weybrecht (2010) argues that this circumstance had led to huge competition not only between organizations and firms, but also between countries and societies, as majority of organizations and firms started to integrate sustainability into their strategy. Weybrecht highlights the importance of inclusion of sustainability in strategy, noting that organizations and firms who are successful are building a business case for sustainability 'that suits the unique needs of their project, their initiative, their division or even their whole company' (Weybrecht 2010, p.21).

Sustainable development is unlimited to businesses; higher education, specifically business schools had commenced to very seriously and carefully evaluate and think about the importance of sustainability. This shift in their thinking does not limit the incorporation of sustainable strategies at the higher education institutions' policies, but rather extends to include the introduction of units (courses) aiming at the education of future leaders and employees thus incorporating such topics in their degrees. One of the units (courses) that form a part of the postgraduate studies including the students of Information Systems (IS) and Information Technology (IT) is the subject of this paper. This paper starts with the provision of a brief literature review, and then provides an empirical evidence of students' mindsets shift through the analysis of the quantitative and qualitative data. This data was collected throughout the semester from eighteen students, through diverse assessment methods, the three written journals, individual oral presentations including peer-evaluation and report writing of an IT

Sustainable Strategy. All this is coupled with data provided by the feedback through informal channels and more importantly through 'eVALUate', a feedback system adapted by Curtin University.

Background and Literature Review

What is Sustainability?

In 1983, the Sustainability concept was founded and addressed by Gro Harlem Brundtland, from the World Commission on Environment and Development meetings. In 1987, the Brundtland's report was released to alert the global world to the urgency of marking progress towards economic development, since people have become required to use our world in a way that will not detract from the future. Loorback et al. (2010, p.140) posit that sustainability can be defined as 'work together with suppliers, partners, and clients for a profitable position in the market by applying alternative fuels for sustainable energy and transportation'. While Weybrecht (2010, p.14) indicates that sustainability, for business sector, can be defined as 'adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting sustaining and enhancing the human and natural resources that will be needed in the future'. Therefore, businesses and higher education globally and locally, should consider sustainability innovation in their strategies and curriculum to protect the environment not only for the current generation but also for the seventh generation according to Newton (2003).

Providing an endless list of positive consequences when applying sustainable business strategies; Rainey (2006) posits that applying sustainability in business strategies enhances business performance thus contributing to cost reduction and efficiency improvement, which enhances reputation, recruiting and retaining excellent people, gaining better access to investors' capital, and reducing a company's liabilities. Nidumolu, Prahalad & Rangaswami (2009, p.58) argue that sustainability is not the 'burden on bottom lines that many executives believe it to be. In fact, becoming environmentally-friendly can lower your costs and increase your revenues. That is why sustainability should be a touchstone for all innovation'. Henceforth, sustainability innovation should be spread out to organizations' strategies and even to education curriculum to generate future labour and leaders who understand the environment requirements ensuring the safeguard of those sources for the future generation.

The importance of sustainability to business has become an important public concern both locally and globally. This comes as evidence is mounting that the development and application of sustainable business strategies has the ability to provide a high quality of life for the current and future generation. Though literature seems to be over-flowing with ideas, frameworks, tools and models relating to the sustainable business, yet, there seems to be a misunderstanding of the true meaning of sustainability. Blowfield & Murray (2011, p.23) tried to tackle this issue by stating that sustainability as a concept is unlimited to capturing the environmental business rationale, 'but the triple bottom line was developed to add this by encouraging companies to think in terms of adding economic, social and environmental value'.

In conclusion, the expedition towards more sustainable strategies is an essential and a goal of great importance; therefore, businesses should understand where they are now and where they want to go. There is a need for them to understand their goals and objectives prior to developing and applying sustainable strategies for their businesses. Indeed, bearing in mind Kendall & Kendall's (2010) confirmation that sustainability will benefit not only the company's shareholders but the society as well; novel aim contemporary businesses should be aiming towards.

Sustainability and the field of IS and IT?

The field of IS and IT, Green IT, seems to gain favour with business strategists forming a major part of their Information Systems Management Strategy. Sustainability and Green IT are very essential in the Information Systems Management Strategy, since the present generation does not own the planet and its resources, but are allowed to use, holding it in trust on behalf of future generations (Weybrecht 2010). It was noticed that individuals, businesses, communities and societies seem keen to study and address the critical issues behind the current sustainability issues to allow them to move on to prevent the coming critical crisis. This is crucial, especially with Starik et al. (2010, p.377) stating that 'Climate change continues to alter global ecosystems, most obviously resulting in melting icecaps and glaciers. Biodiversity losses are resulting in a mass extinction of species both on land and in the sea, while toxic pollutants, most visibly at the time of this writing; the Gulf oil spill and hazardous waste are becoming ever present not only on land and in the sea, but also in the air we breathe. Human population increases by more than 200,000 net each and every day, primarily in

developing countries, while human over-consumption of fossil fuels, potable water, meat and fish, primarily in developed countries, increasingly cause problems both within and around us’.

European Greens (n.d.) suggest that green economic vision puts social and environmental justice and equity within nations and between nations at the centre, just use of the earth’s resources (e.g. reducing the gap between rich and poor). Every person has the right to meet their basic needs: clean air, water, food, soil, shelter, energy, health, freedom, every human being has a right to solidarity, democracy, self determination, autonomy, responsibility, dignity, self fulfillment, and the economy should enhance wellbeing rather and not detract from it. Furthermore, the European Greens (n.d.) argue that the green economy should play central role for investments in sustainable development and green technology, and should create new opportunities, in particular on the labour market, making it possible for everyone to exploit his or her talents. Therefore, the key to greening the economy is to make it less intensive in its use of natural resources, but the most essential is to have the proper incentives starting with the appropriate leadership. This leadership that allows for the development and application of sustainable business strategies to all departments within the business including the IS/IT.

This paper provides a simple outline as how the readings, case studies and assessments design of ‘IS6’ postgraduate unit (course) had played a role in attempting to shift the students’ mindsets becoming more aware in respect to sustainability and IT development strategy. The most important aspect was the concluding remarks by students following their attendance and completion of the IS6 unit (course), was their feedback and reflection that organizations and firms should integrate sustainability within their strategy that is aimed at IS/IT department to allow them to be more competitive in the marketplace locally and globally simultaneously.

Sustainability, Green IT and Education – The design of IS6 unit (course)

The economic crisis in 2008/2009, did not only raise the alarm about lack of sustainable practices in our finances, but had alerted businesses towards issues beyond finance and profit, who started to struggle coping with the increased IT/IS cost and their environmental footprint influence. Arevalo (2010) urges businesses to pay more attention to the issue of sustainability and global social responsibility. Arevalo providing empirical evidence, argues that relationships between environmental and economic dimensions of sustainability have been solidly specified, but relatively little attention has been given to the social sphere concluding that there is a transformative effect on citizenship that can result from the teaching and learning that is facilitated by voluntary corporate social responsibility initiatives. These initiatives can only become serious and acted upon if they are incorporated within the company’s strategy. Kaefer (2009, p.4) indicate that ‘IT contributes 2% of world wide CO₂, and IT energy consumption is growing at 12% annually while a Google search needs on a average the same energy as a 11W energy saving lamp in one hour (11Wh)’.

Therefore, businesses seem to have started moving and quickly towards adopting a sustainable strategy, this is coupled with actions by higher education to incorporate sustainability and Green IT as parts of their teaching and learning materials, acknowledging their importance for the global and local businesses. This interest by businesses and higher education has come in the form of introducing some new concepts. For example, ‘Green IT’, is a concept that brought with it the ‘ecological impact of IT into the public and academic focus’ (Schmidt et al. 2009 , p.400). Marques (2009) reviews an important paradigm shift that is currently spreading amongst humanity, instigating a critical analysis of the way we used to perceive matters in past centuries, and encouraging an entirely opposite way of approaching the essentials of contemporary life. To clarify this perceptual change, Marques discusses different areas such as education, and economics amongst others. In this respect Walck (2009) confirms that majority of academics globally and locally are shifting towards green and sustainability in the management and Information Systems curriculum.

These specific units (courses) must be mapped properly, ensuring the proper linkages are established between the material provided, assessments and the unit (course) outcomes. Designers of such units (courses) should always pose the questions, as to what outcomes might be desirable from this unit (course), and what assessments should be included in these units (courses) to meet students, university and marketplace requirements simultaneously. This has increased in its importance especially with the latest developments in the market, and environment that pose great challenges to the humankind. To meet these increased challenges, and at Curtin University, the IS6 unit was designed providing pointers to and examining the strategic development issues that need to be taken into account to allow the future IT business leaders to act responsibly towards achieving their goals as stewards of the planet, people, and their profit.

The aims of IS6 unit were: (1) to provide students with some understanding of issues relevant to Organizational Sustainable Strategy, (2) to provide students with some understanding of issues relevant to Green IT, and, (3) to establish the link between the two areas. As for the learning outcomes of IS6 unit those were: (1) students to demonstrate initial awareness and sensitivity to the importance of sustainable development and business strategies in such a crucial time for people and planet and ultimately profit, (2) students to display an understanding of the fundamentals of Green IT, and, (3) students to apply some of the ever-increasing and changing conceptual tools and frameworks to critically analyze and apply business decision-making practices and policies in a comprehensive manner that would allow to issues other than profit to be considered, and, (4) students display proper abilities to translate theories, concepts and analytical techniques learnt into practice.

The IS6 unit (course) topics were: (1) the changing landscapes history and strategic implications – Green IT, (2) overview: Risk society, stewardship, strategic thinking and business strategy for the digital world, (3) stewardship and financial decision-making (in relation to IT), (5) strategic thinking and sustainable business development strategy (sustainability, innovation, change), and, (6) sustainable development and business success (benefits and limitations) security issues and concerns. In addition, assessments were designed to ensure that the unit's (course) aims and objectives were achieved. This will be elaborated upon later in the paper.

Method

Research question and objective

This paper will answer the question: 'what are the benefits and consequences of teaching Sustainability and Green IT for Postgraduate students of IS and IT?' The main purpose of this paper is to report on data collected during the teaching of sustainability and Green IT for Postgraduate students in Australia and whether such teaching will change students' attitudes towards the subject of sustainability in there IS/IT field. This data was collected through the assessments that were originally set to assist the IS6 postgraduate students to achieve the unit outcomes.

Methodology

The mixed-method approach was deemed appropriate for the analysis and reporting of data in this paper. A mixed method approach allows researchers to reduce the gap in the finding, since the qualitative research and quantitative have their place in research and each have their strengths and weakness (Teddlie & Tashakkori 2009). Kumar (2005, p.13) indicates that researchers should not 'lock' themselves into solely quantitative or qualitative research, and 'neither one is markedly superior to the other in all respects'. The teaching and learning feedback should be only gathered through the mixed-method approach. Furthermore, Walker (1997) and Green (2008) confirm that each of the techniques has its shortfalls, and in combining both the shortcomings of each will be reduced.

In this paper, data was collected through the quantitative and qualitative techniques, from our records, and students' feedback (both formal and informal). The students' feedback was collected over two periods in the semester. The first was through the informal feedback while students were still undertaking the unit (course). This 'informal feedback' is a teaching and learning initiative, when during the semester students, were asked to provide their anonymous feedback on the unit using the model 'Continue, Stop, Start' (CSS). By completing the CSS students are usually given the chance to provide their comments of what they want the lecturer to continue, to stop and to start doing, thus providing the chance for both the students and the lecturer to benefit from the course, enhancing the methods of teaching and learning. The second was at the end of the semester through the University's formal feedback (eVALUate). This 'eVALUate' is applied at Curtin University at the end of each semester, when students voluntarily and anonymously provide their feedback on the unit and the teaching staff.

Through the analysis of the collected data it was noticed that students were interested in and keen to study the material that formed the IS6 unit, which, according to them had enhanced their knowledge, challenged their beliefs, and encouraged them to seek more articles and material to support the ideas that have been planted through the first session of this unit. What became apparent that students came to enhance their abilities, including critical thinking to their writing and reading skills? Some of students' comments (informal and formal feedback) will be elaborated upon in the discussion section of this paper.

Participants

The IS6 participants were a mix of students, where some have a solid work experience in the field, while others were students who have elevated through their undergraduate studies at the university without any exposure to work in their field. This in itself was a challenge that the lecturers had to deal with, through the scaffolding offered to those who were finding it difficult to think of the practicality of the issues under discussion. Another challenge was the different backgrounds of these students. Some students completed their undergraduate studies moving into post-graduate studies at the same university, while others had only joined the university merely to obtain their post-graduate qualifications bringing with them diverse ideas and real-life experiences relevant to culture. Students were also derived from different majors.

Table 1 shows some demographic details of the IS6 students (e.g. qualification types, students' number, gender, nationality, work experience etc...).

Table 1: Demographic details of IS6 students

Qualification	Number	Gender	Nationality	Work Experience	Final Unit
Master of Commerce (IS)	2	None	Asia, Mauritius	1 Middle, 1 Low	None
Master of Information Systems	8	1 Female	6 Asia, 2 Middle East	1 Middle, 7 Low	5
Honors	1	None	Asia	1 Middle,	None
Postgraduate Diploma of Commerce (IS)	6	1 Female	5 Asia, 1 South Africa	1 High, 5 Low	2
Master of Logistics	1	None	India	1 High	1
Total	18				

Gender and Nationality were key variables when it came to comparing students' participation, oral presentations and reports writing. Differences were noticed, female students' participation, oral presentations and reports writing were of a higher quality when compared to the majority of male students in the class. Nonetheless, the experienced male students were able to add value to the class debates and discussions (either face to face or online) through sharing their experiences, videos and articles. As for students' nationality, this was another interesting difference, especially with students sharing their countries' perspectives in relation to sustainability as a whole, sharing their stories, videos, and articles in the discussion forums on the blackboard.

To properly examine as to whether IS6 has achieved its aims and outcomes, assessments were designed. These assessments were all required to be submitted on individual basis. This was coupled with several group activities throughout the semester in the classroom. As the IS6 was discussing sustainability, no paper was used in this unit, but rather electronic drop box facility was provided for students to drop their assignments in and lecturers feedback was communicated in the same manner, in addition electronic blackboard provided the readings and case studies material. These assessments were: (1) three reflective accounts/journals to be done individually, (2) individual oral presentations of an IT Sustainable Strategy proposal, and, (3) reports writing of the IT Sustainable Strategy that students proposed in their second assignment using the frameworks and tools provided, and most importantly those that the students themselves were able to locate through their ongoing research throughout the semester. Table 2 provides a breakdown of the marks allocated to each of these assessments.

Table 2 – Assessment Activities for IS6 unit

No.	Assessment Activity	Percentage %
1	Three Reflective Journals	30%
2	Individual Oral Presentations of a IT Sustainable Strategy	20%
3	Reports Writing on Your IT Sustainable Strategy	50%
	Total	100%

The three-part reflective accounts/journals (individual assignment) were designed to provide student(s) with valuable experience in critically, creatively and reflectively, reviewing and recording key points and their

thoughts about material from textbook(s), journal articles and the internet. In addition, this assessment encouraged student(s) to always endeavor to keep themselves up-to-date with their readings and their ongoing search in the World Wide Web in relation to the topics under study. It is worthwhile to note here that the reflective accounts/journals were not meant to only form a summary of the readings but student(s) were encouraged to provide their own opinions, and reactions to the material provided in these sources, reflecting on the contents and providing additional evidences from the literature they sought. The fact that these were three-part reflective accounts/journals has played a positive role, as students built on the feedback provided to them on their first and second to provide, and especially those who needed scaffolding throughout, a well-written account/journal on their third submissions.

The second assessment was in the form of oral presentation. This individual oral presentation was designed to promote student presentation skills and their arguments abilities as they were faced with questions from the audience (classmates and lecturers). These presentations provided a brief, concise and succinct account of their major IT sustainable development strategy for a company of their choice. The method adopted in running those presentations also enhanced the learning of those students. Thus, and in order to achieve this aim, and maintain interest, students were provided with marking guides to assess their peers' performance allocating marks. These marks were taken into account when evaluating the overall mark of each of the students. The fact that students were allowed to assess their peers was taken seriously by students, who were also generous with their remarks on what went well, wrong, and who could have been done better.

The third individual assignment aimed at providing students with the ability to write professionally and academically. The proper way to achieve such aim, communicating with their lecturers was through writing a report enhancing their analysis of the company's present strategy, their recommendations through the use of different frameworks, tools and models. In some cases students were courageous to even suggest the deletion of stages in some of the models, and addition of others. All this was derived from solid research and understanding. In this paper, only the first assignment of these course assessments (i.e. reflective accounts/ journals by students) will be explored.

Discussion

Using reflective journals, individual oral presentations, and reports writing assessments for IS6 was considered an effectual way to encourage students to participate, engage, and to understand the main concepts of IS6 unit (course). The development and the facilitation of IS6 was a great challenge not only for students but lecturers. At the beginning of the semester, and following the ice-breaker activity, it became evident that the majority of students were unaware of the role that IS/IT might play in the increase of carbon footprints, and how their sustainable strategies might reduce such an impact. It seemed hard to convince and influence students about the importance of the sustainability and green IT concepts in the business and education sectors. One of the students comments sums up this suspicion:

'Please don't get me wrong, I support green IT, but there is something that I am still unsure about green IT. Guess that you still haven't brain washed me to that extent' (IS6 Student 1).

The individual reflective/accounts journals were considered a valuable tool to engage students in the learning activities, to improve their understandings of IS6 objectives, and to improve their communication skills as the same time. This echo Clarke (2003, p.5) that reflective/accounts journals promote professional development of students, and enables them to make the links between theory and practice and 'encourages them to evaluate their teaching performance'. Furthermore, Cunliffe (2004, p.408-418) posits that using this method in business education can develop 'collaborative, responsible and ethical ways of managing organizations', 'and not thinking about thinking, but thinking about self from a subjective process'. This was evident in some of the comments provided by the students either in their individual reflection specifically in their conclusions. From these comments:

'The learning experience helps me to improve communication skills and start to think more critically'. (IS6 Student 2).

'I was taught a lot of things about green IT and some new aspects in these seminars.' (IS6 Student 3).

Following the introduction of IS6 to our postgraduate students with a request to students to read and search for articles, in relation to sustainability and Green IT, it was revealed to the lecturers/unit leaders that students started to change their way of thinking becoming more aware of how businesses should integrate sustainability into their core business strategy and practices. Following the examination of their first individual reflections, the lecturers/unit leaders adopted new techniques and tools to enhance students understanding of Sustainability and Green IT encouraging them to extend their research gaining more insights into the topic and the meanings of those concepts. Students appreciated this fact commenting:

'Our brain has been washed to green'. (IS6 Student 4).

'Improve [our] reading skills, analyzing and reflecting from journal readings. (IS6 Student 5).

The change did not stop in shifting the students' mindsets, but rather it was very interesting to read in their accounts/journals that they feel the importance of the topics covered in this unit calling for a change into the way businesses are conducted.

'Commitment and cooperation is a major factors that will influence successfulness of sustainability whether it is from the inside of the company such as top management, staff or even other organization could help promote and increase credibility toward the sustainability plans and process'.(IS6 Student 6).

Patenaude (2011, p.270) posited the need for a 'proportion of academic research to become informed by real world problems as faced by communities and businesses, inter-institution spaces for the incubation and exchanges of ideas, innovations and people, as well as neutral hubs of research, teaching and expertise are needed'. Sustainability and Green IT should not be limited to businesses but rather to higher education, who should contribute to society's eagerness to understand, develop and implement sustainable business strategies by introducing new units (courses) including these aspects. This has the potential in changing students' perceptions towards sustainability, a percentage of which will become the future chief executives. Therefore, higher education has the responsibility to apply sustainability philosophy into their units (courses) including Accounting, Marketing, Management, Information Systems, Economic and Business in general. This was a call by IS6 students:

'...Each and every one of us will have roles to play in helping environment, but it will needs to start with understanding the big picture which can be done through education and proper realization of the result so they can feel what they earned even though most of them is intangible.(IS6 Student 7).

'There are many helpful tools and aspects of environmental issues in terms of learning sustainable business IT strategies. This unit helped us to improve the research skills by reading many articles concerning on the environmental, social, political and technological issues. As we've done some case studies during the seminars...' (IS6 Student 8).

Table 3 eVALUate Full Unit Report

eVALUate quantitative items	Unit Agreement (%)
The learning outcomes in this unit are clearly identified.	80%
The learning experiences in this unit help me to achieve the learning outcomes.	90%
The learning resources in this unit help me to achieve the learning outcomes.	90%
The assessment tasks in this unit evaluate my achievement of the learning outcomes.	90%
Feedback on my work in this unit helps me to achieve the learning outcomes.	90%
The workload in this unit is appropriate to the achievement of the learning outcomes.	90%
The quality of teaching in this unit helps me to achieve the learning outcomes.	90%
I am motivated to achieve the learning outcomes in this unit.	100%
I make best use of the learning experiences in this unit.	100%
I think about how I can learn more effectively in this unit.	100%
Overall, I am satisfied with this unit.	90%

Table 3 above provides the quantitative items of ‘evaluate’, the students’ overall satisfaction was 90% which is well above the satisfaction rate at the university level. Though the students expressed, and verbally, their concern about the number of readings and assessments the above table provides a 90% satisfaction with the workload, feedback and assessments. This is a testimony that students have appreciated the efforts exerted by the unit controllers in developing and facilitating the unit.

Finally, and in light of the comments detailed above, an issue such as sustainability and business strategies directed to the IS/IT is of great importance. Thus academics and practitioners should engage in a dialogue on how best higher education can serve organisations in enhancing their understanding of such an important topic during uncertain times. Though the topic is challenging, and might be met with suspicion and cynicism by students at start, yet when evidence is provided change happens. One final issue, the lecturers/unit leaders should be keen and have the conviction of the necessity of sustainability, displaying knowledge and passion, otherwise it would prove to be difficult to become agents of change.

Conclusion

This paper presented an Australian higher education perspective in relation to Sustainability and Green IT concepts. From the analysis of the quantitative and qualitative a shift in the students’ mindsets was witnessed towards the knowledge, awareness and importance of sustainability and green IT including the necessity to

develop sustainable business strategies, ensuring their implementation in businesses. The data provided evidence that the design of IS6 assessments that took into account the Curtin graduate attributes had enhanced students' understanding of the main concepts of 'Sustainability' and 'Green IT'. Indeed, had changed their minds towards the necessity of sustainability in the IS/IT field. Further, the way these assessments were designed allowed students to enhance their communication skills from critical thinking, written, oral presentations, and research and information technology skills. Comments from students, some of which were highlighted in this paper are strong evidence on this conclusion.

Now, the responsibility lies in the hands businesses and the top management of higher education to continue their engagement and efforts to protect, sustain, and enhance the human and natural resources which are needed in the future through becoming aware of the necessity of development and implementation of sustainable business strategies including those directed to IT/IS. Further research will be carried out when this unit (course) is run again at Curtin University, which is expected in semester 2, 2011, which might provide strength to such empirical evidence.

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China's CDM Development and Future Trend

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Abstract

In this paper, we conduct a systematic research studies on China's clean development mechanism (CDM) market. By employing a generalized autoregressive conditional heteroskedasticity model containing regime switching on distributions (SWGARCH), we empirically test the market price of carbon trading by analyzing the statistical characteristics. The findings show that at the peak of the financial crisis, the distribution of certification emission reduction (CER) price return rate switched frequently between normal distribution and t distribution, and the fluctuation spread switched between different levels. After the peak of the financial crisis, the switching frequency fell and the price also leveled off. Finally, we discuss the future trend of sustainable development of China's CDM market.

Key Words: China's CDM; SWGARCH model; future trend

1. Introduction

The trading activities on the greenhouse gas (GHG) emissions have become prevailing in recent years because extreme weather events, such as tsunami and icy snow calamity, have occurred frequently. On February 16, 2005, "Kyoto protocol" took effect, which makes GHG emission reduction in industrialized countries binding. In addition to regulating the abatement of GHG emissions in developed countries before 2012, "Kyoto protocol" set down three flexible market mechanisms—Emission Trading(ET)、Joint Implementation(JI) and Clean Development Mechanism(CDM). To reach the abatement goal, firms can buy additional allowances from the markets if the given amount that they can emit does not satisfy their actual needs and sell allowances if they have excess allowance, besides investing in technical progress leading to fewer emissions.

Under CDM, firms in developed countries assuming the obligation of emissions reduction can cooperate with developing countries in projects by technology transfer or capital investment to offset the amount of emission reduction with Certified Emission Reductions (CERs). Developing countries can sell their emissions reduction to developed countries since they are not obligated of reducing emissions before 2012.

China is currently the second largest emitter of GHG in the world. Its fast growing economy has resulted in excessive consumption of resources and deterioration of the environment, which poses a serious threat to sustainable economic development. Therefore, how to develop the economy harmoniously is the major concern of China in the long run. Chinese government has made a bold commitment that the emission of carbon dioxide per unit of GDP will drop by 40% -45% compared with that in 2005 by 2020. The key to achieve carbon emission reduction is to minimize the cost of reduction. The best way for China is to participate in the trading system of CDM project actively. However, there are few participants currently in China's carbon trading market. In addition to investing in the financial instruments of low-carbon plate and the concept of low-carbon, domestic financial institutions seem not well prepared for the carbon trading era. Moreover, as the world's largest supplier of carbon emission allowances,

China does not have its own carbon trading system as Europe and the United States. So, what China needs to do is to improve domestic carbon trading system and establish a well organized market to facilitate carbon trading activities.

In this paper, we conduct a systematic research on China's CDM market. The organization of the paper is as follows. Section 2 briefly reviews the relevant literature. Section 3 analyzes the development of China's CDM market. Section 4 empirically tests the market price of carbon trading by investigating the statistical characteristics by employing a GARCH model containing regime switching on distributions (SWGARCH). In the last section, we discuss the future trend of sustainable development of China's CDM market.

2. Literature Review

Following an early theoretical discussion of trading theory of sewage drainage (Dale, 1968), quite a large number of qualitative studies on carbon emissions trading have been conducted. Stern (2007) points out serious consequences of global warming and the relationships between human activities become more and more intriguing.

Croker (1996) presented the possibility of applying property rights to air pollution prevention and established the theoretical basis for carbon emissions trading. Stavins (1995) examined the trading issues of emission allowances when considering the transaction costs, believing that deal costs can decrease trading efficiency. Cason and Gandgadhara (2003) tested and confirmed the Stavins point that non-zero transaction cost tended to increase the trading price of emission rights. When the marginal transaction cost declines, the initial allocation of emission rights will deviate from the efficient equilibrium. Moreover, the transaction price could fall close to the equilibrium price with zero transaction cost and trading volume will also increase; when the marginal transaction cost keeps unchanged, the transaction price, trading volume and market efficiency will not change no matter what the initial allocation is.

As "Kyoto Protocol" took effect On February 2005, the global carbon trading grew rapidly as a result of the three flexible trading mechanisms. At the same time, literatures focus on the study of carbon trading mechanisms. These include Sven Bode (2006), Cames and Weidlich (2006), Grubb (2004), Neuhoff (2006) discussing trading mechanisms design in developed countries; and M. Germain et al. (2007), Wang et al.(2005), Li (2006), GAO (2007), Bi et al. (2009), the State Council Development Research Center Research Group (2009) specifying on the problems of using CDM in China and other developing countries. All argue that CDM provides a good opportunity for both the developed and developing countries' emission reduction and sustainable development. Besides, many Chinese researchers have done numerous studies on China's CDM, including the industrial and regional distribution of CDM projects, the existing problems in current CDM market and the potential risks of CDM projects (Zhang and You, 2008; Chen and Liu, 2009; Miao, 2008; Kong and Lu, 2006; Ma, 2009; Cui, 2005; Wang and Zhao, 2009; Zhuang, 2008). The majority of them indicate that firms are main players in the international carbon trading market and have the primary responsibility for global carbon emissions. A flexible market mechanism gives an incentive to firms to produce fewer emissions by investing in and using more efficient technologies. It is worthwhile to note that enterprises are subject to significant risks during both production and emission trading process.

CDM projects are all long-term ones. Thus, CER price volatility is important because volatility forecasts are central to calculating optimal hedging ratios and options prices. Until now most literatures on the carbon emission allowance price dynamics have concentrated on EUA rather than CER. We can classify them into four categories according to the research methods. The first one uses a diffusion process with "jump" to depict the data generation process (Yang et al.,2008; Tuthill,2008; Seifert et al., 2008; Daskalakis et al., 2009). The second one decomposes EUA price process into a mean component, a GARCH component and a jump component. Gronwald and Ketterer (2009) use the Autoregressive Jump-Intensity (ARJI)-GARCH model developed by Chan, and Maheu (2002) examines the EUA futures price series. The third one is to let the innovations of GARCH model conform to some mixed distribution to identify the fat tail, clustering and jump in the EUA price process (Paolella and Taschini, 2008; Sanin and Violante,2009). The fourth group introduce Markov regime-switching model to embody the characteristic of jump of the EUA price process (Benz and Trück, 2009). In addition, Chevallier et al. (2009), Chevallier (2009),

Chevallier and Sévi (2009) argue that there exists jump in the EUA price process, but they do not model it. A limited number of literatures study CER price dynamics. Maria et al. (2010) proved that there existed a co-integration relationship between EUA and CER price processes and CER price was a follower to EUA price. Hence, the dynamics shown by EUA price should be found in the price process of CER as well.

The price process of carbon emission allowance shows characteristics including fat tail, clustering and jump (regime-switching or structure changes). The existence of “jump” has been a common knowledge. However, the understanding of “jump” is limited on the concept of mean and variance. Actually, “jump” in the CER price process may be more complicated. It is known that demand and supply in the carbon market is created by policy and scheme rather than coming into being spontaneously. Except economic factors such as macro-economical situation and energy prices, climate change, new energy technology and politics all play vital roles in the price dynamics of the carbon emission allowance. For instance, Conrad, Rittler and Rotfuß (2010) indicated that the decisions of the European Commission on second National Allocation Plans have a strong and immediate impact on EUA prices. In addition, there exist more uncertainties in the price of CER than EUA. First, EU ETS has been confirmed until 2020 but contracting parties under Kyoto Scheme have not come to consensus with respect to new compliance stages, which leaves CER unsecured by law after the year 2012. Second, EU ETS is a cap-and-trade program which means that the total supply of EUA is decided once the cap is published but the supply of CER is based on CDM projects which contain large risks for that they are affected by too many uncertain factors. Therefore, CER price process may exhibit more sophisticated “jump”, associated with events such as financial crises, institutional reform, etc.

The Markov-switching model family focuses on capturing dramatic breaks in the data series. Hamilton (1988) established the first Markov-switching model to study short-term interest rates. Hamilton (1989) introduced the model to identify the long-run trends in gross national product and the business cycle. Cecchetti, Lee, and Mark (1990) used it to explain mean reversion in equilibrium asset prices. Partly in response to Lamoureux and Lastrapes’ (1990) argument that ARCH and GARCH models always provided worse multi-period volatility forecasts for stock price series than constant variance model because of non-linearity in the stock-market volatility. Hamilton and Susmel (1994) and Cai (1994) introduced Markov-switching parameters to ARCH. Especially the latter exerted a vital influence to the later researchers. Dueker (1997), Gray (1996), and Haas et al. (2004) extended the Markov-switching approach to GARCH models further. Particularly, Dueker’s (1997) model simplified the model specification and demonstrated more flexibility. Therefore, we will construct a Markov-GARCH model containing switching in the tail thickness, clustering and distribution to prove that changes indeed take place in these areas in the CER price process.

3. Development of China’s CDM market

3.1 The current status

China’s carbon dioxide emission volume currently ranks the second in the world. Major market imperfections like irrational energy structure, low efficient energy consumption and high proportion of GHG emissions make China’s CDM investment attractive. At present, China’s CDM projects are mainly distributed in wind power, hydropower and energy efficient sectors. FIG.1 shows the number of projects approved by the CDM EB (by type of emission reduction) so far. FIG.2 shows the expected annual emissions reduction of projects approved by the CDM EB (by type of emission reduction).

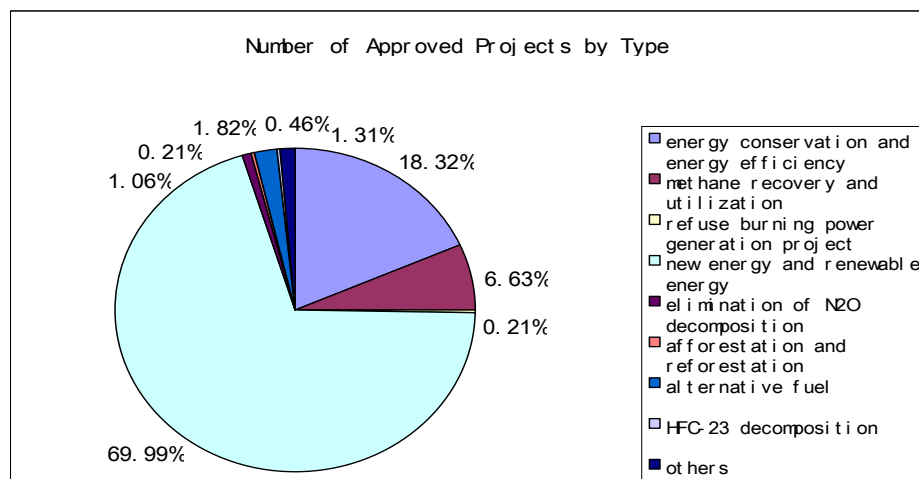


FIG.1: NUMBER OF APPROVED PROJECTS BY TYPE

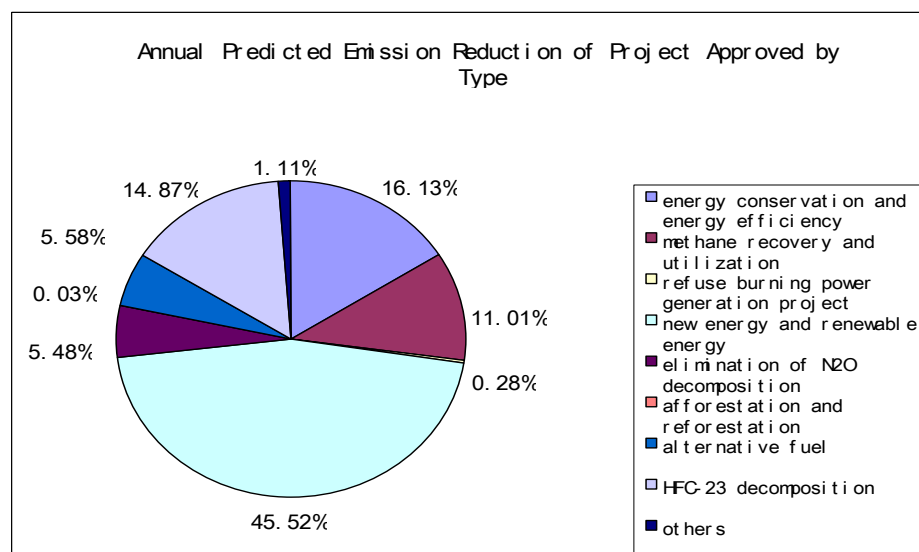


FIG.2: ANNUAL PREDICTED EMISSION REDUCTION OF PROJECT APPROVED BY TYPE¹

The ratio of renewable energy and energy efficient projects has increased. But the amount of CERs produced in hydropower, solar and biomass projects are still very small. By January 1 2009, renewable energy and energy efficient projects accounted for about 39% and 8.13% respectively in those projects developed and registered in the CDM EB. Rapid development of China's wind power project directly enlarged the scale of renewable energy projects. The number of energy efficient CDM projects has grown fast, the majority of which are from the electricity sector (energy-saving power generation project) and cement, steel sectors. CDM projects of the HCF-23 Decomposition and N₂O decomposition elimination have produced a large number of CERs because of its low investment costs. However, the ratio of these projects among all the CDM projects registered by CDM EB decreases gradually. As China's energy structure is coal-dominated, there is great potential in China's coal mine methane area. The number of projects and the volume of annual CERs have grown significantly. Hydropower, wind power and

energy-saving power generation projects take the largest share among the projects being developed. In addition, biomass CDM projects are also numerous.

CDM projects show some regional features because of its resource dependence characteristics. Hydropower projects are concentrated in China's southwestern regions such as Yunnan and Sichuan provinces, which are rich in water source. Wind power projects are mainly located in Inner Mongolia. And energy efficiency projects are evenly distributed in the provinces like Shanxi, Jiangsu and Shandong because there are many energy-intensive businesses and large-scale manufacturing in these areas.

3.2 Issues in current CDM Market

Although China's CDM market develops pretty fast, there two types of issues we have to address. First of all, we have no pricing right on CERs. CDM market is a buyer's market, where demand is generated through political negotiations. Besides, the buyers are developed countries undertaking GHG emission reduction obligations and they value CDM emission credits from their own benefits. If the demand terminates, the amount of CDM emission reductions generated will make no sense. Whether CDM is legal or not in the post-Kyoto era presents the greatest risk to CDM participants. If there are voluntary markets as a supplement, the situation will be much better, where CDM emission credits can still be recognized and transferred.

Secondly, China is the largest supplier in the short-time but may not last long. Currently, China occupies the biggest proportion among the CERs sellers. In 2008, China's market share accounted for 84%, far more than other developing countries. It is expected that, by 2012, China can obtain 1.8 billion tons of carbon trading allowances through CDM. Although optimistic in the short-term, we can not ignore the hidden problems. China's current CDM projects are concentrated in a number of areas with lower-cost, but those that really need new technology are unappealing. HCF-23 decomposition projects are usually priorities due to the lower capital investment and high outputs. These projects registered account for the largest share, about 32.02% per year. New energy and renewable energy projects follow. All of them are resources-related projects with low investment, low technology, and stable income which are more preferred by investors in developed countries.

In the process of carrying out CDM projects, there exist the following issues. First, the unique character of China's carbon market is that the government set an unwritten guide price for CERs. Article 15 of *China's Clean Development Mechanism Project Operation and Management Measures* asserts that the transaction price is decided by the National CDM Project Board. On the one hand, as the market is still not mature and project sellers have no advantage, Chinese government should interfere in the CER price. However, on the other hand, this may lead to the deviation of CERs price from EUAs, which might have negative effect on China's carbon trading. Therefore, the market shows a mixed reaction to the guidelines.

Second, most of the participants in CDM projects are only for financial purposes. Many foreign buyers bear the purpose of reducing emissions. These include firms with emission reduction obligations under the European Union emissions trading system. In addition, for the image of social responsibility or preparing for implementing low-carbon businesses in the future, some firms tend to trade in voluntary markets such as the Chicago Climate Exchange. However, more and more Chinese firms are involved in CDM projects because they can produce additional cash flow. Statistics shows that Chinese firms participating in CDM projects are mainly concentrated in the areas of energy production. Projects in this field are capital-intensive and require intensive investment at the beginning. Nevertheless, if the situation changes such as China begins to undertake emission reduction obligations in the post-Kyoto era, these firms will have to improve their technology through appropriate means of financing to obtain additional capital.

Third, Chinese government pays insufficient attention to CDM development. Most of the government agencies still put GDP in priority. The government should compromise between the current situation and the arrival of low-carbon economy and direct the government expenditure to new energy and environmental protection industry to help them get new technology. The future of CDM is still uncertain. Because of the financial crisis, many firms in developed countries are still suffering. In addition, a large amount of international capital flows into China, which has intrigue many developed countries. This can be reflected in recent international trade frictions. Therefore, we can not rely solely on external forces to promote CDM projects. If our government can make sufficient effort to

promote the development of low-carbon economy, China is bound to spearhead in the world in the future.

Although CDM projects have brought benefit to firms, they can easily mislead us at the same time. Developed countries can reduce their costs by purchasing emissions credits from developing countries. Despite that China's domestic carbon market has not started, a large number of Chinese firms have reaped huge benefits through CDM projects. As a result, the public are easily misled by such cases and consider it as free lunch. However, based on the above analysis, it is not difficult to conclude that CDM is a double-edged sword in the long run.

4. Empirical test

Due to the volatile nature of CER prices, it is imperative for relative firms to manage the market risk of CERs. The study of the volatility and the risk characteristics of CERs are of great practical significance for Chinese firms to manage risk of carbon trading.

4.1 Methodology

Markov regime switching model uses Markov chains to depict the phenomenon of structural changes in the economic system. Hamilton and Susmel (1994) introduced the ideas of Markov regime switching model into the ARCH model to specify a SWARCH model. According to them, if S_t is set to be a state variable, then the conditional variance h_t is actually specified to be a function of p most recent state variables:

$$h_t = f(S_{t-1}, S_{t-2}, \dots, S_{t-p}) \quad (1)$$

However, when we introduce the ideas of Markov regime switching model into the family of GARCH models, a problem arises-- the conditional variance h_t would be a function of entire history of the state variable even though it was assumed to be GARCH(1,1) process (Dueker, 1997), namely:

$$h_t(S_t, S_{t-1}, \dots, S_0) = \gamma(S_t) + \alpha(S_{t-1})\varepsilon_{t-1}^2 + \beta(S_{t-1})h_{t-1}(S_{t-1}, \dots, S_0) \quad (2)$$

Dueker (1997) introduced a collapsing procedure developed by Kim (1994) to solve the problem. He supposed that there exist two states, state 0 and state 1, during every period and h_t is a function of the most recent two state variables S_t, S_{t-1}

$$h_t^{(ij)} = h_t(S_t = i, S_{t-1} = j | \Omega_t) \quad (3)$$

Then GARCH equation will be :

$$h_t^{(ij)} = \gamma(S_t = i) + \alpha(S_{t-1} = j)(\varepsilon_{t-1}^{(j)})^2 + \beta(S_{t-1} = j)h_{t-1}^{(j)} \quad (4)$$

$$h_t^{(i)} = \sum_{j=0}^1 P(S_{t-1} = j | S_t = i, \Omega_t) h_t^{(ij)} \quad (5)$$

Such that $h_t^{(i)} = h(S_t = i | \Omega_t)$, Ω_t is the information set in time t . Dueker (1997) further let h_t to be a function of S_{t-1} such that GARCH process can be written as:

$$h_t^{(0j)} = h_t^{(1j)} = \gamma + \alpha(S_{t-1} = j)\varepsilon_{t-1}^2 + \beta(S_{t-1} = j)\hat{h}_{t-1} \quad (6)$$

$$\hat{h}_t = P(S_{t-1} = 0 | \Omega_t)h_t^{(i0)} + P(S_{t-1} = 1 | \Omega_t)h_t^{(i1)} \quad (7)$$

We develop Dueker's model to specify a GARCH (1, 1) model switching between normal distribution and t distribution. We call it Markov Regime Switching GARCH Model (MSGARCH) model. We will fit it using CER price data series. In addition, we will also fit a ARCH(2) model, a GARCH(1,1) model and a SWARCH(2) model from Hamilton and Susmel (1994) to prove that the MSGARCH model above is appropriate to fit CER spot price yield series in the secondary market by comparing the outputs of all of the four models.

4.2 The empirical analysis

4.2.1 Data

The data² used in the paper is CER spot closing price from the Bluenext Exchange in France from August 12, 2008 to March 17, 2010³. We use P to represent the sample series. The log return rate in t period is computed by equation (1):

$$\text{The log return rate in } t \text{ period} = (\ln P_t - \ln P_{t-1}) \times 100 \quad (8)$$

Table 1 demonstrates the descriptive statistical analysis for the sample. The skewness is -0.330, less than zero. The Kurtosis is 4.64, larger than that of normal distribution, 3. P value of JB statistics approximate to zero. So, the null hypothesis of normal distribution is rejected.

TABLE 1: CONDITIONAL VARIANCE

	$S_{t-1} = 0$	$S_{t-1} = 1$
$S_t = 0$	h_t^1	h_t^2
$S_t = 1$	h_t^1	h_t^2

FIG.3 shows CER daily closing price series. FIG.4 shows CER daily return rate series squared the squared series. CER spot price had been falling and fluctuating violently from second half year of 2008 to late in March, 2009. It was because that industrial production declined so much that global energy consumption shrank seriously and demand for CER dropped significantly under the impact of financial crisis. The price leveled off gradually after April, 2009 with the rebound of demand for energy. Therefore, CER price dynamics might have taken place regime-switching during the sample period under the impact of financial crisis.

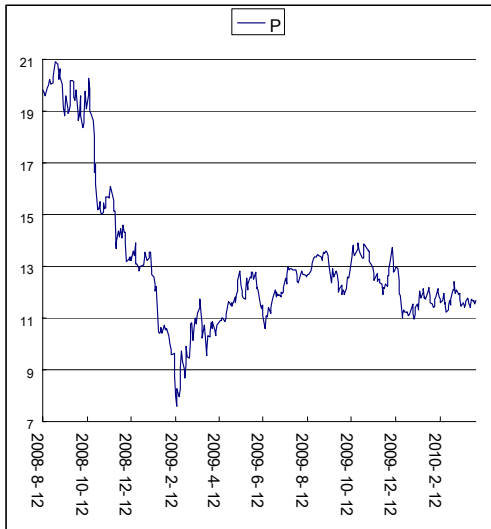


FIG.3: CER DAILY CLOSING PRICE

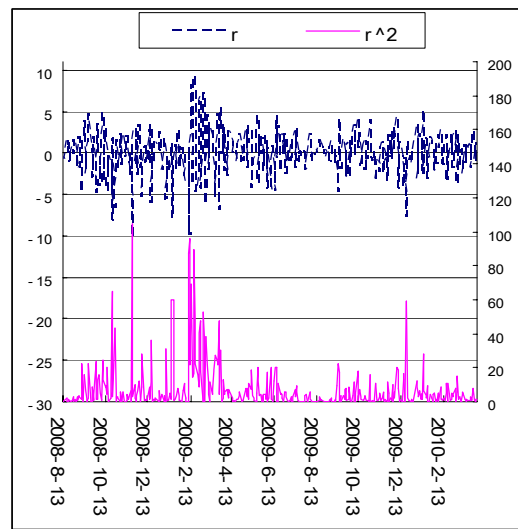


FIG.4: CER DAILY RETURN RATE AND THE SQUARE

Furthermore, we split the sample to two sub-samples. The first one is from August 12, 2008 to April 30, 2009. The second one is from May 1, 2009 to March 17, 2010. Table 2 shows descriptive statistics for the two sub-samples. We may observe that the maxima and minima of sub-sample 1 are just that of primitive sample. The standard deviation of sub-sample 1 is larger than that of sub-sample 2, which means that CER secondary market price in the first sub-sample period fluctuates more violently. In terms of kurtosis, sub-sample 1 is 3.892, larger than that of sub-sample 2, 3.458. With respect to distribution test, P value for JB statistics of sample 1 is 0.024 while that of sample 2 is 0.108. Thus, we reject the null hypothesis of normal distribution for sub-sample 1, but accept it for sub-sample 2 under the level of 0.05. Therefore, there are significant differences in statistical features between the two sub-samples. Regime-switching may have taken place in fluctuation spread, distribution, kurtosis and tail thickness. MSGARCH model may be fit to the sample.

TABLE 2: THE DESCRIPTIVE STATISTICAL ANALYSIS FOR THE SAMPLE

Mean	Max.	Min.	Std. Dev.	Skew.	Kurt.	Sample Volume	JB	JB p value
-0.136	9.443	-10.22	2.658	-0.330	4.679	406	54.69	0.000

4.2.2 Results

We estimate ARCH (2) model, GARCH (1, 1) model, SWARCH (2) model and MSGARCH models under the assumption that random disturbances follow t distribution. The result is demonstrated in Table 3. Only for the MSGARCH model, all parameters are significant at 1%. In addition, MSGARCH model's log likelihood is the largest but AIC the least. Therefore, our MSGARCH model fits CER price data the best.

According to MSGARCH model's parameters estimation results in the last column of Table 3, p_{00} and p_{11} is respectively 0.917953 and 0.786970 ($p_{11} = 1 - p_{01}$) respectively. It indicates that state 0 shows a stronger persistence.

TABLE 3: ESTIMATION RESULT

parameters	ARCH(2)	GARCH(1,1)	SWARCH(2)	MSGARCH
μ^0	-0.007642 (0.124183)	0.012988 (0.104007)	0.178385 (0.134281)	0.333606** (0.016328)
μ^1	n.a.	n.a.	-0.593009 (0.359671)	-1.06272** (0.018573)
γ	3.727330** (0.559043)	0.191022 (0.117432)	2.829771** (0.466714)	0.157025** (0.020511)
α	0.371781** (0.133868)	0.130763** (0.046051)	0.091623 (0.068864)	0.195966** (0.020936)
β	0.150899 (0.081123)	0.851653** (0.043704)	0.015737 (0.052150)	0.764054** (0.017589)
n	6.565710** (1.955538)	7.268948** (2.468718)	31.56016** (69.01678)	3.468332** (0.041738)
p_{00}	n.a.	n.a.	0.969967** (0.023401)	0.917953** (0.024088)
p_{01}	n.a.	n.a.	0.053598 (0.039801)	0.213030** (0.016928)
g	n.a.	n.a.	2.973315** (1.020502)	n.a.
<i>Log likelihood</i>	-938.4996	-927.6770	-929.0232	-924.5812
<i>AIC</i>	4.67079	4.594468	4.649909	4.593996

Notes: It's standard deviation in the parenthesis. * indicates significance at 5%; ** indicates significance at 1%.

In another word, when the return rate follows t distribution, it is more likely that regime-switching will take place in the next period. When it is in state 1, the return rate follows t distribution with a freedom 3.468332 and the tail is fatter, namely, a higher probability for extreme values. Holding h_t constant, it will lead to a growth of 136.2% for the conditional variance if it switches from state 0 to state 1:

$$\left[\frac{n}{n-2} - 1 \right] \times 100\% = \left[\frac{3.468332}{3.468332 - 2} - 1 \right] \times 100\% = 136.2\% \quad (9)$$

The estimator for ARCH item coefficient in the GARCH process is $\alpha \left(1 - \frac{2}{n} \right) = 0.195966 \times \left(1 - \frac{2}{3468332} \right) = 0.082963$. So the ARCH item coefficient in the GARCH process switches from 0.195966 to 0.082963 when it switches from the state 0 in t-1 period to the state 1 in t period. Hence, the disturbance from t-1 period makes a more significant effect on the conditional variance in t period when it is in state 0 in t-1 period than in state 1.

4.2.3 Smoothed Probability

In the model involving regime-switching, state variables are unobservable. However, we can compute the probabilities for each state according to the model and sample information. Compared with filtered probabilities, smoothed probabilities utilize sample information more efficiently. Thus, we compute smoothed probabilities for state S_t in order to analyze the volatility of CER price in the sample period. FIG.5 and FIG.6 are smoothed probabilities when CER return rate is in state 0 and state 1 respectively. Combining them with FIG.3 and FIG.4, we can infer that there exists regime-switching indeed during the sample period. However, generally regime-switching takes place more frequently at the peak of financial crisis (August, 2008-March, 2009) and state 1 occurs with a higher probability, which means CER price fluctuates more violently and the risk is larger. It take place less frequently after the peak of financial crisis (March, 2009-March, 2010) and state 0 occurs with a higher probability, which means CER price fluctuates more moderately and the risk is smaller.

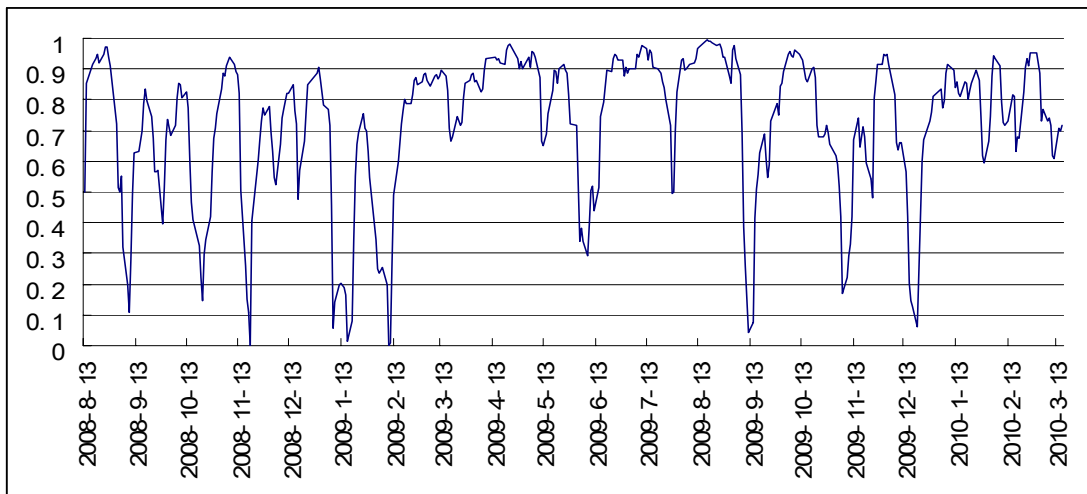


FIG.5: SMOOTHED PROBABILITY FOR STATE 0

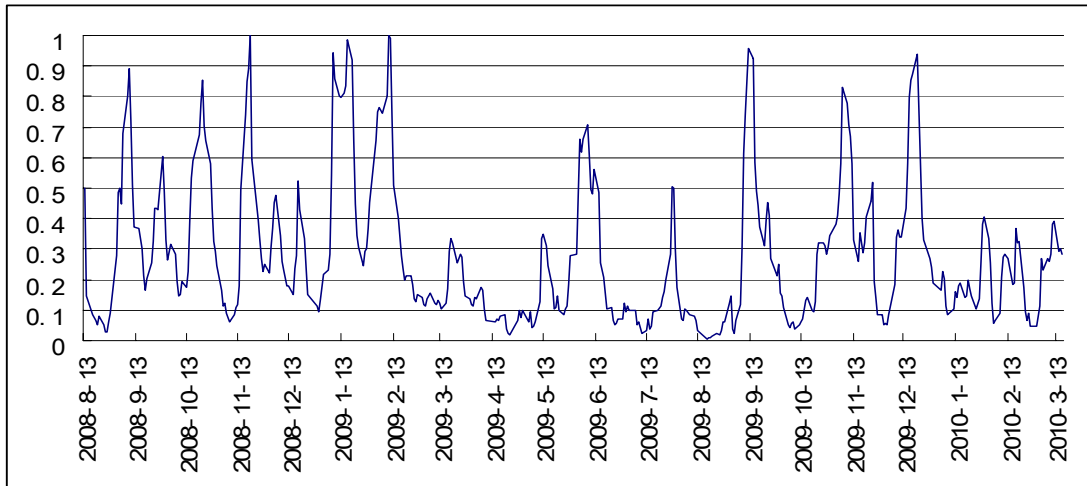


FIG.6: SMOOTHED PROBABILITY FOR STATE 1

The fluctuation of the CER price in the secondary market demonstrates a characteristic of regime-switching under the influence of many factors. Therefore, we specify a MSGARCH model with distribution switching in order to fit CER price data and then compare the estimation result with an ARCH(2), a GARCH(1,1) model and a SWARCH(2) model. It is proved that the MSGARCH model works the best. At the peak of the financial crisis, the distribution of CER price return rate switched frequently between normal distribution and t distribution and the fluctuation spread switched between different levels. After the peak of the financial crisis, the switching frequency fell and the price also leveled off. Using the conditional variance gotten from MSGARCH model to compute the hedge ratio might reduce the risk effectively and maximize the profit.

5. A few words about the future trend of China's CDM market

The top priority for Chinese government is to improve the efficiency of social resources allocation by taking into account the comprehensive economic, social and environmental factors as well as developing the low-carbon economy. The industrial economy in China is now experiencing unprecedented growth. The fast growing economy has resulted in excessive consumption of resources and deterioration of the environment, which poses a serious threat to sustainable economic development. Therefore, how to develop the economy harmoniously is the major concern of China. Traditional resource allocation does not consider the destruction of industrial pollution emissions on the environment. As a negative economic externality, air pollution reduces the whole allocation efficiency to some extent. When we take the environmental factors into account, emissions allowance as a kind of scarce resource can be traded in the market. The Coase theorem shows us that, carbon trading can integrate the social resources and make the external costs internalized, which contributes to the overall allocation efficiency of resources.

As a player in the international game of climate change, China should adapt the low carbon era proactively based on precise risk assessment and rational prediction. Gaming depends on fair rules. International regulations solving the climate problem is still in primary stage and thousands of international negotiations have not generated new legally binding international agreements. In this situation, as the largest developing country, China should take great advantage of its international influence, act a positive role in the climate change negotiations, and promote the formulation of legally binding international agreements.

Although global climate game will eventually be a win-win cooperative game, the benefit distribution among participants is still a problem. How much each participant can gain from the game will ultimately depend on the competitiveness. In response to the challenge of global climate game, China should eventually resort to technological advances and market-oriented mechanisms. The technological progress will enable us to control more available resources, while market mechanism can allocate resources more effectively. China needs to make full use of technologies from developed countries and strengthen research and development abilities on renewable energy, carbon capture and carbon storage technology. In terms of the construction of market mechanism, China must not only develop domestic carbon credit trading markets positively and normatively, but also encourage banks and other financial institutions to enhance finance innovation, manage climate change risks effectively and participate in generating international rules of carbon credit transactions. Meanwhile, China needs to explore effective market incentives and monitoring mechanisms which are supported by technology and funds from developed countries. The bottom line is that China must guarantee the future development rights while reducing emissions.

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End Notes

¹ Source : China CDM project database system for 2010 to-1-23

² Data source : Bluenext-the earth's exchange (<http://www.bluenext.fr/statistics/downloads.html>)

³ CER spot contracts of Bluenext exchange have been traded since August 12, 2008.

CLIMATE CHANGE: AMERICA, INDIA AND CHINA

By

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Abstract

All the three countries US, India and China have abundant coal and a large coal based electricity program. All of them face stiff choices between low cost and carbon footprint in their future electricity generation program.. Of this US had maximum Carbon emissions, followed by China and then India. This year, 2011, has seen the tipping point where China has overtaken the US for Carbon emissions. For India energy intensity has actually decreased, as evidenced by energy-gdp elasticity figure changing from 1.2 to 0.8 over the last couple of years. However while China is seen as making efforts to reduce emissions—in fact it has outmaneuvered US industries by offering lower cost emission reduction equipment—India is often accused of not playing the ball. The paper addresses different approaches of the three countries to the Climate change issue and in particular outlines the dilemma that India faces in reaching its twin goals of inclusive economic development, which require low cost energy strategies and compliance to climate change agenda, which requires low carbon energy strategies.

Introduction The concept of sustainable development cautions that mankind should not consume excessively today because it will leave less for our posterity. Output is created using manmade and natural capital, and while the former is amenable to market logic, the latter is consumed excessively since there is a market failure; the natural capital has no price tag since it is somewhat a public good, with characteristics of nonexcludability and to a limited extent non-rivalry. We say limited extent, because upto the point of its absorptive power (of pollution, which indicates its use), nature is a free resource with characteristics of non-rivalry, but beyond this, it becomes a scarce resource, albeit with no market price, and therefore manifests as an external diseconomy. Pollution being a public (dis)good, and also having a positive correlation with output and GNP, it suffers the fate of the ‘tragedy of commons’, impelled by prisoner’s dilemma behavior: i.e. collectively we realize that pollution is bad but individually we have something to gain by polluting, and inexorably driven to a nonoptimal outcome induced by noncooperative behaviour. The IGES white paper (2008) gives specific policy guidelines for Asia, emphasizing that climate change policies must align with sustainable development.

The intergovernmental panel on climate change (IPCC) brought out a report [IPCC AR-4 (2007)] and made the point that climate change is for real and quick action is called for by all countries acting in concert. However, the report also came under dim light for some plagiarisms which were deliberately contorted relating to Himalayan glaciers likely to melt by 2035. In the Climate Change debate, the following questions are pertinent:

1. Is the temperature rise a real trend?
2. Is the temperature rise caused only by human efforts or exogenously?
3. Will the temperature rise cause adverse consequences? If so, what are they at global, national and local levels? How far is it possible to relate local emissions and global emissions to local (including national) and global consequences?

4. For mitigating global level adverse consequences, what global level cooperation is required? (It is here that environment becomes a public (dis)good).

IPCC's answer to the first question is that it is a real trend. It has categorized various regions of the world as having temperature falls/rises and according to IPCC, a 2 to 3° rise in the last 34 years is corresponding to danger levels. According to US National Climatic Data Centre "during the past century, global surface temperatures have increased at a rate near 0.06°C/decade (0.11°F/decade), but this trend has increased to a rate of approximately 0.16°C/decade (0.29°F/decade) during the past 30 years".

IPCC has produced models of causation to prove that human activity has caused the temperature rise. But other scientists, organizations of NGOs have differed with this assessment. For instance, the NIPCC (2009) report says that 'a comparison of 'fingerprints' from best available observations with the results of state-of-the-art GHG models leads to the conclusion that the (human-caused) GHG contribution is minor', and that 'sun and associated atmospheric cloud effects are responsible for much of past climate change'. This report damns the IPCC report in every respect, temperature rise, glacier melting, sea ice, extreme weather, biological effects and species extinction. Thus it is the very antithesis of IPCC report, and has the support of Liberty Institute, a market oriented think tank.

In terms of impacts, India and other developing countries seem more vulnerable to them; sea level rise would submerge Bangladesh and even otherwise make its water saline, and cause migration to India. Erratic monsoons could have catastrophic effects on food production. But unless all the people are able to see the link between climate change and carbon emissions, the imperative of survival today, will force the developing countries to delay the low carbon trajectories. For the same reason that poor people do not use compact fluorescent lamps and still use incandescent lamps, even though the former may pay for the incremental cost within about 2 years, people will not use low carbon paths and will opt for emission intensive coal energy to fuel their development.

The plight of the poor developing countries clearly show the answer to the question no.4; viz. it is the burden of developed countries to reduce emissions to forestall climate change. The developing countries' stance is that they have a mandate for development to become as well off as the developed countries, and correspondingly have a right to the common resources of the globe, such as nature, which translates as an implicit right to emit an equivalent quantum of green house gases on a per capita basis.

We now proceed to show how the action has proceeded in tackling climate change at global level, and how the developed world is shirking this responsibility. Subsequently we will concentrate on the approaches of US, China and India towards tackling this issue.

The Kyoto Protocol was signed in 1997 and executed from February, 2005. This envisaged mandatory emission reductions for 37 developed countries and voluntary reductions for

developing countries, based on ‘common but differentiated responsibilities.’ These reductions could be achieved by countries, by 3 ‘flexibility’ mechanisms, viz. emissions trading, clean development mechanism (CDM) and Joint implementation (JI). Kyoto expires in 2012, and this is one reason for the Carbon market to collapse, since there is uncertainty about the post Kyoto regime.

The main tool most governments in the developed world are counting on to cut emissions and drive investment into climate-related industries is carbon trading, also known as cap and trade. The European Union established its system six years ago. Its goal is to cut emissions by one-fifth from 1990 levels by 2020. Carbon trading has run , into obstacles in Europe, where the system has been rocked by extreme volatility, computer attacks, tax fraud, recycling of used credits and suspicions of profiteering.

There are two options for cutting down emissions, viz. levying a carbon tax and the carbon trading (cap and trade). In the latter, caps of emissions are set, industries are given allowances, and these allowances are traded. If allowances are auctioned, then the price is the same as carbon tax. If allowances are given away by Governments, Government does not get the revenue, and therefore there is no compensating effect of reducing other taxes. Under certainty, both are equivalent. However, under the real world conditions of uncertainty, Carbon tax will work better than cap and trade, in cutting down emissions. A carbon tax will work like an advalorem tax, which will shift the supply curve upwards, and thereby reduce the output which has the pollution externality. Using tax to restrict bad things (apart from the traditional purpose of raising revenues to Government) was first suggested by Pigou. The Carbon tax was strongly advocated by Joesph Stiglitz (2006) and supported by Maniew (2007). On the other hand, the cap and trade has volatility because the Governments can increase the Carbon quotas for their industries thereby depressing the price of carbon.

The CDM works on the principle of a carbon trade between developed and developing countries, taking advantage of the low cost of carbon abatement in developing countries. Even if the system does not reduce actual emission in developing countries, because proving additionality is extremely difficult, it still benefits the developed countries, because once their industries buy the Certified Emission Reductions (CERs), they can use it as a shield and go on themselves emitting carbon. So, it appears that CDM is a clever trick for the developed countries to pretend that they are reducing emissions, without actually doing so, and paying a small price for it, in buying the CERs. They are really not interested in finding out if the CERs are genuine or fake. A good part of the CER money is recycled to the developed countries, as payment to the consultants who will prepare the project report and verify that the reductions are real. And because the additionality criterion and the corresponding various benchmarks are all too complicated, they ultimately become judgmental and require the MNC consulting firms to navigate through the labyrinth of CDM bureaucracy.

The Copenhagen Accord in 2009 realized that a legally binding treaty may be impossible to be reached, and instead sought an Accord. In this context, it is useful to understand the subtle differences between Accord and Agreement. An accord is a consensus decision reached which is politically and morally binding but not legally binding, whereas an Agreement is one that is legally binding. Such an agreement becomes a Treaty. A treaty implies seriousness on the part

of countries to comply with its provisions and corresponding incentives and disincentives to achieve the provisions contained in it. Such a treaty may also be a sine qua non for a carbon market to function. However, such a treaty is unlikely to be achieved unless developing countries also agree to reduce their emissions. Fig. 1 shows the CO₂ (or equivalent) emission by various countries from 1990 to 2030. It is clear that as on 2010, USA and China are the top emitters at 5,000+ million metric tons, then comes OECD Europe followed by Russia and India and Japan are below the level of Russia.

The Cancun summit in Dec. 2010 witnessed divisions in agreeing to a legally binding agreement between countries. US, China and India did not want, while the rest of the countries were for signing legally binding restrictions. In the BASIC group, consisting of Brazil, South Africa, India and China, which started with a common climate agenda, Brazil and South Africa opted for legally binding agreements isolating China and India which were opposed to that move. India's position was that while it will make domestic commitments suo motu, it has not yet reached the stage to make international commitments. There were also divergences on issues of Measurement, Reporting and Verification (MRV). US thought that China and India would fudge the figures and hence insisted on presence of external observer, which China did not agree. India was also cool to the US proposal, but later brought out a mechanism which essentially agreed for transparency to be introduced by external participation. Essentially major emitters will voluntarily make data on emission available in periodic intervals, through a process called International Consultation and Analysis (ICA); criticism within India is that this compromise removes the distinction between Annex 1 and non-Annex 1 countries. (for the latter the reductions are voluntary and domestic).

The broad divergence between developing and developed countries is that it is the latter that were responsible for global warming and so they must cut emissions. The developing countries are later beneficiaries of development through intensive energy use and so they must have this till they reach developed country levels of standard of living. Now let us analyse the approach of US, China and India towards the climate change measures.

US, China and India: All the three countries, are rich in coal; reluctant to give it up. All three are faulted for the failure of Kyoto Protocol to bring results, US being a non-signatory and China and India being not required of mandatory reductions of GHG.

Table 1 below presents the Energy-Environment related resource availability and production and consumption for the 3 countries, US, China and India. The average energy consumption per capita in the US is about four times that of China's. China is the world's largest producer and consumer of coal, with more than 70 percent of its energy consumption dependent on coal. In contrast, coal accounts for about 20 percent of energy consumption in most developed countries, complementing oil and natural gas. According to the World Energy Council, as of 2009, China held an estimated 114.5 billion short tons of recoverable coal reserves, the third-largest in the world behind the United States and Russia. In 2009, China, typically a net coal exporter, became

a net coal importer from countries such as Indonesia, Australia, Vietnam, and Russia. In September 2009, the China Coal Transportation and Distribution Association stated that China signed a \$6 billion loan-for-coal agreement with Russia for 15 to 20 million tons of coal for 25 years. While coal consumption fell 0.2% in 2008-09 to 3.28 billion metric tons of oil equivalent, China's and India's respective coal consumption rose by 10% and 7% ahead of their GDP growth (Business Week (2010)).

Table 1

	Units	US	China	India
Recoverable coal reserves	Billion tonnes	250	114.5	62.3
Coal Production	bt	1.097	3.4	0.613
Coal consumption	bt	1.052	3.5	0.681
Total energy consumption	Quadrillion btu	97.73	85.1	13.5
Per capita energy consumption	Million btu	250	64	17
Energy intensity	Btu/\$ (2008/2007)		11,450	6,500
Energy related CO ₂ emissions	Million tons	5,300	6,534	1,494
Per capita CO ₂ emissions	tonnes	17.5	4.9	1.31
CO ₂ intensity	Tones/1000\$		0.9	0.48

Source: US Energy Information Administration

From Table 1, it is clear that all three countries have big stakes in coal. Coal fuels 45% of electricity production in the US, about 60% in India and about 83% in China. In terms of energy consumption, US and China consume much more energy than India, and this inequality is exacerbated when it comes to per capita energy consumption. In terms of emissions, China has surpassed the US in absolute energy consumption, while India consumes about a little more than one fifth of China.

US's position: The US has an all or nothing approach and says that unless China and India agree to cut emissions, it will not do so and it will not allow even other aspects like funds for GHG reductions to reach a conclusion. This is articulated by Mankiew (2007) where he says, "Any long-term approach to global climate change will have to deal with the emerging economies of China and India. By some reports, China is now the world's leading emitter of carbon, in large part simply because it has so many people. The failure of the Kyoto treaty to include these emerging economies is one reason that, in 1997, the United States Senate passed a resolution rejecting the Kyoto approach by a vote of 95 to zero." Considering that both electricity and transport sectors contribute significant GHG emissions in the US, their reluctance to reduce emissions is understandable. The difference between the Bush Jr. administration and Obama administration is one of form, and not of content. While the former bluntly rejected Kyoto with 100% support of the Senate, the latter is playing the game 'only if you do first', especially with respect to China and India.

China is emerging as a global power and it has to wear two opposite hats. As an economic powerhouse it would like to take a leadership and statesmanlike role supporting GHG reduction. But it is also the leader of developing countries, and in this role it has to oppose GHG reduction if it were to champion the cause of developing countries, which incidentally benefits China itself in the process, in economic terms. Thus there is a conflict between its economic interests and global ambitions to be a leader. China also sees CDM as an opportunity to seek funds transfer from the West, and is channeling these private sector inflows into Government flows by specific taxes on the CDM recipients and using these tax revenues to subsidize renewable energy technologies to undercut the western manufacturers in the supply of equipment for these technologies. This has gone to such an extent, that the US administration is looking at bringing a case against China, including accusations about manufacturing subsidies for wind turbines, before the World Trade Organization.

Investment in clean energy in China rose 30 percent last year, to \$51.1 billion — by far the largest figure for a single country — and represented more than 20 percent of the total global investment of \$243 billion, according to Bloomberg New Energy Finance.

China is developing and investing in clean and renewable energies such as solar, wind, nuclear and hydropower but its coal production and consumption are also significantly increasing, as seen in fig. 1.

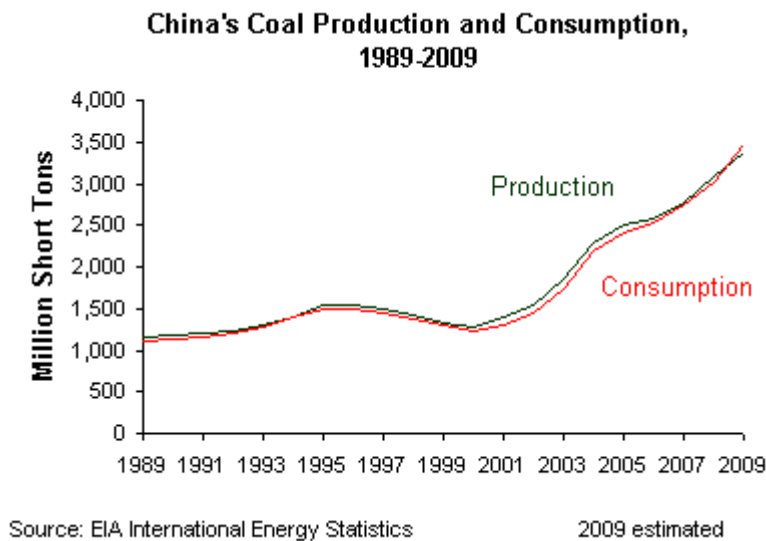


Fig. 1

India's emissions are much lower, a fifth of China and its energy-gdp elasticity is falling from 1.2 to 0.8, its economy being less energy and therefore emission intensive. The only energy resource available relatively in abundance in India is coal, apart from large hydro potential which is lying unutilized in the North East Brahmaputra basin and in the Northern State of Jammu and Kashmir. Coal is the preferred fuel for producing electricity whose demand has been rising at

around 9% per annum. India's emission is one fourth of the global average (Jyoti and Kirit Parikh (2002)).

Conclusion: Thus, while US is using China and India as a shield for its reticence towards emission reduction, China is actually increasing its emissions and at the same time benefitting from the CDM scheme by taxing the profits from these revenues and using these tax receipts to subsidize its renewable energy technologies, which it sees as a growing market. It is also getting good press because it is effectively competing in green technologies even though it is hurting the Western green industry, which it undercuts. On the other hand, India though no where consuming energy or emitting pollution as much as China, and far far from the US, it is still seen as a bellicose actor by the global media and is seen as torpedoing the Cancun process. Thus there is a great need to improve for India its finesse in handling the energy-environment issues relating to climate change.

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Issues and Trend in the Payment of Compensation in the Oil Industry in Nigeria, 1969-1997

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Abstract

This paper examines the issue of the payment of compensation to victims of oil pollution and other forms of environmental modification occasioned by oil exploration and production in the oil-bearing enclave in Nigeria. It is asserted that the intractable problem -of the payment of fair and adequate compensation could be traced to the colonial origin of the oil industry as epitomized by the skewed template of laws that undermine the interest of victims of the negative externalities from the oil industry. In this guise, this study is predicated on analysis of the legal framework for compensation payment in Nigeria. Furthermore the actual payment of compensation practice by oil firms is evaluated in the light of the reality on ground in Nigeria. It is found that while there is a semblance of attempt to pay rates higher than those of the Federal government in Nigeria by the oil firms, it is observed that even at that, the rates paid by the oil industry do not reflect market price and they also fall short of international standard. In our conclusion, we emphasized the need for the oil firms to address the inadequate compensation regime being perpetuated in order to redress the incessant community agitation and youth restiveness in the oil-bearing belt of Nigeria

Introduction

The payment of compensation is one of the intractable problems facing the oil industry in Nigeria. The internecine crisis between the oil firms, the host communities and the federal government could be traceable to the issue of neglect which is synonymous with the low compensation paid to the victims of negative externalities from the oil industry.

These externalities are in form of oil pollution, gas flaring and other forms of environmental modification. Bearing in mind that it is difficult to engage in oil business without one form of environmental pollution, the framers of the 1969 Petroleum Act insisted that in an event of untoward modification of the environment, fair and adequate compensation should be paid to the victims. It is therefore a statutory obligation for oil firms to engage in best oil field practice to avoid polluting the environment. However, evidence on ground would seem to suggest that the issue of compensation is a thorny one.

Opinions are divided on the adequacy or otherwise of the compensation paid by the oil firms to the victims of oil spillage. On the one hand, oil firms claim that they are paying adequate compensation. Indeed, it is asserted that they pay rates higher than the official ones. On the other hand host communities insist that the rates paid by oil firms are not just enough and that the oil firms violate existing regulations in the payment of compensation. Seen against this background, this paper examines the issue of compensation in the oil industry. It is opined that the controversy surrounding the payment of compensation dates back to the colonial period. Consequently, our discussion is predicated on this colonial antecedence. The legal framework for compensation-is given some attention against the backdrop of compensation practice by oil firms. The conclusion drawn from this study is that the attitude of oil firms to the issue of compensation must be understood from the neocolonial nature of the oil industry. Besides, it would appear that legislative bottleneck and the paternalistic attitude of the judiciary are some of the observable limitations to the actualization of fair and adequate compensation in the oil industry.

The Payment of Compensation: Colonial Antecedence

An appropriate understanding of the issue of compensation must commence from the perspective of the colonial origin of the oil industry. Thus, a linkage must be drawn from the past and its influence on the present state of affairs in the oil industry. The point to emphasize is that the British colonial masters created a template of law, which made it possible for foreign firms to operate, as they deemed fit. Consequently they enjoyed massive fiscal incentives while exploiting oil concessions. Nigeria (www.lilt.list.edu/critique/fall2002/docs/jagbonifo.pdf). The people of the Niger Delta who as it were, are stakeholders in the oil industry were never compensated for oil found in their soil.

It is within this context of first, uncontrolled exploitative activities and skewed colonial State laws to protect British domination of Nigerian economy and perpetuation of the patron-client relationship that the present day lukewarm attitude of oil firms must be located. Agbonifo has shown that enamored by its imperial privileges, the Transnational National Corporations (TNCs) resorted to wanton exploitation of the people and environment, destroyed forests, farmland and constructing overland crude oil pipelines without any regard for the well being and safety of local peoples. In this process the local people's right to safety of life and property were undermined (www.lit.listedu/critique/fall2002/docs/jagbonifo.pdf). This approach by the TNCS backed by the colonial state is not surprising. As it were, colonialism was, first and foremost, interested in extracting the surplus generated in Nigeria for the benefit of the metropolitan economy (Akin, 2002:53-56).

Indeed, although oil prospecting commenced in Nigeria as early as 1937 legal framework for oil operation in the period immediately following independence was predicated on ownership by the federal government of mineral resource located anywhere in the federation. Specifically the Mineral Act of 1969, enacted to amend and consolidate all the existing legislation relating to mines and minerals vested ownership of mineral resources including petroleum on the federal government¹. This Act was a timid copying of the vesting of natural resources in the Crown. The point here is that because Nigeria was a conquered territory, the people of Nigeria were not entitled to any form of compensation from the exploitation of their resources by the colonial masters.

Ordinarily, one expects that after independence, there should have been a semblance of freedom for the owners of the resources. Rather, in post colonial Nigeria, the elite failed to grasp the essence of colonialism as an apparatus of exploitation and alienation. They accepted hook, line and sinker the erstwhile dominant colonial theory and form of property ownership. The point may be raised as to why it took the people of the Niger Delta so late to realize that they have been paid little or no compensation for their oil wealth. It must be conjectured here that at the initial period of the oil industry, they were highly enthused as to the prospect of the transformation of their region. Their hope was robust, as this was ignited with promises of gainful employment, provision of basic amenities, better quality of life and assurance of building of cottage industries that would employ their sons and daughters (Aghalino, 2004:56). This optimism possibly made the people to pay little attention to the issue of compensation.

It is arguable that without a prospect of the transformation of their region, the people of the Niger Delta would have confronted the oil industry head long from the on-set having earlier on been victims of the greed of the colonial state. On the whole, it was not until the early part of the 1960s that some bite was given to the issue of fair and adequate compensation from the oil industry. A potent manifestation of the evolving wave of discontentment was the Isaac Adaka Boro revolt (Maier, 2002:124). Appalled by the insensitivity of the oil firms, Adaka Boro and his cohorts revolted against the state and the oil firms. It must be reiterated that if the legal framework put in place to redress the issue of compensation were adequately adhered to by the oil firms, the incessant crises would have whittled down appreciably.

Legal Framework for Compensation

There are extant acts and statutory provisions that enjoin oil firms to pay one form of compensation or the other to victims of oil pollution. These includes: The Petroleum Act, 1969, Oil Pipeline Act, 1958, Petroleum (Drilling & Production) Regulations, 1969, Public Lands Acquisition Miscellaneous Provision Decree (1977) and later Land Use Act, 1978. In all, there are three strands under which victims of oil pollution may seek payment of compensation from the oil industry. These are the statutes, the common law and rules of international law (Ekpu, 1996:258). Each of these sources obligates operators in the petroleum industry to provide compensation in appropriate cases for damages resulting from oil pollution. In point of fact, section II (5) of the Oil pipeline Act reads as follows:

The holder of a license shall pay compensation to any person suffering damage other than on account of his own default or on account of the malicious act of a third person as a consequence of any breakage of or a leakage from the pipeline or any ancillary installation for any such damage not otherwise made good.

Paragraph 36 of schedule 1 of the petroleum Act, 1969, provides in general terms the obligation of license holders. It states that:

The holder of an oil exploration license, oil prospecting license or oil mining lease shall, in addition to any liability for compensation to which he may be subjected under any other provision of this Act, be liable to pay fair and adequate compensation for who owns or is in rightful occupation of the
Licensed or leased land

(cited by Etikerense, 1990:288).

The other important provision in this Act is contained in Regulation 23 of Petroleum Drilling & Production Regulation). It states that: If the licensee or leasee exercises the right conferred by his license or lease in such manner as unreasonably to interfere with the exercise of any rights, he shall pay adequate compensation therefore to any person injured by the exercise of these just mentioned rights. Certain part of this Act needs amplification. For example, one note that the words "shall ensure" is rather whimsical and bogus to command compliance. First what is fair? Is what is fair to the oil firms, fair to the victims of oil pollution? And what is the machinery for ensuring that a fair and adequate compensation is paid! Second, is what to be paid determined by the oil firms or by government or by both? Are the victims not supposed to be involved in determining what is fair and adequate? The inability to integrate major stakeholders in determining what to be paid as compensation has always been a sore point in the tripartite relationships in the oil industry (Aghalino,1999:102).

It must be noted that even when oil companies consent to pay compensation there is always the procedural problem. Issues are raised as to the extent of the areas polluted, categories of damage to be compensated and at what rate. There is also the problem of whom to pay. In most cases, the oil companies prefer paying directly to the victims of oil spillage. This option is understandable because it would appear it costs less to pay directly as they lacked the finesse to bargain economically. Nevertheless, in reality, pittance get to the victim, as substantial part of the money must have been hijacked by community elite (Aghalino, 2000:11-20).

In the case of the Regulations 23 of the Petroleum (Drilling and Production Regulation) it is obvious that victims of oil pollution may not get compensation unless it is established that the operator exercises its rights "unreasonably". Being a highly technical industry, it may be difficult to prove cases like this beyond reasonable doubt by the poor, "illiterate" and obligate fishermen. In other words, in most cases, compensations are not just paid by oil firms even when there is overwhelming evidence. They reluctantly pay after protracted negotiations and expensive law suits.

It should be expected that during this agonizing process of litigation, oil firms deploy intimidating number of lawyers and experts to ease their case. An example should suffice here. In *Ogiale and others versus Shell*, the plaintiff sued the defenders at the High Court Oleh, Delta State for well over \$23,000. This amount was for the general damages allegedly done to the plaintiff's farmland at Olomoro area of Isokoland (Delta State Law Report, 1996:64-110). The plaintiff called six witnesses, two of which were experts. The plaintiff also tendered expert report of estate valuers as exhibit. The defendant denied any damage to the land of the plaintiff calling one expert witness who tendered his report, which was admitted as exhibit. The trial judge dismissed the plaintiff's claims on the ground that the conclusion reached was not supported by rigorous scientific analysis that involved, chemical analysis and soil test.

There is also the problem of delays in giving judgement due in part, to court congestion and what the people claim to be unnecessary adjournment solicited for by lawyers to the oil firms to wear out litigants. While this claim is difficult to substantiate, there is strong evidence to suggest that there is semblance of delay tactics to frustrate oil pollution victims. For example, on a damage caused in 1979, there was consequent writ of summon in 1984. This case was heard for the first time in 1987. Subsequently the case was appealed in 1989 and heard in the Supreme Court in 1994 (Nigeria's Weekly Law Report, 1994:689). Thus in this instance, this case dragged on for a period of sixteen years with its attendant waste of time and money. How else does one equate this protracted procedure in the court especially when it is viewed against the backdrop of justice delayed is justice denied? Understandably, it is reasonable to suggest that the legal bottleneck, encountered by the people must be a contributory factor to the spate of sabotage of oil installations in the Niger Delta (Human Rights Watch, 1999: 58).

The Land Use Act needs some commentary. As it were, for oil production to take place, land is acquired for the construction and installation of oil facilities. In Nigeria, the principal law governing land ownership is the 1978 Land Use Act. The Act provides that:

all land composed in the territory of each state in the Federation are (sic) hereby vested in the Governor of that State and such land shall be held in trust and administered for the

use and common benefit of all Nigerians'. (see Section 1, Decree No.6 of 1978, Cap 202, Laws of the Federation of Nigeria).

In spite of this general proclamation, if land is required for mining purpose, the Land Use Act provides that the occupier is entitled to compensation as is also applicable in the Petroleum Act.

In contrast to the Land Use Act, the Petroleum Act, however, makes no provision for compensation to be paid for land acquired. Section 1 of the Act vests the entire ownership and control of all petroleum in, under or upon any land within the country or beneath its waters in the state. By extension therefore, because oil is a federal property, land occupiers are entitled to no royalty for oil extracted from their land (Human Right Watch 1999:75-77). In view of this, the Federal Government collects mining rents, and petroleum profit tax, conceding a meagerly 13 per cent derivation fund to the oil bearing states. This is in sharp contrast to what is obtainable in the Ghanaian Diamond Industry where landowners were paid royalties, which were in proportion to the net profit accruing from mining concessions (Greenhalgh, 1988:86-113).

Victims of oil spillage and environmental damage can also lean on the Common Law to seek for compensation. In this instance, they rely on negligence and the rule in Ryland and Fletcher (Uzodike 1987:66). The rule in Ryland and Fletcher is a fall out of an English law case of 1866, which held that anyone bringing onto land, in the course of a non-natural use of land something likely to do mischief if it escape... is prima facie answerable for all the damage which is the natural consequence of its escape (Ekpu, 990:23-284). How successful victims of oil pollution have exploited this alternative is still a matter of conjecture. What to emphasize is that in the case of negligence, the claimant must convince the court that: (1) the operator owed him a duty of care, (2) the breach of the duty, (3) a causal link between the breach and the injury suffered (Ibid). There is no doubt that these are serious legal bottlenecks. More often than not, the people of the Niger have failed to scale through these barricades to obtain fair and adequate compensation for damage done to their environment.

There are rules of international law, which could be exploited by victims of oil spillage. These rules impinge on the subject of oil pollution and compensation. Ekpu has shown that Nigeria is a party to the 1969 International Convention on Civil Liability for oil pollution damage. Nigeria is also a signatory to the 1971 convention on the establishment of an International Fund for Compensation for Oil Pollution (Fekumo, 1990:231). The purpose of this is to provide uniform International rules. This as it were, would enhance the procedure for determining questions of liability and providing adequate compensation for person who suffers damage caused by discharge of oil from ships. These conventions have little bearings on local issues mostly when it is noted that there is absence of local equivalent legislation to make the provisions of the convention enforceable locally.

It is difficult to discuss the issue of compensation in the oil industry without a cursory reference to the issue of sabotage. The Petroleum Production and Distribution (Anti-Sabotage) Act of 1975 defined an offense of "sabotage" thus: any person who does any of the following things, that is to say:

- (a) willfully does anything with intent to obstruct or prevent the production or distribution of petroleum product in any part of Nigeria or;
- (b) willfully does anything with intent to obstruct or prevent the procurement of petroleum products for distribution in any part of Nigeria.

There are very strong indications that the oil firms use claims of sabotage to avoid compensation payment to the local communities (Frynas, 1998:457-478). This point was succinctly expressed by the Niger Delta Environmental Survey when it opined that many operators have hidden under the cloak of sabotage to avoid payment of compensation in cases of oil and discharges (Akpezi, 1996:62). The oil industry catch on sabotage because in accordance with Nigerian laws, they do not pay compensation on the ground that it may create incentive to damage oil installations and harm the environment (Human Rights Watch, 1999:83). Nevertheless, oil firms are under obligation to clean the environment. Thus in each case, the oil firms can as well claim that spillages are caused by sabotage in order to avoid payment of compensation. Indeed so much mileage has been made about sabotage because there seem to be an economic incentive to it.

Since oil companies are in themselves responsible for the provision of spill data to the Department of Petroleum Resources, there is little to prevent them from reporting incidents such as equipment failure as sabotage. This position seems more apposite when it is viewed against current events in the oil industry in Nigeria. For example, Shell has been accused of inflating her oil reserve base in Nigeria- a situation which culminated in the sacking of top management staff in the company (Economic Update. Volume 1, No.5,

May 2004:9). In any case there are a lot of sharp practices in the oil industry and it would appear that the issue of sabotage is a veritable framework for milking the people out of their genuine demand for compensation. This is fulcrum of the criticism of the then Governor of Rivers State, Melford Okilo when he queried that:

Rupture of petroleum pipelines due to deterioration is presented by oil companies as sabotage. What if pollution happen in America, it is not done(sic) by the people, but in Rivers State, local people are blamed (Daily Times 14 July 1981).

Evidence available suggests that the issue of sabotage is controversial, a position which Claude Ake described as 'irresponsible propaganda' (GreenPeace,1994:52). It would appear that the illegal act of sabotage of oil installation shows a conviction among the people of the complexity of seeking redress through negotiation and litigation in the law court (Aghalino, 1999:225). The point to emphasize is that while the government is not in a hurry to implement its own environmental laws in the oil industry, it is contented with religiously implementing laws such as 'the anti-sabotage' law to the detriment of her people. Ordinarily, it is expected that government would avails itself the opportunity of tackling the root cause of the issue of sabotage rather than its symptom.

Payment of Compensation by Oil Firms

The point should be made that the payment of compensation by oil firms is procedural. In an event of oil spill resulting in damage to property, the first approach by the concerned department of the oil firm is to initiate assessment or evaluation of the extent of damage. Land officers, estate officials and surveyors do this assessment. In the process, property destroyed are identified, assessed and recorded. A major principle comes into play in this regard. This has to do with the use of 'before' and 'after' value of the impacted property. This, as it were, must be quantified. With this, the valuers will deduct the value of the property before the incident (Uduehi, 1986:51).

It is observed that this method is full of ambiguities. For example, the owner of the impacted or impaired property is never consulted in the so-called scientific evaluation to ascertain how much he had invested on the farm, pond or land as the case may be. Agents of the oil companies assess damages within their whims and caprices paying little attention to market and farm gate prices of the impacted properties. To be sure, in most cases this so-called assessment is done in collaboration with local elite who capitalizes on the ignorance of victims to fleece their own people in return for a part of compensation money. More than anything else, most victims do not have extant documentation to fall back on to guide them in preparing their claims.

It could be seen that victims are helpless in the process of pursuing claims. They are caught between disinterested state officials, greedy company agents and local elite who are shylocks. From this permutation claimants are between the devil and the deep blue sea. Faced with Hobson's choice, they make do with the pittance that trickles down to them in the final analysis. In any case, there is ample evidence to show that up to the 1980s, the value of money paid for land acquisition for the construction of facilities for oil operation had been generally low. For example, Orubu,(2001:107) has shown, that ELF paid twenty eight thousand, four hundred naira, for 1.4 hectares of land acquired at Obodogwu 4 Location in Ndokwa East Local Government Area of Delta State.

Shell on its own seems to have paid comparatively smaller amount. It paid seventy-seven thousand and twenty six as compensation for 23 hectares of land for Okpokuwu 1 Location for all economic crops huts, shrines, animals and loss of fishing rights. As stated earlier, due to the colonial origin of the oil industry with its attendant template of laws that undermined the interest of the local people, the oil firms failed to see payment of adequate compensation as part of their corporate social responsibility (Aghalino, 2004: 16).

The point to note however, is that rates for compensation have been evolving. For example in 1976, the baseline rate for Cocoa was three naira and forty three kobo, while the revised rate for 1993 and 1997 were fifty naira and one thousand naira respectively (Oremade, 1986:67). The wave of anti- oil protests in the Niger Delta spearheaded by the Movement for the Survival of Ogoni People (MOSOP) must have added impetus to agitation for compensation. The series of protest in the region must have also influenced the oil firms to revise their rates paid for compensation. It is arguable if the revision is as a result of the pro-active administrative style of the oil firms. There is strong evidence to suggest that these are responses to the truculence and restiveness of youths in the region.

Anyhow, in fairness to oil firms, they pay higher rates than the officially established rates. For example, in 1997 the Oil Producers Trade Section of the Lagos Chambers of Commerce (OPTS) recommended five thousand, eight hundred and sixty naira per hectare of land while the 1995 official rate was one thousand three hundred and seventy five naira (Frynas1998: 460). It is evident that there is deliberate attempt by the state to impoverish her people. This is understandable because the people of Niger Delta are minorities in the power calculus in Nigeria. In most cases their opinion is never sought when decisions that affect their lives are made. Interestingly, the oil firms are aware of the rent-seeking nature of the Nigerian State hence they pride themselves as doing more than what is corporately required. But the bogus claim of the oil firms as to paying adequate compensation is easily exploded in the face of reality. In point of fact, the World Bank has shown that, based on annual rent of five thousand naira the Bank concluded that amount of compensation for land should at least be fifty thousand naira per hectare (World Bank, 1995). In comparison to other countries in terms of compensation payment, the Nigerian situation is appalling. In Tanzania, compensation for one hectare of mangrove ecosystem in 1991 ranged from \$300-600, while in Trinidad and Tobago in 1974, it was \$500 (Orubu 2001:107).

Akpezi, (1996:45) has shown that there are various irregularities in the payment of compensation. This includes paltry sum forced down the throat of hapless victims who do not have the wherewithal to engage in litigation to challenge their oppression. Furthermore, many victims go without any form of compensation. Available evidence shows that for a five-year period, one oil company received 1,081 claims for compensation. It settled only 124 while 24 claims went to court (Omobolaji, 1985:45). More than anything else, the attitude of Nigerian judges to issue of compensation leaves much to be desired. This contrasts sharply, with the disposition of American Courts towards awarding punitive damage (Ekpu: 1990:258). For example, in the case of Exxon Valdez spill; the trial court awarded \$5 billion as punitive damage in favour of the plaintiff. Apart from the attitude of judges in Nigeria, claimants of compensation also face a number of obstacles. These, according to Orubu and Odiase are (1) lack of adoption of a holistic approach in the valuation of resources for compensation by oil companies and (2) obnoxious role of compensation agents and consultants. Other obstacles are in form of unprotective legal system, untimely intervention of oil companies and corrupt oil industry officials who connive with local 'princes' to undermine the interest of victims of oil pollution.

In its entire ramification, the increase in the tempo of crisis in the oil producing communities would suggest that the hype by the government and the oil industry of paying adequate compensation is a ruse. The crisis in the region is predicated on the volume, value and quantum of revenue that is generated from the area in contrast to what they get in return as compensation from the havoc wrecked on their environment. This ill feeling has resulted in most cases in bloody encounter with the state and the oil firms.

The question may be raised as to why the oil-bearing communities would not tailor their grievances to the government who is the largest recipient of oil revenue. The point is, the oil firms are more in direct and physical contact with the communities and their expropriated inhabitants. The deprived peasants can easily reach out to the oil companies than to the distant, obscure and often inaccessible Nigerian government (Scot, 1999:14). This situation is akin to what Eteng, (1997::21) referred to as 'internal colonialism'. The highly exploitative pattern of compensation payment in the region must be a contributory factor to the clamour for resource ownership, control and management by the inhabitants of the oil-bearing enclave of the Niger Delta.

Conclusion

The issue of payment of compensation to victims of oil pollution and other forms of environmental modification is a subject of heated debate. It has taken the dimension it is today possibly because of the colonial origin of the oil industry and the predatory attitude of leaders in post colonial Nigeria. This probably explains why the history of the oil industry is the history of imperialism.

To be sure, because of the nature of colonialism as it was geared toward expropriation of surpluses from colonies to the metropolis, template of laws was put in place to check local aggression to the extraction of mineral resources. Thus, in Nigeria all mineral resources were vested in the Crown. The Colonial State dispensed with Nigerian oil wealth, as it deemed fit without paying compensation to the owners of the oil. Recipient of power in post colonial Nigeria failed to filter the laws they inherited to be in tune with the reality of independence. Rather they accepted and complicated colonial mode of property

rights as the watchword. Thus oil mineral was retained in Nigerian Statute as federal property. This was done just like the colonial period without seeking the opinions of the people in the oil - producing areas.

Possibly because the people in the region saw the only positive sides of having oil in their region and the dozen barrel of promises made to them, they failed to take the issue of compensation seriously early enough. But with the clear manifestation of the negative externalities from the industry, they began to agitate for fair compensation. There are basic legal regimes for the payment of compensation in Nigeria. But a careful reading and analysis of these legal frameworks has shown that they are faced with a number of problems. In spite of this, the oil firms have attempted to pay some compensation to victims of oil pollution. In comparative terms, the rates paid by the oil firms are higher than those set out by the government, yet they do not meet international standard, as they do not reflect current market value. In any case before payments are made there is always the agonizing process of negotiation and litigation. Thus legislative bottleneck and the lack of transparency in the payment of compensation as well as the paternalistic attitude of the judiciary are impediments to the actualization of fair and adequate compensation in the oil industry.

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Management of Global Warming through Rig-Veda and Justification through the Indian Constitution

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Abstract

The present paper entitled "Management of Global Warming through Rig-Veda and Justification through Indian Constitution" is an attempt to control and manage the problem of global warming through Rig-Vedic model of cosmic management. This model is justified in the light of Indian constitution. The problem of global warming is prevalent today. Regarding global warming, 'Stockholm Conference'¹ 'Kyoto Protocol'² and 'COP-15 & 16'³ are widely recognized to eliminate and decrease the problem of global warming but these have not been successful. Many attempts have been made by the knowledgeable persons of this field to control and manage the global warming but these attempts are not enough to control the problem of global warming. The problem is rising day by day.⁴ Global warming is basically caused by three factors viz. greenhouse gases, pollution and deforestation.⁵ Greenhouse gases are the main source for global warming after deforestation and pollution. There is a need to control the global warming so that a person can live happily, merrily and prosperously without stress. This paper presents a model for controlling & managing this problem through Rig-Veda. Rig-Veda is the oldest book of knowledge in India. It contains the knowledge which is eternal & universal. According to F. Max Muller 'Rig-Veda have so many remedies for the problems of philosophy, science, art religion, cosmology, ethics and poetry.'⁶ It is also considered as a holy book in Hinduism. By the Hinduism it is regarded as a book of divinity. It is regarded as revealed by the Brahma. According to some scholars, it is said to be merely a book of poetry. Rig-Veda contains ten-mandates to controlling global warming.

Introduction of Global Warming

Global warming refers to 'climate change that causes an increase in the average temperature of the lower atmosphere.'⁷ Global warming can have many different causes, but it is most commonly associated with human interference, specifically the release of excessive amounts of greenhouse gases, pollution and deforestation. It is used to describe 'a gradual increase in the average temperature of the earth's atmosphere and its oceans, a change that is believed to be permanently changing the Earth's climate forever.'⁸ According to Encyclopedia of American History 'gases created through human, industrial and agricultural practice primarily carbon dioxide from burning fossil fuels and wood, as well as methane, nitrous oxide and chlorofluorocarbons increase the heat-reflecting potential at the atmosphere, thereby raising the planet's average temperature.'⁹ 'Global warming is the observed increase in the world's temperature of the Earth's atmosphere'¹⁰ Greenhouse gases and greenhouse effect was discovered by Joseph Fourier in 1824 and was first investigated quantitatively by Svante Arrhenius in (1896). It is a process by which absorption and emission of infrared radiation by atmospheric gases warm a planet's lower atmosphere and surface.¹¹

Causes of Global warming

Causes of global warming are greenhouse gases, deforestation and pollution. These are the major factors of global warming. The problem of global warming began with the Industrial Revolution in the 1850's and accelerated after that, the human consumption of fossil fuels has elevated CO₂ levels from a concentration of ~280 PPM to more than 380 PPM today. These increases are projected to reach more than 560 PPM before the end of the 21st century. It is known that carbon-dioxide levels are substantially higher now than at any time in the last 750,000 years.¹² Along with rising methane levels, these changes are anticipated to cause an increase of 1.4 - 5.6°C between 1990 and 2100.

The major causes of global warming are the emission of greenhouse gases like carbon-dioxide, methane, nitrous oxide into the atmosphere. The major source of carbon dioxide is the power plants. These power plants emit

large amounts of carbon dioxide produced from burning of fossil fuels for the purpose at electricity generation. About twenty per cent of carbon dioxide emitted in the atmosphere comes from burning of gasoline in the engines of the vehicles.¹³ This is true for most of the developed countries. Buildings, both commercial and residential represent a larger source of global warming pollution than cars and trucks.

Building of industrial structures requires a lot of fuel to be burnt which emits a large amount of carbon-dioxide in the atmosphere. Methane is more than 20 times as effected as CO₂ at entrapping heat in the atmosphere. Methane is obtained from resources such as rice paddies, bovine, flatulence, bacteria in bogs and fossil fuel manufacture. When fields are flooded, an aerobic situation build up and the organic matter in the soil delays, releasing methane to the atmosphere. The main source of nitrous oxide include nylon and nitric acid production, cars with catalytic converters, the use of fertilizers in agriculture and the burning of organic matter. Another cause of global warming is deforestation that is caused by cutting and burning of forests for the purpose of residence and industrialization.

Rig-Vedic Model

Rig-Veda is one of the oldest Veda written about 1500-1000 B.C. It is also known as Rig-Veda Samhita. Vedas means Knowledge.¹⁴ Etymologically, originated from the two Sanskrit terms 'Ric' means praise and 'Vid' corresponding to the English words 'wit' and 'wisdom.'¹⁵ According to Prof. H. Zimmer 'the vedic hymns are the oldest extant literary and religious monument of the so called Indo-European family of languages.'¹⁶ 'The Vedas give us abundant information, respecting all that is more interesting in the contemplation of antiquity.'¹⁷ 'Vedic hymns not only present us with a universal standard of morality represented by Rta they also lay down certain duties as the concrete manifestation of Rta.'¹⁸

In the Rig-Veda Rta means Dharma both the terms are used in the same sense. 'Ritam represents the basic truth, harmony, system or eternal moral order of the entire universe. That which is universally true is ritam and that which is the opposite or false is termed Anritam.'¹⁹ Rta means the course of things. It shows an order in objects of universe. The Principle underlying the cosmos is termed as Rta by the Vedic seers. Rta is antecedent to all the objects of the universe and the external universe is its manifestation. Rta is unchangeable and eternal. Rta denoted the fixed course of the universe. Heaven and Hell owe their present existence to it.²⁰ In this way, Rig-Veda presents the concept of Rta which is a representation of cosmic management in the universe.

In the further part of Rig-Veda connotation of Rta becomes more comprehensive and it was taken to signify the ethical course of Gods and Persons. The world follows the course of Rta.²¹ The whole universe depends on Rta and moves with it.²² The concept of Rta propounds the existence of an intelligent basic principle that regulated the cosmos as well as the life of Individuals. As E.W. Hopkins says about Rta that 'it is the order instituted by the wise spirit as regulator of world.'²³

Further Rta as a natural law gradually developed into a moral principle. It is the summum bonum of the individual and society. Without Rta there is no goodness in human life but in the universe. In this way, universe is teleological. Vedic Gods⁺ also follow the Rta, an eternal law. In reference of Gods it is metaphysical and in case of persons⁺⁺ it is moral. Through the moral order person follow the path of Gods.

Rig-Veda believes in the existence of Karma⁺, Samsara⁺⁺ and Dharma⁺⁺⁺. Rig-Vedic concept of Rta presents the concept of cosmic management. Cosmic management means "everything is managed through cosmic laws and order."²⁴ Sometimes it is said that when everything is managed by the cosmic law then what are the rights and duties of a person. It means one should follow only the path which is prescribed to him by his own capacities and capabilities. It means every person is free to do whatever he like or not. It is a form which forms the part of morality. It presupposes the personality, conscience (rationality) and freedom to will.

Cosmic management is referred as Rta in the Rig-Veda. Rta denotes the moral law towards the well-being of each person. When one acts accordingly to cosmic management then there will not be a problem. A problem is a problem only and only when because it has a solution. A problem which has no solution is a riddle or mystery. To control the behaviour of a person some prescribed code of conduct is referred to each person. As Purusha-Sukta* maintains that the "Brahmin originated from the mouth, Kshatriya originated from arms and Vaishya from

thighsand Shudra from the Legs.”²⁵ This notion is misinterpreted by the most of the scholars as B.R. Ambedkar** maintains that this part of Rig-Veda is added to Rig-Veda in 4th or 5th century A.D. This view is not right. In the Purusha-Sukta Brahmins represents the knowledge, Kshatriya represents the courage and bravery, Vaishya denotes the ability to deal and Shudra denote the servicing. These are only the symbolic representation of Brahmin, Kshatriya, Vaishya and Shudra. This classification present the choice for each person to live accordingly and fulfill the duties associated with these varna.

Later, this view was fully elaborated by Rama Krishna Paramhans ***. He says “I am a Brahmin, Kshatriya, Vaishya as well as Shudra too.”²⁶ This view is also supported by M. K. Gandhi. ⁵ This reference is made only to denote that every person has some distinct qualities and capabilities. These capabilities can be improved through training and development of a person. This notion also characterizes the four-fold classification regarding their quality. The Varna-Vyavasthaahas never been on birth but on the desire to do something which one likes. It is based on action.

Every person is a participant in this framework of cosmic management. It leads to the ultimate and highest good (Purusartha). # In Indian tradition, there are so many ultimate goals have been mentioned by the different schools of thought. According to Vatasayana,⁵⁵ Kama~~~ and Artha~~ are the main goals for which every person should pursue.²⁷ According to Hinduism (Sanatana belief), Dharma~, Artha, Kama & Moksha~~~~ are the goals for a person.²⁸ According to Chaitanya⁵⁵⁵, who propounded the school of Vaishnavism, Love is the ultimate goal after attainment of these four goals.²⁹ Chaitanya literally means consciousness in English. Love is the fifth goal for a person.

When a person acts according to these attainable goals then a person at micro level and society at the macro level will enjoy the serenity of body as well as of mind. These goals are a combination of truth, right and beauty.³⁰ Each person should act in a way in which he himself as well as others may get the human-ideals. It doesn't mean that a person should exploit the nature and environment. When a person participates against cosmic management it leads to stress, pain and so many life-threatening diseases. So, it is the duty of each person to act rightly in regards of cosmic management. One should follow the moral codes of cosmic management. When this moral code is pursued by a person then he becomes knowledgeable as well as wise. Knowledge leads to intelligence. Intelligence is of four type viz. rational intelligence, moral intelligence, emotional intelligence, spiritual intelligence. When one's actions are directed to ultimate good then one can actively participate in the cosmic management. It is a moral pressure that leads to do the right actions in the light of the highest good. A good may contain so many right actions according to the capacity, capability and aptitude of a person. The right which does not fall under the category of good, that right is wrongly right. Here it can be concluded from the above discussion that an action should be directed towards the highest goal which is love. According to Narada#, love has five characteristics. These are, viz. love is devoid of any characteristics, it is free from desire, it increases with time, it is subtle than subtlest and it is based on experience.³¹ experience According to Swami Vivekananda##, love has three characteristics viz. it knows no bargaining, it knows no fear and it knows no rival. ^{31(a)} According to Vaishnavism### love has six characteristics viz. respect, whatever one like give it to the loved one, subject accepts whatever object give, express the secret before the object, ask for the secrets of the loved ones and offering foods to object. ^{31(b)}

Vedic Justifications

To control the global warming, Rig-Veda presents so many insights. First of all, Global warming is caused by the polluted water and air. Regarding this it is said in the Rigveda that Varuna is the deity of water.³² Water is supposed to be a deity namely Varuna. Water is mentioned as a divine entity. Its lord is Varuna.³³ It is mentioned in the Mahabharata that thirty-three Crore deities resides in the water. It is said in the Rigveda that ‘Earth is the mother and I am her son.’ The deity of air is Maruta. In Gita, Nature is termed as ‘Aasthaa-Koni.’³⁴ In the VarahaPurana it is mentioned “preserving the trees is a pious work.”³⁵ The environment is metaphorically compared to deities to control the behaviour of Individuals towards the preservation of water, tree and greenery. These examples mention that when one treat the environment in this way then the problem of global warming can be controlled. In, sum total it can be said that nature and environment is worshipped by the person. Nature is regarded as mother and no one

exploit the mother. Trees are described as the manifestation of Supreme Power. So, one should not cut the trees and should not impure the air and water because they are the gods and leads to the fulfillment of desires of person.

Justification through Indian Constitution

Global warming is a problem that is raised in the last century. It is believed that it is caused by the gases, pollution and deforestation as well as the other reasons also mentioned by the different scholars and the knowledgeable persons of this field. It affects human as well as humanity at the micro and the macro level, respectively. Recently, Tsunami at Japan may be referred as an effect of Global Warming. So, it is duty of every human being to save the world. It is the duty of each person to protect the environment and to control the pollution as well to reproduce the natural resources.³⁶ Indian constitution also attempts to proceed with the concept of Rta (Dharma). It took some notions from the Rig-Veda to the constitution. It provides significant importance to the morality into legal codes. Major cause of global warming is greenhouse gases. Regarding this Indian constitution under article 21(a) maintains that “a company should be banned if it deals with harmful gases.”³⁷ It is the duty of every person in most of the constitutions to use the filters in their companies so that the greenhouse gases may be firstly filtered and then come into the contact of environment. It will eliminate the global warming. Second cause of global warming is deforestation. Regarding deforestation article 48(a) and 51(a) clause seven maintain that each person will preserve the nature and environment.³⁸ As well as one will help in increasing the plants in the community as well as will endeavor to improve the conditions of plants. There are three types of pollution, noise pollution, air pollution, water pollution. These pollutions are generally made by the individuals. Third cause of global warming is pollution. Regarding pollution control Indian Constitution maintains that clean water and fresh air will be provided to every person. It is mentioned in article 21 which is of right to live. One may writ public interest litigation under article 32.³⁹ This notion maintains that one will get the fresh air and water.

Conclusions

The problem of global warming can be eliminated or decreased through the Rig-Vedic model. This model treats the air and water as a Deity which fulfills the human desires and provide him good health and wealth. It doesn't mean that one person should exploit or harm them. These are my personal opinion as well as sanctioned by the different scholars in the world, when these are practiced by a layperson then the problem of global warming will not be a problem. Further. It can be said that Morality is easy to follow because it is based on individual's free will on the other hand Law enforce the behavior of a person. These are very helpful guideline to control the behavior of human-being. Industries and companies are governed by the human-beings. If they follow the above mentioned suggestions, then our forthcoming generations will respect their fathers and will live happily (Aananda).[#] Otherwise, there will not be any human-being to live on this beautiful earth due to global warming. By the way, the world will have the children without full biological parts in their body. As we follow the Vedic Management in our daily life, the problem of global warming will not be a problem on which we have to worry. This is an idealistic model to control the global warming through the cosmic management. Here it must be noted that ideals are for the attainment. When humans have those ideals which are far from the achievement, then they are not the ideal. They are merely the imagination and phantasy. I believe, when we think about water, air, earth, nature in this way then the earth will be a better place to live happily and merrily without stress. (in the state of Aananda And Shiva)^{##}

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Note: Contact author for the complete list of references

End Notes

- ¹+Vedic Gods means Deities mentioned in the Rig-Veda Like Indra, Agni, etc. for further details refer to the Hindu Mythology: Vedic and Puranic’ Wilkins, W. J. Rupa and Cmpny, Delhi. 2006
- ²++ For the further details regarding who is a person refer to the “Joseph Fletcher “Indication of Humanhoof : A Tentative Profile of Man” Bioethics Edited by Thomas A. Shannon. NewyorkPaulist Press 1970 PP. 320-324
- ³+Karma literally means action. It is believed that everyone is responsible for his actions.
- ⁴++Samsara literally means the external or physical world.
- ⁵+++Dharma literally means Sanatana Dharma which is eternal. It refers to the Hinduistic belief
- ⁶* Purusha-Sukta is the hymn 10:90 of Rig-Ved. It is dedicated to purusha the cosmic being. One version contains 16 verses, while other version contains 24 verses.
- ⁷** B.R. Ambedkar is the first law minister of independent India.
- ⁸***Rama Krishna Paramhans is a saint, philosopher as well as an enlightened person. He is Guru of Swami Vivekananda
- ⁹\$ Mohandas Karamchand Gandhi is the father of India.
- ¹⁰\$\$ Vatsayana is the name of a Hindu Philosopher in the Vedic tradition. It is believed he lived in 4th to 6th century.
- ¹¹He is credited for writing the ‘Kama-Stram’ a book on art & science of love making.
- ¹²\$\$\$ Chaitanya is a Hindu saint and social reformer in the 16th century. He is believed by the GaudiyaVaishnavism the full incarnation of Lord Krishna.
- ¹³# Purusartha means which is sought by man. It is the human purpose, aim and goal of a person. The four-fold Purusartha
- ¹⁴~Dharma literally means which upholds the world. Literally it means the duty and responsibility.
- ¹⁵~~Artha, it represents the material prosperity and the purchasing power, owing the relations is also a part of artha.
- ¹⁶~~~Kama means dreams and desires. Literally it means purpose in Hindi. In other meaning it is the sexual demand as well as desire to unite or union.
- ¹⁷~~~~Moksha is the liberation or freedom from the worldly stress, sorrows and pain.
- ¹⁸# Narada is the Divine sage from the Vaisahnava tradition. He propounded the Philosophy of love. Philosophy of Love is termed as ‘Saptam-Darsana’ (Seventh Philosophy)
- ¹⁹## Swami Vivekananda is a enlightened person. He is known for his practical vedantic approach.
- ²⁰### Vaishnavism. It is a thought of school in Hinduism.

²¹# Aananda is the state of highest bliss. It is not the happiness. It is the mental happiness.

²²## Shiva is the state of dance, music and intoxication. In the Saktism (it is a branch of Hinduism) Shiva supposed to be the Supreme Lord. Symbolically, Shiva is being represented in the word 'Om' in the Rig-Vedic tradition. It literally means Love. It is believed that there are four character in the 'Om.' These three characters represents the three types of love. On the character one emphasizes gets that type of love from the lord Shiva.

Green Energy and Sustainability: Reality and Potential

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Abstract

Expansion of Green Energy is central to the achievement of sustainable economic growth and to the maintenance of a healthy and supportive environment. Fossil fuels, the current dominant suppliers of energy, are associated with air pollution, harm to human health as well as climate change and global warming. These effects have the potential to severely reduce the life sustaining capacity of earth. Fossil fuels are finite resources. Therefore, their use in the longer run is unsustainable. Their shortages and resulting high prices (especially of petroleum) have the potential to jeopardize economic prosperity in the developed countries and stagnate the economies of poor countries into perpetual poverty. The development of green energies requires research and development in new technologies. Large capital investments are needed in this new and vital sector. As yet, no nation is dominant in this sector. The nation that brings green energy technology to the market may become a world leader and a dominant power in the 21st century. The analysis shows that the fossil fuels will remain the major sources of energy for a long time. Among the renewables, wind energy will grow in importance. Nuclear energy will remain a component of the clean energy mix.

Key words: fossil fuels, Renewable Energy, Energy Consumption USA, China, India, OECD, Brazil, Japan

Introduction

Inexpensive and accessible fossil fuels created unprecedented economic growth and prosperity and gave rise to the highly developed economies of Western Europe, USA, Canada and Japan. During the last two to three decades, emerging economies, first in China and later in India, with each having more than one billion people, have successfully achieved high economic growth and a rising standard of living. Instant communication and global internet connections have raised aspirations to an improved standard of living. A related big factor in this equation is the world population which reaches seven billion in mid 2011. The global population in just four decades is projected to grow to more than 9 billion people by 2050. Another far-reaching demographic development is the urbanization of the global population. In 2011, more than half of the world population lives in urban centers. The share of urban population will most likely continue to grow. Concurrent with urbanization is the increase in the number of mega cities of more than 10 million. Almost all of this demographic growth will happen in the less developed countries (PRB 2010). These demographic factors suggest that there are at present 7 billion consumers and we will add 2 billion more during the next four decades. More and more energy resources will be required to meet their universal expectations of an improved standard of living and improved functioning of the ever enlarging urban centers and their economies.

Expansion of energy from the fossil fuels – coal, crude oil, natural gas – is problematic (IPEC 2007). Emissions from fossil fuels are the primary cause of global warming which has disruptive effects on the economy, society and ecosystems. Ecosystems provide myriad vital and free services that hugely contribute to human well-being and a high standard of living. (Daly1997. Constanza et al. 1997). Air pollution from the emission of fossil fuels consumption adversely affects human health and a significant portion of the cost of health care. Also, fossil fuels by nature are non-renewable. Overtime, they will become harder to find and costlier to extract. As a result, the price of fossil fuels would rise and stagnate the economies and frustrate human aspirations, especially, in the less developed countries.

From the policy perspective green energies, solar, wind and others, are ideal sustainable alternatives without the shortcomings of the fossil fuels. Will these green energies develop fast enough to emerge as an alternative to the fossil fuels? What is the time frame for this to materialize? What are the types of obstacles green

energy faces? What are the policy tools that encourage growth of green energy? What is the impact of clean energy on the green energy? These and other related questions are the central focus of this paper.

The Context

Mass media provide a measure of the importance of the availability of energy to the economy as well as to the overall well-being of the society. During the last six months, from mid-August 2010 to mid-February 2011, sixty major reports and op-ed pieces appeared in major national newspapers. The New York Times carried 29, Financial Times had 16 and The Wall Street Journal carried 15. Each of these newspapers published a special report on energy coinciding with the 2010 Cancun conference on climate change. The journal Science in the 13 August 2010 issue published a special section on “Scaling up the Alternative Energy”. The issue provides an in-depth status of all renewable energy resources written by experts.. In the United States, the energy policy has become a contentious issue .

The shift from fossil fuels to renewable green sources of energy is described as the equivalent of a great transition of the 21st century. The smooth transition will enable the continuation of the process of global economic growth. At the same time the transition will spare the societies from the adverse effects of global warming and climate change.

The projections about the green energies replacing fossil fuels are polar opposites. Scientific American in its November 2009 issue offered “A Plan for a Sustainable Future-How to Get all Energy from Wind, Water and Solar Power by 2030” (Jacobson and Delucci, 2009). This comprehensive analysis shows a promising path to renewable and environmentally friendly energy transition. The International Energy Agency, a Paris-based organization that advises industrialized countries on energy, reached its assessment that oil, natural gas, and coal will remain the primary fuels till 2035 and beyond. The New York Times in its special section on Energy on November 17, 2010 provided a similar assessment as to the continuous role of fossil fuels especially from new oil and natural gas sources. These new sources, we are told, will provide power for decades at reasonable prices. The Wall Street Journal in its special report on “Energy” on February 22, 2010 had a front page headline “The Long Road to an Alternative Energy Future”. This report discussed in detail the developments in various renewable, such as, wind and solar, as well as clean energy developments in new nuclear reactors, algae biofuels, electric cars and lithium batteries. The conclusion of the report is that it is going to take many years before the new energy technologies contribute a significant amount to the total energy output. The report sites three reasons for this slow development. Lag in the development of new energy technology is the first reason. The second is the lag in the development of new infrastructure that is required to accommodate new sources of energy. The third reason is the absence of a US National Energy Policy. (See also Bryce 2010). Within this broad overall context, the status of green energy is analyzed.

Data and Methodology

The International Energy Agency (IEA) and the US Energy Information Administration (EIA) are respected organizations that collect data on energy and make it available to the public. The International Energy Agency (IEA) is a Paris based organization that advises industrialized countries about all aspects of energy. Their website is www.iea.org. Another source of data is the United States Department of Energy. Within this department, the U.S. Energy Information Administration collects data on all aspects of energy. The report “Annual Energy Outlook “ is an important publication that contains data for the United States. Their website is “www.eia.gov”. The U.S. Energy Information Administration combines its own database with the database of IEA and publishes the “International Energy Outlook”. It is updated every year. This report projects data to 2035. The 2010 report is the primary source of data for this paper. Since January 2010, energy related articles and op-ed pieces from the New York Times, The Wall Street Journal and Financial Times are incorporated into the analysis. The content analysis of newspaper articles is essential to get a nuanced as well as an in-depth understanding of the debate on energy policy.

Analysis

Clear patterns of energy consumption emerge from the analysis. The fossil fuels will remain the dominant supplier of energy. Nuclear will remain a smaller but important sector. Among the renewables, hydropower is overwhelmingly the largest component. Wind energy will grow in importance but will remain a smaller player, Solar and geothermal will remain much smaller than the wind. Increases in energy efficiency, measured in terms of production of the gross domestic product (GDP) per unit of energy, is a worldwide trend.

Globally in 2010, fossil fuels accounted for 84 percent of the energy demand. Nuclear provided 5.3 percent. Renewables, which include hydropower, supplied 10.4 percent. Hydro dominates the renewable energy sector. For example in 2007 hydro accounts for 86.6 percent of the electricity produced by renewables. In comparison, wind produced 4.8 percent, geothermal 1.6 percent, solar 0.29 percent and others (waste, wood, etc) 6.7 percent. By 2035, hydro's share will still be 68%, wind's share among renewables will increase to 17 percent, a substantial growth. Solar and geothermal will be 2 percent each. Others will be 11 percent. Fossil fuels will remain a dominant supplier of energy and will account for 80 percent of total supply of energy for the world in 2035.

A comparison of Table 1 and Table 2 is instructive for the understanding of energy demand. Table 1 shows the amount of energy use by Type in Quadrillion BTU for different years. Table 2 shows the same data converted to percentages. Percentages shows relative share of each type of energy for a year and masks the actual amount. During this period 2010 to 2035, the energy from liquid sources will increase by 29.3 percent, natural gas by 38 percent, coal by 58 percent, nuclear by 77 percent and renewables, including hydropower, by 92 percent. Renewables as a percentage of the total energy consumption were 10.4 percent in 2010 and their share will slightly increase to 13.5 percent in 2035. Excluding hydropower, other renewable green energies (wind, solar, geothermal, wood, waste, etc.) will be minor contributors of energy during the next quarter century.

TABLE 1: WORLD ENERGY USE BY TYPE 2005 TO 2035. (QUADRILLION BTU)

Year	Liquids	Natural Gas	Coal	Nuclear	Renewables	Total
2005	170.4	106.3	122.3	27.5	46.2	472.7
2010	172.9	117.3	130.3	26.6	52.1	499.2
2015	179.3	129.1	139.1	32.2	63.8	543.5
2020	186.1	141.2	152.4	37.4	73.4	590.5
2025	197.2	150.2	167.8	41.1	82.4	638.7
2030	210	155.8	185.7	43.9	91.2	686.5
2035	223.6	162.1	206.3	47.1	99.8	738.7
% Increase 2010-2035	29.3	38.1	58.3	76.7	91.7	48

Source: Report# DOE/EIA-0484(2010). Release date May 25,2010

TABLE 2: PERCENT WORLD ENERGY USE BY TYPE 2005 TO 2035.

Year	Liquids	Natural Gas	Coal	Nuclear	Renewables
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		Gas			
2005	36.1	22.5	25.9	5.8	9.8
2010	34.6	23.5	26.1	5.3	10.4
2015	33.0	23.5	25.6	5.9	11.7
2020	31.5	23.9	25.8	6.3	12.4
2025	30.9	23.5	26.3	6.4	12.9
2030	30.6	22.7	27.8	6.4	13.3
2035	30.3	21.9	27.9	6.4	13.5

Source: Calculated from table 1.

OECD-Europe and Non OECD

These two groups of countries illustrate developed and less developed or developing countries respectively. Energy consumption in these two groups shows current and future energy trends. European countries of the OECD are developed mature economies with stable population and a track record of promoting green energy and taking seriously the threat of global warming. They have ratified the Kyoto Protocol which requires reduction in carbon dioxide emissions – a primary source of global warming. The Non-OECD countries with rising population and urbanization will accommodate the additional two billion people by 2050. The changes in energy consumption of this group will have the most impact.

OECD-Europe energy consumption is on a green trajectory. The renewable energies which were 7.1 percent of the total energy consumption in 2007 will rise to 15% in 2035. Nuclear and natural gas, which are considered clean energies, also show a relative growth during this period. Liquid fuels and coal are declining as a source of energy. In spite of these desirable trends, fossil fuels accounted for 78.5 percent of the total energy in 2007 and this percentage will decline but remain substantially high, 70.2 percent by 2035 (Table 3).

Among the renewables, wind energy has a greater momentum in Europe. Solar is far behind. Nuclear also plays a dominant role as a generator of electricity. Non-OECD countries will consume more of every type of energy (Table 4). The energy consumption will increase at an average annual rate of 2.2 percent between 2007-2035. In comparison, OECD-Europe projects only 0.2 percent average annual increase in the same period. Every type of energy consumption in the Non-OECD group shows a substantial increase from 2007 to 2035. Fossil fuels supplied 87.3 percent of the energy in 2007. By 2035 the fossil fuel will continue to supply an overwhelming 82.3 percent of total energy consumption. Renewables will increase from 8.5 percent in 2007 to 13.4 percent in 2035. This high renewable share is attributed to hydroelectric.

TABLE 3: TOTAL ENERGY CONSUMPTION OECD-EUROPE 2007 TO 2035. (QUADRILLIONS BTU)

Fuel Type	2007	2015	2020	2025	2030	2035	%average
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							Annual Change
Liquids	31.6	29.0	27.7	27.7	28.0	28.3	-0.4
N Gas	14.8	20.8	21.7	22.1	22.2	22.6	0.5
Coal	13.2	11.5	11.2	10.9	10.8	11.0	-0.6
Nuclear	9.1	9.7	10.0	10.5	10.9	11.2	0.8
Renewables	7.1	9.6	10.9	12.2	12.8	13.2	2.2
Total	82.3	82.0	83.0	85.0	86.5	88.2	0.2

Source: International Energy Outlook 2010, Office of Integrated Analysis and Forecasting, US Department of Energy, Washington DC 20585. Web: www.eia.gov/oiaf/index.html.

TABLE 4: TOTAL ENERGY CONSUMPTION OF NON-OECD COUNTRIES 2007-2035 (QUADRILLIONS BTU)

Fuel Type	2007	215	2020	2025	2030	2035	% Average Annual Change
Liquids	76.8	87.3	94.1	103.7	114.4	125.9	1.8
N Gas	56.5	72.6	81.7	87.7	91.2	95.2	1.9
Coal	84.6	94.6	107.6	122.4	139.2	157.9	2.3
Nuclear	4.5	7.5	10.9	13.7	15.4	17.5	4.9
Renewables	21.1	35.6	42.0	48.1	55.0	61.4	2.2
Total	249.5	297.5	336.3	375.5	415.2	458.0	2.2

Source: International Energy Outlook 2010 Office of Integrated Analysis and Forecasting, US Department of Energy, Washington DC 20585. Web: www.eia.gov/oiaf/index.html.

Five Major Economies

Next, the analysis focuses on the consumption pattern of energy of the five major economies of the world. Their energy use will show the progress of green and clean energy or lack of it. This will have far-reaching ramifications on climate change and the development of green and clean energy technologies.

United States

The U.S. has the largest economy in the world. Between 2007-2035, US population of 300 million will grow to 391 million. Its economy in constant dollars 2005 will grow from \$13 trillion to \$25.3 trillion during the same period. Average annual growth rate between 2007-2035 is 0.9 percent for population, 2.4% for economy and 0.4 percent for energy.

Fossil fuels account for 87 percent of the energy consumption in 2007. Its share will slightly decrease to 81 percent by 2035. Renewables between 2007-2035 will grow from 6.1 percent of the total energy consumption to 10.8 percent (Table 5). At present hydro is the dominant component of the renewables. Hydro electric potentials are fully developed. As a result, future growth will be small. Wind, solar and others will be contributors to renewable in the coming years.

The United States Senate did not ratify the Kyoto Treaty of 1997 which required nations to commit to a reduction in emission of greenhouse gases that cause global warming and climate change. The Senate voiced its concern as to the high cost of the shift to green energy which will result in higher energy prices and stifle economic growth and employment. The other reason was that the emerging economies of China, India and other developing countries were exempt from the carbon dioxide reduction mandates. In the meantime, China has emerged as the biggest emitter of carbon dioxide. Coal, which generates nearly half of U.S. electricity, has deep political support in the U.S. Congress. Also some politicians in high positions do not believe that the burning of fossil fuels causes global warming or that climate change has the potential to disrupt societies.

TABLE 5: TOTAL ENERGY CONSUMPTION IN THE UNITED STATES 2007 TO 2035. (QUADRILLIONS BTU)

Fuel Type	2007	2015	2020	2025	2030	2035	%Average Annual Change
Liquids	40.6	38.8	39.4	40.0	41.1	42.0	0.1
N Gas	23.7	22.4	23.3	24.2	25.0	25.6	0.3
Coal	22.7	22.3	23.0	23.6	24.3	25.1	0.4
Nuclear	8.5	8.8	9.3	9.3	9.3	9.4	0.4
Renewables	6.2	9.3	10.1	11.0	11.5	12.4	2.5
Total	101.7	101.6	105	108.3	111.2	114.5	0.4

Source: International Energy Outlook 2010. Office of Integrated Analysis and Fore casting, US Department of Energy, Washington DC 20585. Web: www.eia.gov/oiaf/index.html.

There are compelling reasons for the United States to promote renewable energy. Such a policy will ameliorate global warming, create new 21st-century jobs, promote energy independence and national security (NYT 2010). The U.S. Department of Energy plans to set up eight innovative hubs in universities, industries and private research labs to solve the eight biggest energy problems. They are mini Manhattan projects in eight areas that will produce breakthrough technologies in the energy sector. These eight focuses of research are, smart grid, solar electricity, carbon dioxide capture and storage, extreme materials, batteries and energy storage, energy efficient buildings, nuclear energy and fuels from sunlight (Friedman 2010).

Clean energy with little or no carbon footprint is located in the middle as the transition from fossil fuels to green energy is expected to take place. Natural gas is a relatively clean fuel. Nuclear power has no carbon footprint and is considered clean in this respect. But it raises other serious concerns (Pfeifer 2010). With new technology, the United States has untapped huge reserves of natural gas from shale which can provide energy for decades (McNulty 2010). The new technology is called hydraulic fracturing. This process requires injecting water, sand and chemicals deep into the shale to crack open gas-bearing shale and allowing the gas to flow to the surface. There are environmental concerns about contamination of groundwater. Water used for deep injection becomes toxic and, if released in the streams, can contaminate the surface water.(WSJ 2010).

China

China is a manufacturing powerhouse and emerging as the second biggest economy after the United States. China's manufacturing output has caught up with the United States, the first ranking country for a century. China's GDP is projected to grow at an annual average rate of 5.8 percent and China's energy consumption will grow at 3.1 percent

up to 2035. In comparison the United State’s energy consumption during the same period will grow by 0.4 percent annual rate. China’s rapidly expanding economy has a voracious demand for energy (Rosenthal 2010, Oster 2010).

TABLE 6: TOTAL ENERGY CONSUMPTION IN CHINA 2007 TO 2035. (QUADRILLIONS BTU)

Fuel Type	2007	2015	2020	2025	2030	2035	% Average
							Annual Change
Liquids	15.5	20.4	23.7	27.7	31.4	34.6	2.9
N Gas	2.6	5.1	6.6	7.9	9.1	10.1	5.0
Coal	54.8	65.2	76.4	88.5	100.5	112.4	2.6
Nuclear	0.6	1.9	3.5	4.5	5.3	6.2	8.5
Renewables	4.5	8.7	11.2	13.8	16.4	18.5	5.2
Total	78.0	101.4	121.4	142.4	162.7	181.9	3.1

Source: International Energy Outlook 2010. Office of Integrated Analysis and Fore casting, US Department of Energy, Washington DC 20585. Web: www.eia.gov/oiaf/index.html.

In China, fossil fuels accounted for 93.5 percent of the energy consumption in 2007. Their share will slightly decrease and will be 86.1 percent by 2035. Coal, among the fossil fuels, is overwhelmingly the largest supplier of energy. Coal provided 70.3 percent of the total energy consumption of China in 2007 and in 2035 it will still be a very high 62 percent (Table 6). From the perspective of electricity, coal is the preferred energy source. Coal generated 80 percent of the electricity in 2007 and will be generating 74 percent in 2035 (Krauss 2010).

Among China’s renewables, hydropower is the largest component accounting for 430 billion KWH electricity or 14% of the total electricity. Hydropower will triple in amount to 1262 billion KWH but its share in total electricity mix will be slightly less, 12 percent. Wind power, which was insignificant, will account for 3.5 percent of total electricity by 2035. Solar’s share is small 0.2 percent of total electricity by 2035. China also has an expanding nuclear electricity program and its contribution to the total electricity mix was 2.1 percent in 2007 and by 2035 it will be 5.7 percent. Between 2005 and 2010, China has emerged as the dominant manufacturer of solar panels and wind turbines mostly for export (Harvey 2010). China subsidized new industries with low interest loans with no interest in the initial years and land at a low cost. These arrangements are carried out mostly at the municipal level but with tacit approval from the center. Local content requirement for foreign manufactures located in China is another mechanism to acquire new technology. Local content requirement is up to 75 percent. The way it works is that the foreign company has to buy 75% of the content from Chinese manufacturers.

Foreign companies have to provide technology to local companies. But the local companies are free to sell to others and export. Most foreign competitors lost the market share not only in China but also in other markets due to exports from China. Because of subsidies, solar panels and wind turbines exported by Chinese manufacturers are much cheaper and are increasing their market share all over the globe (Barkley 2010). This practice of local content and subsidies to manufacturers are forbidden under World Trade Organization (WTO) rules. They achieved the desired objective of making China a powerhouse for renewable energy manufacturing (Fiona 2010. Bradsher 2010). Competitors who have manufacturing in China did not complain of WTO rule violations because of fear being shut out from the Chinese market (Bradshaw 2010).

India

TABLE 7: TOTAL ENERGY CONSUMPTION IN INDIA 2007 TO 2035. (QUADRILLIONS BTU)

Fuel Type	2007	2015	2020	2025	2030	2035	% Average Annual Change
Liquids	5.9	6.6	7.4	8.1	8.8	9.6	1.8
N Gas	1.5	3.2	4.1	4.5	4.6	4.6	4.1
Coal	10.2	10.5	11.5	12.4	13.7	15.5	1.5
Nuclear	0.2	0.7	1.3	1.7	1.9	2.1	9.0
Renewables	2.5	3.2	4.0	4.5	5.1	5.8	3.0
Total	20.3	24.3	28.2	31.1	34.1	37.6	2.2

Source: International Energy outlook 2010. Office of Integrated Analysis and Forecasting, US Department of Energy, Washington DC 20585. Web: www.eia.gov/oiaf/index.html.

India and China are grouped together as emerging economies. India and China both have more than one billion people but by 2035, India's population of 1.5 billion will be slightly larger than China. Economic growth in both countries will be high, 5.0 percent a year in India and 5.8 percent in China. But there is a wide gap in terms of total GDP and total energy consumption. In 2007, China's economy was three times larger than the Indian economy and by 2035 the gap will further increase. China's economy will be 3.6 times larger. Total energy consumption of China was 3.8 times larger than that of India in 2007. The gap will widen to 4.8 times by 2035 (Table 7).

In India, fossil fuels account for 87 percent of total energy. Coal is dominant among the fossil fuels. All sources of energy are expected to grow at a healthy rate. Nuclear, though small, will grow faster at 9 percent annual rate. According to the World Nuclear Association, India has at present 20 nuclear reactors and an additional 23 are in progress or planned. In comparison, China has 13 existing reactors and 77 are in progress or planned. All nations are anxiously watching the situation at Fukushima Daiichi nuclear plant that was damaged by the massive earthquake of 9.0 Richter magnitude and tsunami of March 11, 2011.

India's renewables, including hydro, provide 12.3 percent of total energy in 2007. By 2035 they will account for 15.4 percent of the total energy. Coal remains an important energy source. Coal generated 71 percent of electricity in 2007 but will decrease in relative importance and contribute 51% of the electricity by 2035. Hydro generated 16 percent electricity in 2007 and its share will increase to 18.7 percent by 2035. Among the renewables, electricity from wind power shows promise. Wind contributed 1.4 percent of the total electricity in 2007 and is expected to contribute 2.7 percent by 2035.

Brazil

TABLE 8: TOTAL ENERGY CONSUMPTION IN BRAZIL 2007 TO 2035. (QUADRILLIONS BTU)

Fuel Type	2007	2015	2020	2025	2030	2035	% Average Annual Change

Liquids	4.8	5.8	6.2	6.7	7.5	8.1	1.9
N Gas	0.7	1.1	1.5	1.8	2.1	2.4	4.3
Coal	0.5	0.5	0.6	0.8	1.0	1.2	3.4
Nuclear	0.1	0.2	0.2	0.3	0.3	0.4	4.4
Renewables	6.2	7.3	8.4	9.7	11.0	12.2	2.4
Total	12.3	14.9	16.9	19.3	21.9	24.3	2.4

Source: International Energy outlook 2010. Office of Integrated Analysis and Fore casting, US Department of Energy, Washington DC 20585. Web: www.eia.gov/oiaf/index.html.

Brazil, with its 200 million people in 2010, is the largest country in Central and South America both in terms of area and population. Its energy resources reflect its natural endowment and contrast with other major economies of the world. Hydroelectric and ethanol from sugarcane are the primary energy sources (Table 8). Brazilian Coal, which is of very low grade, never became a dominant energy source as it has been in all other major economies. In Brazil, 76 percent of the electricity comes from hydro. Two hydro electric projects, Turcurui and Itaipu provide one third of Brazil's electricity. Hydro power potentials are immense (Sternberg 2011). In 2010, Brazil announced the discovery of vast offshore petroleum reserves. These reserves can be tapped through deep water drilling techniques. Once these reserves come on line, Brazil will become a major exporter of oil. This will boost the Brazilian economy.

In Brazil, coal only provided 4 percent of the total energy consumption in 2007. In 2035, Coal's share will be 5 percent. One third of Brazilian energy will come from ethanol. Hydro will continue to provide one half of the total energy needs of Brazil. Nuclear is very small. Brazil is one of the nations which can truly be said to be on a clean, sustainable energy path.

Japan

TABLE 9: TOTAL ENERGY CONSUMPTION IN JAPAN 2007 TO 2035. (QUADRILLIONS BTU)

Fuel Type	2007	2015	2020	2025	2030	2035	%average Annual Change
Liquids	10.1	8.4	8.7	8.6	8.4	8.2	-0.7
N Gas	3.9	4.0	4.1	4.2	4.2	4.2	0.2
Coal	4.9	4.2	4.1	3.9	3.8	3.8	-0.9
Nuclear	2.5	3.2	3.5	3.7	4.0	4.3	1.9
Renewables	1.3	1.3	1.5	1.6	1.6	1.7	0.8

Source: International Energy Outlook 2010. Office of Integrated Analysis and Fore casting, US Department of Energy, Washington DC 20585. Web: www.eia.gov/oiaf/index.html.

Japan was the second biggest economy in the world after United States. In 2010, China surpassed Japan in terms of total GDP. Liquid fuels are the largest component in Japan. Natural gas and coal are equal in amount but coal use is expected to decline. Only nuclear will grow at an annual rate of 1.9 percent between 2007-2035. Renewables will grow at an annual rate of 0.8 percent during the same period (Table 9).

In Japan fossil fuels accounted for 83 percent of total consumption of energy in 2007. Their contribution will be 73 percent in 2035. Over time nuclear will grow in importance. Japan has 55 nuclear power reactors. An additional 15 are in progress or planned. Japan gets 24 percent of its electricity from nuclear. By 2035, nuclear will account for 34% of the electricity. Natural gas provides one quarter of the energy. Its share will remain the same.

Coal provided 31% of electricity in 2007. It will only account for 23 percent in 2035. Hydro will provide 7-8% of the electricity. Wind and solar will provide 1 percent of electricity by 2035. The future of atomic energy depends upon what happens to the Fukushima Daiichi atomic plant which suffered structural damage from the earthquake of March 11, 2011. A meltdown or extensive radioactive release from the plant may dampen interest in nuclear energy. If the damage is controlled, even then the safety issues will remain of utmost importance.

Policy Perspective

Research and development in green and clean energy, reduction in greenhouse gases emission and devising incentives that promote the above two programs are essential building blocks of a successful energy policy. Fossil fuels will remain the dominant source of energy by 2035 and even beyond. They are relatively cheap and abundant. Infrastructure to deliver them to the consumers is already in place. Even though there is a lot of excitement about wind and solar energy, they account for a small share of total energy. Along with conservation, they will increase in importance. Wind energy output is significantly higher than solar. Wind and solar are also costlier. Without subsidy they are not competitive. The wind energy is coming under attack because the residents near the wind turbines complain about the noise (Carr 2010, Bryce 2010). Threat to wildlife is another concern. Because wind is intermittent and variable in nature, utilities will have to keep the backup plant running or ramp up or down depending upon the wind. Coal and gas fired plants run efficiently when they run continuously. It is akin to stop and go car driving which lowers efficiency and creates more emissions. Wind energy has this drawback and may not bring reduction in carbon dioxide emissions (Bryce 2010).

Research and development is of utmost importance to develop clean and green energy. On the model of Defense Advanced Projects Research Agency a similar agency is set up in the US DOE for energy. Some projects on wind, solar and electricity storage, after the initial research with seed money, have attracted private funding. There are a lot of innovative developments in solar cells, hydrogen, carbon capturing at the thermal plant with sea water and converting into limestone as a building material, small modular nuclear plants, small nuclear plants that use nuclear waste as a fuel and hosts of other developments. The green technology which will emerge as the winner is not settled. It will take much more innovation and research to make clean energy competitive. Clean energy should be viable enough for the poor as well as the rich. Lowering the price of clean energy should be the priority of energy policy. For this to happen, research support is crucial.

Global warming is the combined effect of two groups of gases and their emissions. One is the well known carbon dioxide which has a longer life and remains in the atmosphere for a century. The other group of gases are short-lived and stay in the atmosphere for a few days to a few years. Their global warming impact is 80 percent of carbon dioxide's. These gases are methane, some hydrofluorocarbons and lower atmospheric ozone. In addition, dark soot particles also act as global warming agents. Controlling the amount of these short lived pollutants is attainable. In comparison, carbon dioxide produced by fossil fuels which are currently the basis of economic development is harder to control. Trillions of dollars of new investment are needed to convert the economy from fossil fuels to clean energy.

Methane a short lived but potent global warming gas is 25 times more powerful than carbon dioxide. Methane is released to the atmosphere from coal mines, landfills, rice paddies and livestock. Methane is the main component of natural gas and leaks from pipelines also contribute to its emission. By controlling natural gas line leaks, controlling water in rice cultivation, capturing landfills and manure releases, methane amounts can be easily reduced by half. The already existing frame work of the Montreal Protocol of 1989 can bring about cuts in hydrofluorocarbons(HFC). The warming effect of HFC is 1000 times that of carbon dioxide. Therefore, a reduction in HFC can have a greater impact on the reduction in global warming. Similarly soot can be controlled through existing air pollution control programs. Reducing these short lived pollutants will not solve global warming. It will buy time (Ramanathan and Victor 2010).

Retiring old diesel and coal fired plants and replacing them with clean natural gas fired electric generating plants in the United States is a feasible way to reduce global warming emissions. The abundance of natural gas at a low price is a window of opportunity to reduce emission of global warming gases and a step towards clean energy.

Incentive

What is the right way to promote clean energy? A carbon tax is considered desirable. A tax will be an incentive to further innovation in new technologies in a competitive environment. New technologies will emerge in the market place which will be cost competitive. A graduated carbon tax is proposed with a zero rate in the first two years of the program. Starting with \$8 per ton in 2013. The carbon tax will rise to \$200 a ton by 2040 (Blinder 2011).

A bottom up approach is another way whereby states require green component as a fixed proportion in its electric supplies from utilities. Many states in the United States have such programs. Europe has feed-in tariffs for solar energy whereby a consumer who installs solar panels is paid for the electric generation which is consumed at the site and an extra payment for the surplus electricity sold to the grid. Such programs are being scaled back due to the aftermath of the financial crisis of 2008.

Subsidies are a short term measure. In the longer run, new energies have to be cost competitive. The transformation from fossil fuels to green energy must include clean energy resources with little or no carbon footprint. The stock of nuclear as a clean energy source was rising. The tragic earthquake in Japan on March 11, 2011 and the damage to the Fukushima Daiichi atomic plant and radioactive release has reminded the world of the dangers of nuclear power.

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An Agricultural Management System Designed To Determine the Farmland Capability for Sustainable Land Use Planning In the Mekong Delta, Vietnam

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Abstract

Agricultural production is a key contributor to the Vietnam GDP. Recently, it leads Vietnam to become one of leading growth economies in the Asian Pacific and the world third largest rice exporter. This sector, however, is facing challenges generated by global issues as well as such as climate change, financial crisis and merging with the WTO. On top of this there are other internal challenges that the country has faced since the economic reform began. Further, intensive and indiscriminate development of farming systems has resulted in environmental degradation, including water and soil pollution, soil/land degradation and desertification. While the Vietnamese government's objectives are to move Vietnam in general and the Mekong Delta in particular toward sustainable development. This sustainability is secured by the balance of three main goals, environmental health, economic profitability, and socio-economic equity. This paper presents a theoretical model of agricultural management system that designed to determine the farmland capability and the viability of farming practices for sustainable land use planning in the Mekong Delta, Vietnam. Many disciplines relating to natural, bio-physical, human, socio-economic, policy, and institutional factors are integrated into a spatial model and the relationships within and between the factors are analysed and examined. The study hopes to develop a new model to fill the current gap in knowledge relating to the current management of farmland capability and agricultural production in the Mekong Delta. The study outcomes will be useful for farmland users, agricultural/land managers, and agricultural policy makers in the Mekong Delta, Vietnam.

Keyword: Vietnam, Farmland capability/practices, sustainable land use planning, Mekong Delta.

Introduction

Currently, there are approximately 2.6 billion people worldwide living on less than \$2 per day (World Bank, 2007). Most live in the rural areas and depend directly or indirectly on the agricultural sector for their livelihoods (Nancy et al., 2003; WRI, 2008; World Bank, 2008). Taking a long-term perspective, agriculture undoubtedly will continue to play a key role for sustainable development and poverty reduction, because it stimulates economic growth, particularly for the agriculture-based countries. This makes less vulnerable to climate change, generates raw materials, and creates more livelihood opportunities for rural inhabitants, and provides more environmental services as well (World Bank, 2008).

To illustrate this, agriculture feeds approximately three-quarters of the population in developing countries, and offers new job opportunities for around one hundred- million rural poor allowing them to move out of their poverty situation. Moreover, it still makes up about 13 percent of the economy, and employs 57 percent of the labour force (World Bank, 2008).

However, aspects of agriculture and the agricultural system are vast, varied and always changing rapidly (Shoup, 2004). Today world agriculture in general, and agricultural land use in particular, are facing many emerging problems such as climate change, sea level increase, floods, land degradation, soil erosion, water and soil pollution, land desertification, and exhaustion of natural resources, (Tilman et al., 2002; Wassmann et al., 2004; Oosterberg et al., 2005).

In other words, besides positive impacts on social development as already recognised, agriculture also impacts negatively on the environment, ecological systems, bio-diversity and other natural resources. The “Green Revolutionⁱ” in Asia between 1970 and 1995, and intensively agricultural systems later have led to the excessive and inappropriate applications of agro-chemicals (fertilizers, insecticides, herbicides) are testimony to this. Such excess creates water pollution, water scarcity, and frequent droughts and flooding, poisons people, upsets ecosystems, and degrades agricultural land as well as creating health problems (Pioram, 1997; UNEP, 2000; Malkina-Pykh et al., 2003; World Bank, 2008).

In other fields, humanity is currently facing global challenges of population increase, industrialisation, and urbanisation. World population, increased from about 2.5 billion in 1950 to 6.8 billion in 2009, and will pass 7 billion in 2011 or 2012 (Population Reference Bureau, 2008; 2009). As a result, a higher competition in terms of housing, manufacturing, planting and other social services is created (Vandermeulen et al., 2009). This means natural land areas in general, and farmland in particular, are reduced in area and extent.

As in where else agricultural land is one of the most important components of the land and, is defined as land under arable use and permanent crops in Vietnam. It has an area of 4,931,862,000 hectares and occupies approximately 37.8% of the world land area (Table 1.1).

TABLE 1.1: THE LAND AREA BY REGIONS AND KINDS OF USE (UNIT: 1000HA)

Regions	Land areas	Agricultural areas	Arable land and permanent crops	Arable land
Vietnam	31,007	10,072	9,430	6,350
South – Eastern Asia	434,093	117,660	100,596	66,171
Asia	3,093,949	1,662,869	573,284	504,537
World	13,009,115	4,931,862	1,553,689	1,411,117

Source: FAO, 2009, Compiled by the Author. Data are of year 2007, and subject to rounding.

Data in Table 1.1 show that agricultural land area in Asian, South-Eastern Asian, and Vietnam (research site) dominates a range of 30-40% of their total natural land area. This confirms that agricultural land plays an important role for socio-economic development in Asian, South-Eastern Asian, and Vietnam.

There have been several solutions proposed by researchers; but one of the shortest and most effective approaches for sustainable agricultural development suited to the present era, could be reasonable agricultural land use planning (ALUP). ALUP allows the integration of goals, including environmental health, economic profitability, and social and economic equity. The conflicting interests of industry, urban areas and land degradation can partly solved through ALUP to generate the balance in responsibility and profitability for actors in the production system including farmers, laborers, policy makers, researchers, retailers and consumers (Sands & Podmore, 2000; Gold, 2009).

A range of approaches for land use planning is available, the main ones are the Land Use Planning guidelines by FAO (FAO, 1993), the Participatory Land Use Planning (PLUP) methodology (FAO, 1991; Jones and Sysomvang, 2005; Beall and Zeoli, 2008), the Land Use Planning and Analysis System (LUPAS) (Van Ittersum et al., 2004 and Rotter et al., 2005), the Conversion of Land Use and its Effects (Veldkamp and Fresco, 1996; De La Rosa et. al., 2009). Among them, advantages and disadvantages of FAO, PLUP and LUPAS have been compared by a case study in the Mekong Delta, Vietnam (Trung, 2006). The most important activity in the land use planning procedure is selecting land use alternatives based on land evaluation. Land evaluation can be summarised as the process of matching land requirements with land characteristics in terms of land quality to assess the suitability of land use (FAO, 1976; FAO, 1985; FAO, 1993; Laborte et al., 1999; Liu et al., 2007; Ritung et al., 2007).

Similarly, farmland suitability evaluation (land use requirements) is an extremely important activity in the agricultural land use planning procedure (FAO, 1985). It provides guidance for agricultural land managers and users on how to exploit land resources in a way that heads to sustainable agriculture. Land and farmland suitability evaluation are studied, applied and described by FAO (FAO, 1976; FAO, 1985; FAO,

1993), Indonesian Soil Research Institute and World Agroforestry Centre (Ritung et al., 2007), Jaruntorn Boonyanuphap et al. (2004), Lingjun et al.(2008) and Mongkolsawat et al. (1997).

Land suitability is a statement of the adaptability of a given area for a specific kind of land use (e.g. rice-fish or rice-soybean farming system) rather than the performance of the inherent capacity of the land at a given level for a general use (FAO, 1976; FAO, 1993; Rowe et al., 1981). Nevertheless, so far, there has been no study on determining the capability of farmland through an agricultural management system (AMS) (technical, bio-physical, socio-economic and human resources) designed to integrate sub-components in the AMS, and explore interactions between those variables which relate to the prosperity of farms. And therefore, this research titled “An Agricultural Management System designed to determine the capability of farmland at District, Commune, Hamlet, and Household level in the An Giang Province, Viet Nam” has been undertaken.

Context of the research

Recently, Vietnam has emerged as one of the most striking economic successes (FAO in Vietnam, 2008). From a country with quite a high rate of hunger in the 1980s, Vietnam quickly recovered from poverty, to become the second largest rice exporter in the 1990s, based on the “Doi Moi-innovation” policies. However, its economy has relied heavily on agro-forestry and fishery sector such as rice production, aquaculture, and forestry exploitation (GSO, 2006). In general, these sectors have employed more than 55% of the labor force, distributed nearly 27% of the GDP and contributed 25% of the export value to the nation (GSO, 2007).

In general, Vietnam is an agricultural country in Southeast Asia. Its economic growth and export values still based on agricultural and aquaculture sectors. Rice, fruits, and fishery are typical products for exporting. However, recently high crop intensification and quick industrialization in aquaculture are threatening to the capability of agricultural lands. So far, Vietnam has no national program or project to evaluate the farmland capability. Selecting Vietnam as the study area to test the theoretical model of agricultural management system designed to determine the capability of farmland is very significant and reasonable. By this, local agricultural land managers in Vietnam will have references to plan and utilize sustainably their land resources.

The Mekong Delta

The Mekong Delta starts at *Kongpong Cham* in Cambodia, covers an area of 5.9 million ha, of which about 4 million ha are in the south of Vietnam. The Mekong Delta is a relative young land, which was formed not more than 10,000 years ago.

Of the eight agro-ecological zones of the nation, the Mekong Delta is a strategic zone for national food security. It plays the most important role for Vietnam agricultural development in particular and for Vietnam economic development in general. Also, it is the most downstream part of the Mekong River Basin with 17 million inhabitants living in 12 provinces and one central Can Tho city (GSO, 2006). In fact, the MD accounts for more than 27% of Vietnam’s GDP and contributes over 50% of the total aquatic volume, 80% of the total rice export value (US\$ 3,246,000 per year) and 75-80% of the total cultivated area (GSO, 2006).

Nevertheless, the MD has been facing physical constraints that affect socio-economic development, especially related to agricultural production (Nam, 2007; Loc, 2007). Especially, it has an area of 1.2 to 1.9 million hectares under annual floods (Minh, 2002) and the complexity, degree and frequency of the floods are increasing. Over the past 40 years, floods had occurred in the study area, in the years: 1961, 1978, 1991 and 2000. This is one of the first, and largest, concerns of policy makers, agricultural managers and local inhabitants in the region because floods are recognized as both the “enemy” and a “friend” of the local farmers. Floods can devastate crops, and result in reduction in their productivity, and yet floods also bring much benefit to

farmers such as natural fish resources, alluvium deposition as natural fertilizers for fields and the flushing of toxicity from acid sulphate soil: flood water has been utilized to improve the quality of acid sulphate soils by taking away toxicity released from the soils.

Overall, the most serious constraints to agricultural production, and land use, in the Mekong Delta currently are recognised as (1). the status of fresh water shortage and the deterioration of water quality through the transformation of the cultivation structure accompanied by acidification due to sulphate soils in the dry season and, (2). most land areas are flooded several months in the annual wet season, this damages agricultural and aquaculture production, threatens infrastructure in general and the agricultural irrigation system in particular. (3). the movement of young labour force in the rural to the cities and (4). the lack of farmers' accessing opportunities (new technology, capital resources for production, production skills and market information) and the lack of supporting policies for farmers, and the limitation of the rural vocational training as well. Those reveal that farmland capability evaluation by an integration of components in the agricultural production system, including socio-economic factors, technical and biophysical factors is essential. This capability evaluation will provide a tool to assist with meeting the goal of sustainable agricultural development in the Mekong Delta.

Research aim and objectives

The aim of this research is to develop a geographically referenced agricultural management system that is designed to determine the viability of farming practices in order to recommend technical solutions and management for the optimisation of agricultural land potential. The discipline areas to be integrated into this research are farm management, financial management, land capability, socio-economic management, environmental impact assessment, Geographic Information System development and spatial-temporal data management.

This research involves the integration and analysis of geographically referenced socio-economic and physical attributes relating to the farms in the An Giang Province, Mekong Delta, Vietnam as a case study. This integration allows the relationships within and between the datasets to be analysed, which reveals factors that impact upon the agricultural production and the prosperity of farms.

The research uses existing and proposed agricultural data sets, such as farm practices, economic factors, and environmental control factors, physical characteristics, stored in a geographically based information system. The management system allows the production capability of the farming in the Province to be determined.

Additionally, an investigation has been conducted in two communes of the An Giang Province as a case study. Specifically, the study is guided by the following objectives:

Objective 1: To develop the theoretical model for an agricultural management system.

Objective 2: To gather environmental and agricultural data sets relating to the agricultural land use in the An Giang Province, Mekong Delta, Vietnam.

Objective 3: To manipulate the data sets to align them to a geographical coordinate system which allows geographical relationships between the data sets to be analysed?

Objective 4: To merge the farm attributes data sets and analyse the data using statistical techniques.

Objective 5: To determine suitable geographical analysis techniques which, when applied to the data sets, allows new information products to be created as an aid to decision making in agricultural policies.

Objective 6: To develop an agricultural land capability management system, suitable for capability analysis at five administrative levels: Province, District, Commune, Hamlet, and Farm for use in determining the effectiveness of existing farming practices.

A holistic approach to the agricultural land capability management system development involves geospatial modelling of the relationships between the different characteristics of the farms in the Province based on land data, crop data, the application of chemicals, on-farm and off-farm income, demographic data and agricultural production.

The research uncovers existing datasets which are incorporated into a new capability model designed to determine the viability of the farming based on a five level capability rating from very low viability through to very high viability.

An agricultural management system, designed to determine the capability of farm land at the province, district, commune, hamlet and farm level, provides available tools for agricultural policy makers and producers in the development of global sustainable agriculture. The creation of Agricultural Management System also supports an objective in the convention of collaboration and sustainable development for the Mekong River Basin of Vietnam National Mekong Committee (Decision N^o 860 of Vietnamese Prime Minister, 1995). Moreover, the research will produce invaluable data sets for further research in the Mekong Delta.

Hypotheses of the study

In this study, the following hypotheses are tested:

1. The major sub-components required for an effective agricultural management system that relate to the capability of farmland can be identified.
2. The relationships and interactions between major sub-components in the system can be determined.
4. The key factors impacting upon the economic viability and prosperity of farms can be isolated.
5. GIS can be used effectively as a tool to map and monitor agricultural production.
6. A GIS based agricultural management system can be developed to effectively measure and monitor the capability of farmland

Expected outcomes

First, the research results in the production of a GIS-based agricultural management system, underpinned by a sound theoretical and logical structure. The application of computer based land use modelling tools and geographical analysis tools help in the understanding of the factors influencing the viability of agricultural land.

Second, the study will develop a procedure for analysing the viability of the agricultural production using selected spatial and temporal datasets stored in a Geographic Information System. Spatial data relating to characteristics of the agricultural land and the physical environment will be acquired in a suitable form for spatial modelling.

Third, the study will develop techniques and procedures for spatial analysis and multi-variety analysis based on datasets relating to soil, demographics, agricultural production, land cover and crop cycles; these techniques and procedures will be integrated into the agricultural land capability system being developed

Final, the study will provide the theoretical and

empirical evidence relating to agricultural land capability use by policy makers and rural development planners as a basis for program development and policy formulation.

Hence, this research titled “An Agricultural Management System designed to determine the capability of farmland at District, commune, hamlet and household level in An Giang province, Vietnam” has been undertaken.

The research attempts to answer the following questions:

1. What are the major sub-components required for an effective agricultural management system that distribute to farm land capability?
2. What are the relationships and interactions between those major components in the agricultural management system?
3. What are the key factors that impact upon the economic viability and the prosperity of farms?
4. How do the key factors relating to agricultural production impact upon the economic viability of farmland?
5. Can a Geographic Information System (GIS) be used effectively to map and monitor agricultural production in the An Giang Province?
6. Can a GIS based agricultural management system be developed to effectively measure the capability of farmland in the An Giang Province?

Research methodology and case study

This chapter presents two most important phases of the research: (I). the first is the fundamental steps and methods that were applied to design a theoretical model for an agricultural management system (AMS) to determine the farmland capability. The main contents include theoretical framework of the research; conceptual framework of the research; and development of a theoretical model of the AMS for farmland capability determination. The key expected output is that components and factors in the AMS that impact upon the capability of farmland were explored and designed; and a system for farmland capability classification was developed and described. (II). the second phase is the case study, its purpose was to test the developed model. First, the proposed farming systems for farmland capability determination were identified; based on that, the theoretically developed model was adjusted to suit the local conditions; then land characteristics in the adjusted model were considered and weighted with respect to the capability of farmland. After that, a farmland investigation was conducted according to farmland characteristics adjusted in the model. Ultimately, farmland capability in the research site was analysed, determined, and presented through matching and modelling found farmland characteristics with modelled farmland use requirements. The case study research area of Viet Nam, the Mekong Delta, and the An Giang Province that are introduced in a late section.

Developing a theoretical model

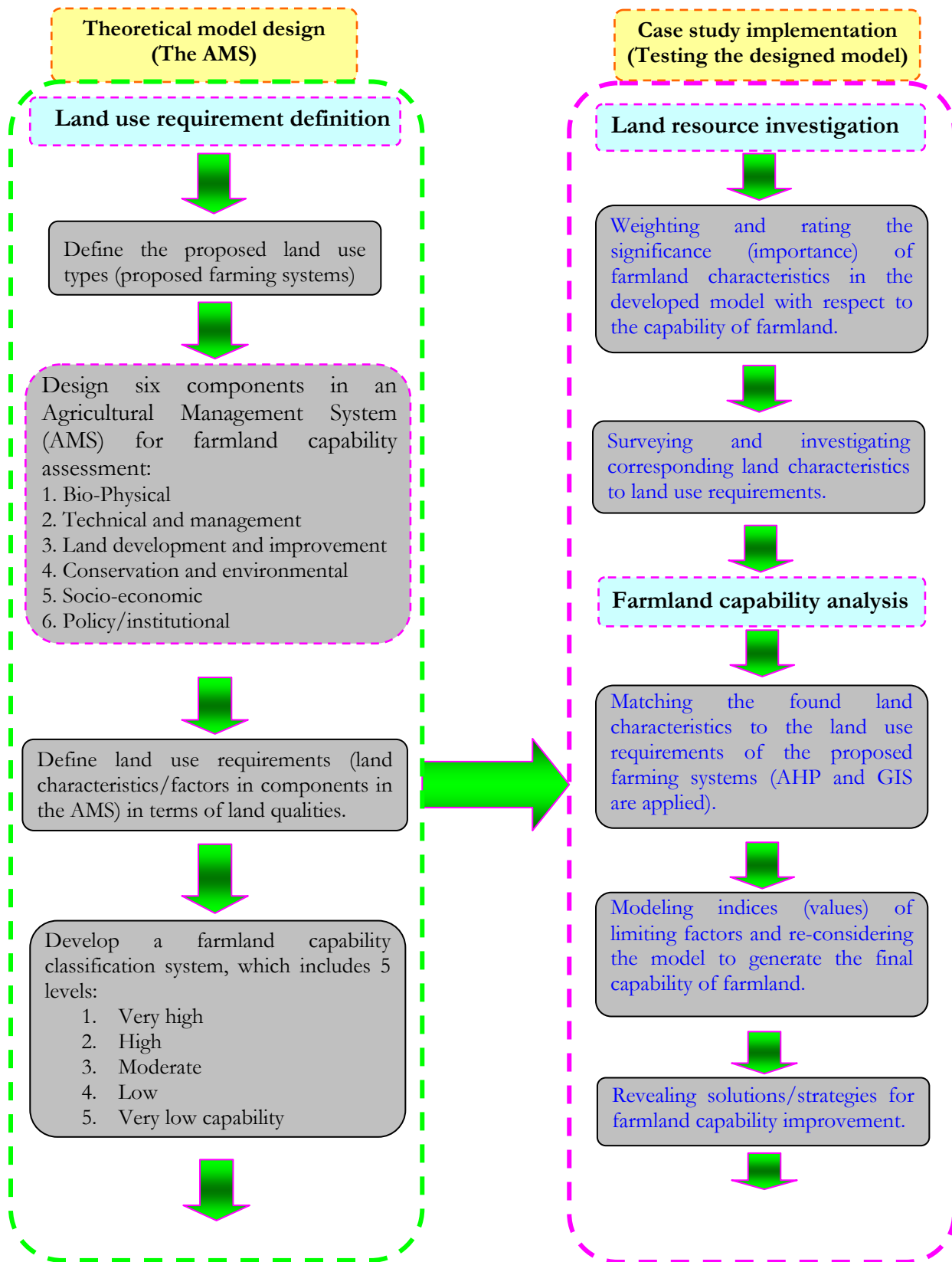
The process and important steps in conducting the study include three interrelated activities: land use requirement definition, land survey and investigation, and land capability analysis (Figure 3.3). These activities were integrated and grouped into two main phases, developing a theoretical model of the AMS for farmland capability assessment, and testing the developed model by conducting a case study.

First, a theoretical model was structured and developed based on a literature review with possible application in many parts of the world. This model design could also be adjusted and modified to be used for different specific situations.

The following steps are involved in the development phase of a theoretical model (theoretical model development phase):

- (1). Defining the proposed farming systems for farmland capability assessment
- (2). Designing key components in the AMS for farmland capability assessment
- (3). Identifying class-determining factors (required land characteristics) of each component in the AMS
- (4). Developing a farmland capability classification system for proposed farming systems
- (5). Determining the capability of farmland for proposed farming systems

Then, the model design would be tested through conducting a case study (practical testing phase), which is presented in the next parts.



A theoretical model of the agricultural management system for determining the capability of farmland was designed

Results of the final farmland capability for prioritized uses;
Feasible solutions for sustainable conservation and farmland improvement;
Recommendations/suggestions.

FIGURE 1.1: THE CONCEPTUAL FLOWCHART OF THE RESEARCH APPROACH

Case study execution

The case study was conducted in the Vietnam, Mekong Delta region, An Giang Province, Cho Moi District, where agricultural land use and farming systems have been continuously changing. The case study involves six main tasks (Figure 1.2):

- (1). identifying suitable farming systems for farmland capability determination;
- (2). modifying/adjusting the theoretical model and standardizing the capability classes
- (3). revealing the factors which impact upon the farmland capability
- (4). conducting farmland surveys;
- (5). undertaking farmland capability analysis; and
- (6). modeling the value of capability factors to improve and increase the capability of farmland. Detail of these tasks was presented below

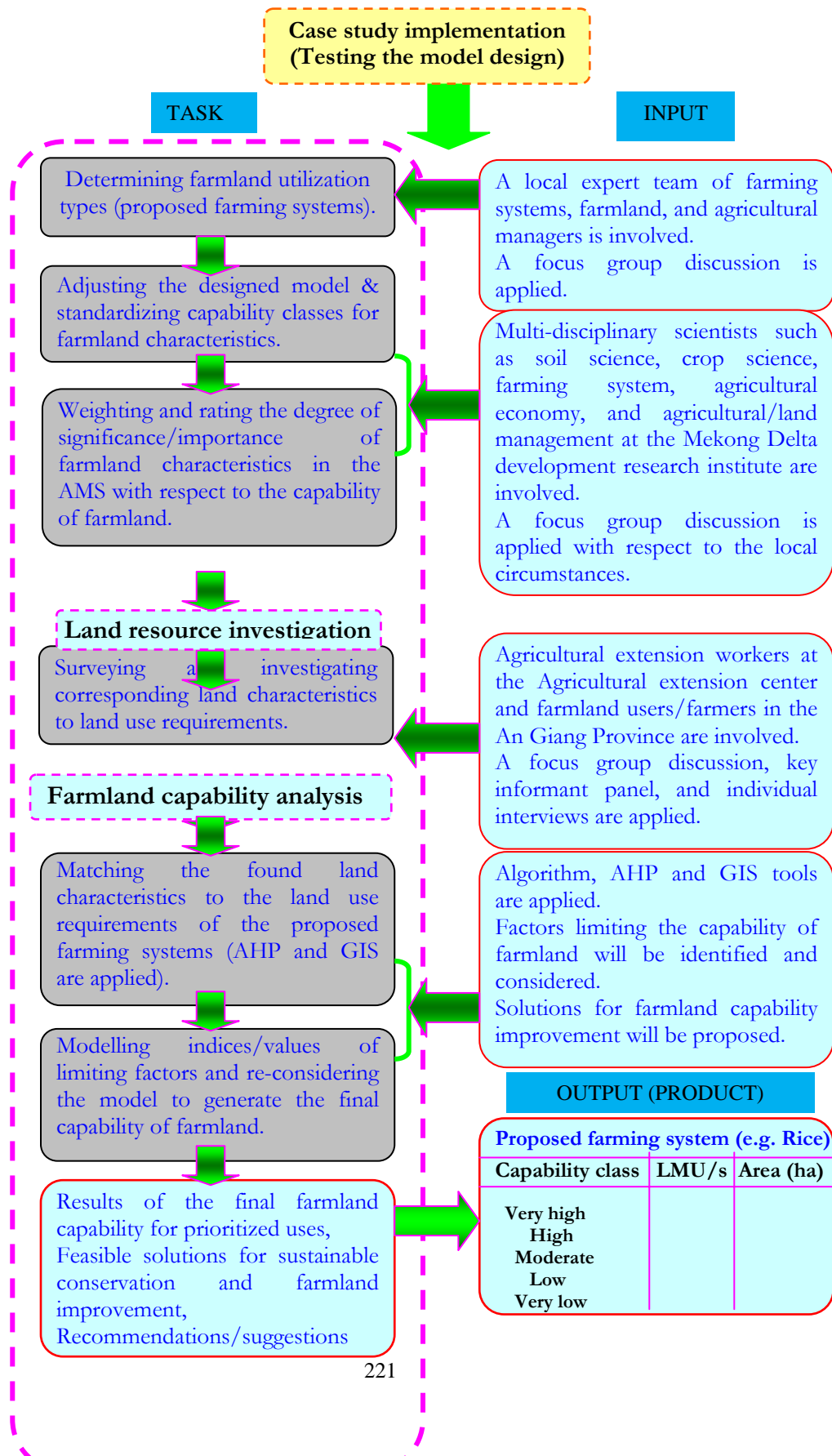


Figure 1.2: The conceptual flowchart of the case study approach

Significance of the research

In the twenty-first century, food and fiber production systems will need to meet three major requirements: (1) adequately supply safe, nutritious, and sufficient food for the world's growing population, (2) significantly reduce rural poverty by sustaining the farming-derived component of rural household incomes, and (3) reduce and reverse natural resource degradation, especially that of land (World Bank, 2006, p.2). While, land use in general, and agricultural land use in particular, are facing many emerging challenges of climate change, intensification of agricultural production, floods, drought, land degradation, soil erosion, water and soil pollution, land desertification, and exhaustion of natural resources (Tilman et al., 2002; Wassmann et al., 2004; Oosterberg et al., 2005). These above stated-issues give human a foreseen challenge in exploring ways for sustainable utilisation and exploitation of the natural resources, particularly the land resource. Land capability assessment is an extremely important component of land evaluation for sustainable use of the land resource, where the capability of the land is determined. There are many studies regarding to land capability/suitability evaluation (please refer to "A framework for land capability assessment" section in the literature review chapter of this thesis) conducted in many parts of the world, and with different approaches. De La Rosa et al. (2004, 2009) have reviewed a number of case studies in English and Spanish, Rowe et al. (1981) and Hanson et al. (2001) described their studies in Australian, Christof Walter & Hartmut Stützel (2009a, 2009b) introduced a new method for assessing the sustainability of land-use systems in Germany. While, many other authors defined and developed a framework or guidelines for land evaluation, land capability assessment, as well as conducted case studies on land evaluation (FAO, 1976; 1985; 1991; 1993; 2007; Karlen et al., 1997; USDA, 2001; Smith et al., 2004; Murphy et al., 2004; The State Planning Commission, 1989; EPA, 2003; Peter, 1996; MAF and ME, 1983; The ACT Parliamentary Counsel, 1999; Ritung et al., 2007; Jaruntorn Boonyanuphap et al., 2004; USDA, 2009).

This study applies the holistic approach and refers to previous studies, as well as literature review to develop a theoretical model that, integrates land characteristics in terms of land quality to determine the capability of farmland. The study takes theoretical perspectives from systems theory by FAO (1993; Haaf, 2002; Pidwirny, 2006a; 2006b) that (1) an agricultural management system (AMS) will be structured, formed, and developed; (2) sub-components in the AMS, which contribute to the capability of farmland and the prosperity of farms will be explored and defined, including biophysical, technical and management, land improvement or development, conservation and environmental, policy and institutional, and socio-economic factors; (3) roles and functions of every factor in the AMS will be determined and analyzed; (4) functional interactions and relationships within and between sub-components in the AMS will be considered and evaluated; (5) modelling optimal expected scenarios of the capability of farmland and the prosperity of farms; (6) the capability of farmland and the prosperity of farms (processed outputs of the ASM) will be revealed. Hence, the broad significance of this study is that the theoretical model for farmland capability assessment was designed and introduced. This model can be applied widely in many regions in the world. Depending on specific circumstances, the model will be adjusted and modified to adapt to local conditions. The model allows evaluate

multidisciplinary capabilities of farmland, and during the evaluation, interrelationships and interactions between land characteristics will be considered. This helps the capability of farmland is determined objectively and appropriately. More importantly, in regions where land uses changes are occurring the model can determine and predict potential capability of farmland, as well as introduce solutions for farmland improvement. It is the fundamental requirements for land evaluation, sustainable land use and planning.

For Vietnam's context, in the period 1975-1985 (after Vietnam's independence), agricultural land use in the whole Vietnam depended on a five-year centrally planned economy decreed and approved by the party congress (Trung, 2006). Agricultural land use was planned by local and provincial authorities, guided by the Ministry of Planning and supported by the National Institute for Agricultural Planning and Projection (Governors). Land use planning was viewed as a top-down process rather than where land use decisions are made by land users and farmers. Therefore the use of farmland was imposed by a master plan of the nation; in many cases this lead to an incorrect evaluation of the genuine capability of farmland.

In 1986, economic liberalization was executed through the "Doi moi-innovation" policy of the Vietnamese government. Hereby, farmers negotiated with the local authorities on long term lease contracts for land use rights and were free to decide on land use by themselves. The role of local authorities and governors was to act as overall land managers and advisors. Recently, FAO framework for Land Evaluation has been used most widely as a methodology for land use advice in Vietnam. Also, scheme such as Participatory Land Use Planning and, a Land Use Planning and Analysis System, and others, are also applied. However, the land evaluation activity for most approaches is only land suitability evaluation by matching land use requirements and land characteristics in terms of land quality. Therefore, relations and interactions between factors (sub-components) in a farming system (land use type) are not fully utilised.

The an agricultural management system design proposed in this thesis has extremely important significance in finding a satisfactory approach for the determination of the capability of farmland by analysing technical, socio-economic and bio-physical data. Relations and interactions between factors in the system, as well as management techniques and limitations to land use, are considered carefully. This provides benefits not only for agricultural officers and managers; it also has a great potential for improving the livelihoods, and increasing the income, of the local inhabitants and farmers.

The study determines the key factors that impact upon the prosperity and viability of farmland, and the relationships and interactions between those key factors. This allows farmers to exploit and optimise the use of their land resources. The results of the study provide theoretical and empirical evidence for policy makers and rural development planners as a basis for program development and policy formulation as it relate to agriculture.

The research presents limitations associated with land characteristics and provides guidance on necessary management techniques to improve farmland capability.

Finally, the most important outcome of the study is that it builds and develops a theoretical model to be use as a system and framework for farmland capability determination. This is done by integrating the results of the evaluation and analysis of related sub-components in an agricultural management system.

Scope and limitation of the study

The study provides important baseline information on socio-economic and bio-physical characteristics for input to an agricultural management system that is designed to determine the capability of farmland. The case study is confined to the two communes in the An Giang Province. The study uses both primary and

secondary data through household interviews, key informant panels, participatory rural appraisal and existing data available at the Mekong Delta Development Institute, Can Tho University, Viet Nam and the An Giang Agricultural Extension Centre. The study focuses on the capability of farmland based only on distributions of key factors stored in the agricultural management system.

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For a full list of reference, contact author(s).

ⁱ *The effort organized by the United Nations in the 1960s to increase world food production by introducing high-yield varieties of rice, wheat, and maize and new techniques, including irrigation and use of pesticides. (Frey, 1996, p.12)*

Socially Sustainable Business: Generating Economic Sustainability and Social Impact Core Projects & Technologies Ltd. (CPTL)-A Case Study

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Abstract

Social Business is a business venture that operates primarily for meeting social objectives. The primary aim of investors in such businesses is generation of not only profit but also for social good. As a pioneer, CORE Projects and Technologies Limited(CPTL), India's largest global education company has been instrumental in enabling the creation of a better future across the globe by imparting best in the class technology, school management ,teachers training ,public policy enhancement consulting ,quality in education and vocational training solution worldwide. The case intends to present "Socially Sustainable Business: Generating Economic Sustainability and Social Impact, CPTL –A Case study". The research methodology adopted is a case study which helps in building analytic bridges between theory and practice (Case Method: Cases in Management, 2005). The focus, in my research has been to recount objectively and meticulously as possible real events and problems in adopting Socially Sustainable Business as a strategy not only for profit but also for creating social equity, so that it opens doors for further research. This case study would help in understanding not only what Socially Sustainable Business means for CPTL, but also throw light on how Social Business adoption by young entrepreneur can create a social ,economical sustainability. The findings reflect CPTL initiative towards social business, and strategic move to achieve its vision and becoming a benchmark for the Global Business.

Introduction

Social Sustainable Business is a business venture that operates primarily for meeting social objectives in sustainable manner. The primary aim of investors in such businesses is generation of social value and secondary of generating profits for future business sustainability.

In general society consists of two halves (Bill Drayton article): (a) business, and (b) social. The business half has made phenomenal progress because it has benefited from application of entrepreneurial energy in free market, competitive economies. Currently the social half are either drives by government policies,schemes and Corporate social responsibility (CSR) initiatives of big business houses running as Nonprofit making units (NMU) which are funded by current profit making units but sustainability of these social initiatives are a challenge as CSR are on the willingness of business houses and most of the government schemes are either suffering from corruption or with implementation challenges.

Some of entrepreneurial energies are gradually showing interest in the social sector. Their intervention is needed, not only because they can inject financial resources into the social sector, but also because they can provide sophisticated technologies and creative solutions for this sector which will be sustainable in nature. As an example, the 'e-choupal' initiative of ITC Ltd. is generating large social impact in several rural areas and overcoming poverty.

The social development challenges like provision of water and sanitation, health, education and power for the weaker sections of society can be best addressed if there are collaborative arrangements involving Government, business and citizen sectors.

CPTL entrepreneurial values and methods are playing significant role in successful accomplishment of such collaborative missions where CPTL is working with Governments & citizen sector for creating sustainable business which create the social value and same time provide the profits to their investor .

Social sustainability Perspective

Sustainability is about protecting the natural environment and delivering on social and ethical responsibilities whilst maintaining profitability. Sustainability is about resolving complex challenges and reconciling diverse demands. But overall, sustainability is about innovation and the creation of value: social, environmental and economic.

Most specifically, social sustainability refers to the personal and societal assets, rules and processes that empower individuals and communities to participate in the long term and fair achievement of adequate and economically achievable standards of life based on self-expressed needs and aspirations within the physical boundaries of places and the planet as a whole.

At a more practical level, social sustainability stems from improvements in thematic areas of the social realm of individuals and societies, ranging from capacity building and skills development to environmental and spatial inequalities blend traditional social objectives and policy areas such as equity and health with issues concerning participation, needs, social capital, the economy, the environment, and more recently, with the notions of happiness, well being and quality of life. More specifically Social sustainability perspective covers the development that meets the needs of the present without compromising the ability of future generations to meet their own needs and also continually generating fuel for its own growth.

TABLE-1: KEY THEMES OF SOCIAL SUSTAINABLE

Dimension	Key theme area
Social	Education, Gender Equality ,Health, Justice and Leadership, Poverty Eradication, Security and Crime ,Skill Development ,Social Diversity and Multiculturalism
Socio-Institutional	Capacity Building ,Participation and Empowerment
Socioeconomic	Economic Security, Employment, Informal Activities/Economy

Socially Sustainable Business – Overview

“Only the individuals can think and create new values for society – nay, even set up new moral standards to which the life of community conforms. Without creative, independently thinking and judging personalities, the upward development of society is as unthinkable as the development of individual personality without the nourishing soil of community”

-- Albert Einstein

These words of Albert Einstein beautifully express the importance of socially creative individuals in the process of social development. Unfortunately, societies in many parts of world often discourage and even turn hostile to these creative and independently thinking individuals if they start working for changes in the existing social set-up. Despite the opposition and hostility from certain elements in society, change agents have existed in India as elsewhere in all ages. The gap between one’s values and dreams on one side and social realities on other side leads to creative tensions, and drives individuals to work for social changes. While some of these change agents have impacted society through their personal examples, advocacy and practical grass root activities for social progress; others took to political, legal or religious and spiritual routes for uplifting the society; and some even adopted violent means to fight against tyrannical social values and practices.

In the context of social change agents during the 20th century, Mahatma Gandhi deserves a special mention. He was able to inspire and lead a large number of people to work for social harmony and development. Although the social values and constructive social programs of Mahatma Gandhi and his followers have created significant impact on the contemporary social life in India, an assessment of his speeches and writings shows that many of his dreams and hopes were unrealistic. Gandhi dreamt of a free India where the quality of social life of its people will be one of the best in the world in a short span of time. While elaborating his constructive programs in 1941 (i.e. about 6years before India’s independence), he declared, “ The contrast between the palaces of New Delhi and the miserable hovels of the poor labor class nearby cannot last one day in free India in which the poor will enjoy the same power as the richest in the land.” We know the reality of what happened after India got freedom in 1947. People around the world have seen the visual images of level of poverty, misery, homelessness, hunger, inequity and exploitation of weaker sections in free India through media reports. Today about 300 million Indians are not able to

meet even their basic subsistence needs. The alarming rate of environmental degradation is another cause of serious concern. A report published by UNDP places India at 127th rank in terms of Human Development Index (HDI) in a list of 177 countries. Since the social realities in India are often daunting, we need more of poetic vision and entrepreneurial energy in our development endeavors.

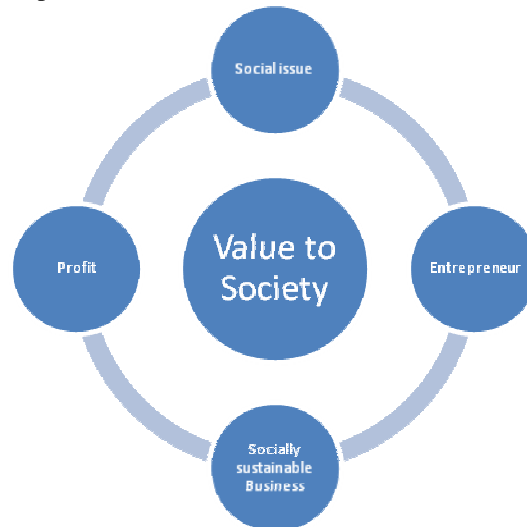


FIG.1: SOCIALLY SUSTAINABLE BUSINESS

Entrepreneur who can create socially sustainable businesses can play an important role in addressing India’s problems. These entrepreneurial strategies and activity plans usually include elements of positive, life building, socially and ecologically enriching values, attitudes and behaviors for the target population.

Stages of Indian Economy

India has started economic reforms from 1991 due to the winds of change in the international economic scenario. The need for a policy shift had become evident earlier, as many countries in East Asia achieved high growth and poverty reduction through policies, which emphasized greater export orientation and encouragement of the private sector. India had taken some steps in this direction in the 1980s, but it was only in 1991 that the paradigm shift occurred. Policies signaled a more open economy with greater reliance on market forces, a larger role for the private sector, including foreign investment. On the face of it, the figures are compelling. India's real GDP grew by 9.2% in the year (2006) to last (2005) September. Over the past four years it has clocked up an average annual pace of more than 8%, compared with around 6% in the 1980s and 1990s—and a meager 3.5% during last three decades. India seems to be reaping the rewards of reforms that were made in the early 1990s. These lowered barriers to trade and liberalized capital markets. As a result, total trade in goods and services has leapt to 45% of GDP, from 17% in 1990.

Overview of Indian Education System

Education in India is mainly provided by the public sector, with control and funding coming from three levels: federal, state, and local. Child education is compulsory. The Nalanda University was the oldest university-system of education in the world. Western education became ingrained into Indian society with the establishment of the British Raj.

Education in India falls under the control of both the Union Government and the states, with some responsibilities lying with the Union and the states having autonomy for others. The various articles of the Indian

Constitution provide for education as a fundamental right. Most universities in India are Union or State Government controlled.

India has made progress in terms of increasing primary education enrolment rate and expanding literacy to approximately two thirds of the population. India's improved education system is often cited as one of the main contributors to the economic rise of India. Much of the progress specially in Higher education, Scientific research has been credited to various public institutions. The private education market in India is merely 5% although in terms of value is estimated to be worth \$40 billion in 2008 and will increase to \$68 billion by 2012.

However, India continues to face stern challenges. Despite growing investment in education, 35% of its population is still illiterate; only 15% of Indian students reach high school, and just 7% graduate. As of now, India's post-secondary high schools offer only enough seats for 7% of India's college-age population, 25% of teaching positions nationwide are vacant, and 57% of college professors lack either a master's or PhD degree.

There are more than 1522 degree-granting engineering colleges in India with an annual student intake of 582,000, plus 1,244 polytechnics (aprox.) with an annual intake of 265,000. However, these institutions face shortage of faculty and concerns have been raised over the quality of education.

Genesis of CPTL

Mr. Sanjeev Mansotra the founder-Chairman & Global CEO admits, the company started operations seven years ago “without a vision to where it was heading”. The initial business plan was to acquire IT companies in the US with on-shore delivery capabilities and move their services to offshore delivery centres in India. Typically, these companies were owner-driven and had revenues in the range of \$5-20 million. “We acquired three companies and one company was by default also into the education space,” says Mr. Mansotra. What started off as a default soon became a grand design. **The defining moment came with a front page story in a national daily that spoke about how most of India’s expenditure in education was being misused — a news clipping that Mr. Mansotra still retains.**

This was the time when with the strong vision and commitment ‘creating social value’ Mr. Sanjeev Mansotra made CPTL to enter into Education domain and created a model which can create socially sustainable business in education domain .Since 2003-04, CPTL has evolved to emerge as an integrated education company and increase its presence in more than 3 continents. CPTL is focused on providing technology enabled education solutions, ICT education, Vocational Education, Teachers training to government bodies, schools and students. Today CPTL’s education customer base is spread across the USA, UK, Africa, Sri Lanka, Bahamas, Caribbean and India.

Mr. Mansotra is an example of a new form of entrepreneur whose motivation is not profit but to do “Social Good,” a motivation that is leading to profit-maximization with “sustainable social values.”

CPTL has been awarded many prestigious contract under the “Education for All” program (Sarva Shiksha Abhiyan) and is looking at strengthening its socially sustainable business in India backed by its International education experience for not only creating the social value but same time provide the profits to its investors .

CPTL- Generating Economic Sustainability and Social Impact

Sustainable Enterprise – an approach to business in which some of the world’s most challenging issues, such as environmental degradation and social inequality, are recast as profitable opportunities for the Private Sector- is generating considerable interest in the corporate, academic and policy spheres. A central focus of this emerging field is the role global business which may play in alleviating poverty through considering the four billion plus people living at the ‘bottom of the social and economic pyramid’ as an untapped, under-served market.

Proponents of this approach argue that innovative technology and new business models should be developed by the private sector to actively engage ‘the poor’ in the global market-place. It is hoped that this approach of ‘business as unusual’, in which social value creation is a central operational premise in previously invisible markets, will generate a more inclusive and economical sustainability and form of global capitalism.

Long-term economic sustainability is directly tied to educational excellence. Tomorrow's jobs will primarily be high tech jobs, and the success of the India or any country will be dependent upon consistent, uniform and challenging educational standards and dedicated R&D programs. We know that the old industries have left and will not return and that new industries based on new technologies will be the backbone of tomorrow's economy.

New technologies do not develop in a vacuum, nor do they appear out of thin air in some miraculous way. Technological innovations arise from excellence, creativity and innovation in current Education system - from knowledge - not from a course in underwater basket weaving. Educational excellence is therefore the principle basis of any real sustainable economic policy for India, or any country for that matter. Those countries that pursue educational excellence will be tomorrow's economic leaders.

With the focus on Generating Indian Economic sustainability and social impact CPTL started socially sustainable business in education space with operations in the US, the UK, the Caribbean, Africa and India. CORE's offerings cover compliance, assessment, ICT, content, teacher training, vocational training, examination management system, language skills and has globally impacted more than 76,000 schools, 28 million students and trained over 100,000 teachers. Twenty state Governments in USA including California, Maine, Michigan, North Carolina, Texas and over 40 Local Educational Authorities in UK work with CPTL for education projects and consultancy services. CPTL is currently working with Haryana Government, Gujarat, Maharashtra, Nagaland, (States of India) for giving Information and communication technology (ICT) education, Computer Added Education system, Development of learning tool kit for enhancing the education standard and experience in high end technology infrastructure for primary, secondary and higher secondary government schools. All projects are based on public private partnership model.



FIG.2: BUSENESS MODEL

CPTL has made the concerted effort to remove all obstacles and eliminate all hurdles of creativity and innovation in education space for creating social impact in economically sustainable way and created a socially sustainable business which is not only creating social value at centre but also increasing economic sustainability.

Four Pillars of Socially Sustainable Business at CPTL

The definitions of “learning”, “education”, and “schooling” are useful to review here. “Learning” is a lifelong process in which the individual acquires different kinds of knowledge, skills, manners, values, and so forth. “Education” involves deliberate intentions of both teaching and learning, and thus involves social roles of the

“teacher” and the “learner”. In “schooling”, teachers do not only teach, but also rank the students based on certain criteria. Schooling also produces those who are “schooled” and “not schooled”.

Although school education extends only a limited period of time in the lifelong process of socialization of a person, it occupies a relatively large psychological space in human lives today because school education is seen as a crucial determining factor for the later lives of people. It is important to re-confirm that school education is very important part of the lifelong process of socialization and human development, and that socialization is the process that is crucial for social sustainability and growth of society.

Many issues plaguing the School education system in India, lack of a robust and functioning education system at the primary level, a high-dropout rate from schools, especially seen in rural/semi-urban areas, has resulted in a large number of people entering the workforce straight after school, without any skill work result lower wages and increase in poverty.

To address solution of all above issues CPTL has made the its four strong pillars which are the strong base of CPTL business .These pillars not only provide the enhance school education but a educational which focus on 'context for learning'.

India is slated to be the third largest economy in the world — its population of 1.2 billion people, two-thirds of which lives in rural areas, needs to be suitably educated in order to be productive members of the workforce. CPTL constant innovation in education with strong four pillars, is the key to brand profitability in India.

CPTL’s four pillars are based on the above needs and a solid base for socially sustainable business. CORE socially sustainable business focus on giving world class school in affordable way to the children of India by using advance technology, effective teaching methodology by trained teachers and further giving them employable higher education and vocational education in order to be productive members of the Global Economy and catalyst of growth.

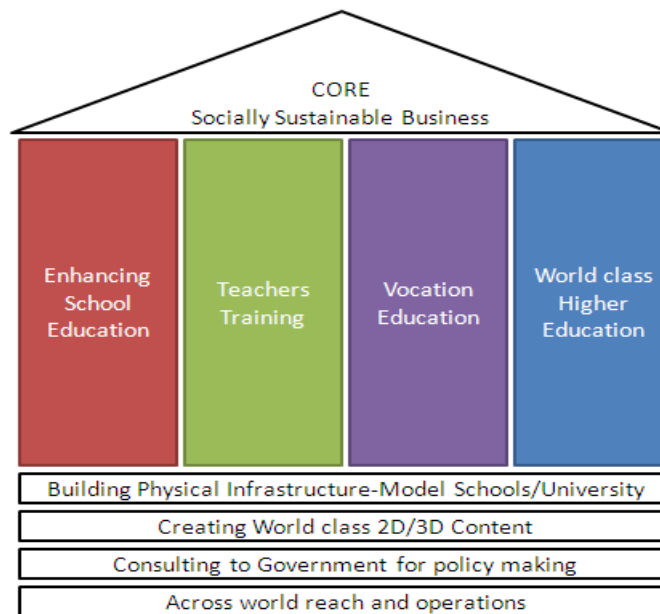


FIG.3: PILLERS OF CORE SOCIALLY SUSTAINABLE BUSINESS

CPTL- Socially sustainable Business cycle

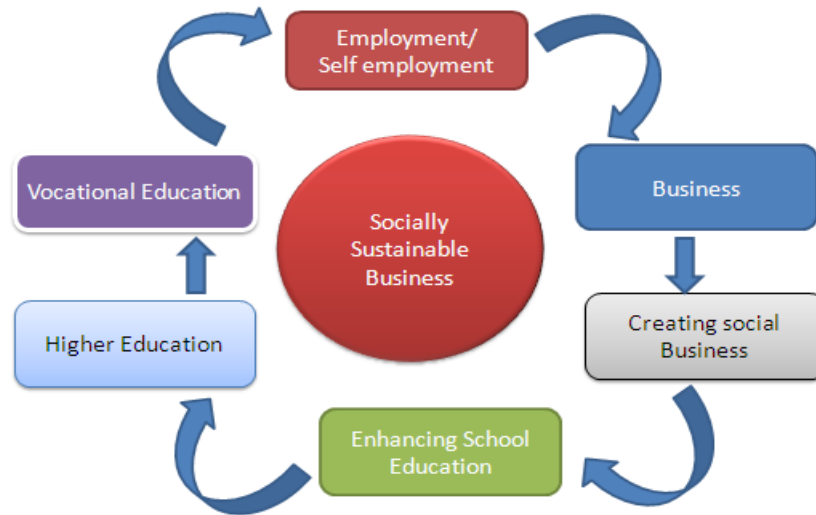


FIGURE-4: SOCIALLY SUSTAINABLE BUSINESS CYCLE

Key Enablers for Social sustainability at CPTL

- CPTL business represents a new private-sector approach to achieving the goals of sustainable development – by creating profitable enterprises that simultaneously raise the quality of life for the world’s millions of students which will help in the growth of society & country.
- CPTL employs profitable strategies that approach social and environmental challenges as business opportunities and minimize harmful social and environmental impacts. Sustainable enterprises measure success in terms of a “triple bottom line”: -financial profitability – ecological integrity – social equity.
- Strategic innovation is a central component of CPTL, as both a means and an end of adopting socially sustainability business strategies
- CPTL sustainability is about delivering on social and ethical responsibilities whilst maintaining profitability so that continues social values can be created.

Results of CPTL Socially sustainable business

- Covered more than 76,000 schools across world
- Touch lives of 76 million plus students
- Trained over 100,000 teachers
- Working with 20 States of the US
- Working with 40+ Institutions in UK
- 8 African & 3 Caribbean Nations

- Currently working with more than 9 states of India
- Included in Forbes 200 Asia's Best Under Billion Company for 2010
- Fastest growing company in Maharashtra (Government of India) which has main focus on IT into Education
- Ranked 20th in Deloitte Technology Fast 500 Company List, Asia Pacific 2007
- Special jury award by the Ministry of HRD (Government of India)

Conclusion

Research indicate that business must now focus its attention on both increasing its bottom line and creating a Social Good. In this scenario, keeping abreast of global trends and remaining committed to financial obligations to deliver both private and public benefits are forcing organizations to reshape their frameworks, rules, and business models.

Business should not be only profit targeted , Profit for the shareholders is important but unless entrepreneurs have a larger purpose and business that change lives of millions of people, a socially sustainable business cannot be created which is a need of the hour.

To understand and enhance current efforts, the organizations like CPTL is creating a socially sustainable business and continue to revise their short- and long-term agendas, to stay ahead of rapidly changing challenges.

This research paper aims at opening new vistas in the field of social business .Questions, which need to be addressed in the coming years for organizations to excel, in spite of good strategies and Knowledge base would be:

- How socially sustainable model of business can be implemented across industry?
- How social business will be encouraged by Government policies in developing countries like India?
- How social business will reduce poverty and migration from rural to urban area?

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Testing Quality of Assurance Statements for Sustainability Reports

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Abstract

Corporate social responsibility (CSR) has become a key issue in management strategy. The most extended tool for CSR communication are sustainability reports (SR). Previous research has looked at the level of trust provided by assurance statements (AS) issued by auditors and consultants, and have analyzed their importance and characteristics. This study looks at the perception of quality of AS using advanced accounting students in two countries as proxy for users of CSR reports. We base our analysis on a measure of quality developed by Fernandez-Feijoo, Romero & Ruiz (2011) as well as variables defined in other studies to test if the aforementioned measure is in accordance with the perceptions of users of CS reports.

Introduction

Corporate social responsibility (CSR) has become a key issue in management strategy. The most extended tool for CSR communication are sustainability reports (SR). The growth in the number of companies publishing SR is increasing continually. Their objective is to voluntarily disclose information about their economic, environmental, and social performance. As in other reporting process, accuracy and reliability are necessary values to offer guaranties to the final beneficiaries of SR, the stakeholders.

During the last decade, debate, proposal and development of standards for sustainability reports have increased significantly. This discussion produced as output a worldwide recognition of the SR as the basic tool to communicate CSR, even though without a full agreement on formats. Contrary to the reporting standards in sustainability, there is no generally accepted tool to assure sustainability information. However, international institutions, academic researchers and other organizations are conscious that this is the path to the future. Wallage (2000) highlights the need to research in, at that moment, the emerging service of SR assurance, concluding that there is an absence of criteria and verification standards.

In the AS standardization field, the most important initiatives are: 1. SA8000, by Social Accountability International, with two versions (SAI, 2001) and (SAI, 2008); 2. AA1000AS by AccountAbility - Institute of Social and Ethical Accountability, with two documents as well (ISEA, 2003) and (ISEA, 2008); and 3. ISAE3000, in 2004 by International Auditing and Assurance Standard Board (IFAC, 2008, 922-941).

The importance of reliable AS has been addressed in previous studies (Hodge, Subramaniam, & Stewart (2009); O'Dwyer (2010); O'Dwyer, Owen, & Unerman (2011) and Roebuck, Simnett, & Ho (2000)). These studies are focused on the level of trust provided by AS issued by auditors and consultants, and have analyzed their importance and characteristics, but not many of them look at measures of quality of AS to allow comparison of different reports.

Kolk & Perego (2010) propose that “future research should examine the quality of sustainability assurance statements rather than merely their adoption”. Our paper fills this gap by looking at the perception of quality of AS, using advanced accounting students in two countries as proxy for users of CSR reports. Through questionnaires with students in the United States and Spain, this paper tries to find agreement into the development of a measure of quality of AS, using variables defined in previous studies. We base our analysis on a measure of quality developed by Fernandez-Feijoo, Romero & Ruiz (2011) as well as variables defined in other studies (Fonseca, 2010), to test if the aforementioned measure is in accordance with the perceptions of users of SR and AS.

Literature Review

Main standards in AS have been being published during the last decade and have contributed to enhance the debate with an international scope. Kuruppu & Milne (2009:47) give a clear opinion about the importance of AS:

There are compelling arguments to suggest the importance of assurance, both to companies and to external stakeholders. Despite these arguments, initial results from the field suggest if in fact assurance does add credibility to sustainability reports, not all or perhaps even most stakeholders can perceive it. This is no argument against the practice of independent assurance. Rather it is an argument in favour of a clearer and better articulated programme of communication that informs stakeholders about the practices, outcomes and benefits of independent assurance.

Wallage (2000) highlighted the need of research in, at that moment, the emerging service of SR assurance, due to the absence of criteria and verification standards. Once the main standards were issued, the lack of homogeneity in both the assurance process and the AS, was emphasized in literature. Hasan, Roebuck & Simnett (2003) analyzed the different AS types based on the level of assurance defined in the engagement, and the consequent perception of the addressers. Oelschlaegel (2004) posits that there is no systematic procedure to assess for assurance practitioners' competence. O'Dwyer & Owen (2005), working on a sample of the year 2002 with data from UK and Europe, conclude that there are differences among the reports issued by auditors and those issued by consultants. They draw attention to the managers' control of the AS process, evidenced by the frequent reference of managers as addressees of the AS. With a similar scope, Deegan, Cooper & Shelly (2006), using a sample of UK and European reports from 2000 to 2002, conclude on the variability and ambiguity of the ASs.

The relationship between AS quality and assurance provider has been also approached by Perego (2009). He concludes that big-4 auditors provide a higher quality in format and procedure aspects, and less in recommendations and opinion questions. He also finds that companies operating in countries with weaker legal systems are more predisposed to choose one of the big auditing firms. Turker (2008) presents a scale to measure CSR in terms of expectation of stakeholders based on data gathered from business professionals in Turkey. His measure identifies the items that are considered of higher importance by users of SR, finding for example that information about employees is the highest rated. However, this paper does not consider the quality of the reports or provides any measure to compare different AS or SR.

Cahyandito et al. (2005) look at the communication processes between companies and their stakeholders using a two sided/reciprocal model (corporation and stakeholder). For the corporation group, they interview managers of two German companies (Weleda and Deutsche Telekom). For the stakeholder group, they asked the interviewed managers for a list of stakeholders from which they chose the interviewees. Their objective is threefold:

- discuss how much the managers understand SR and their stakeholders (pre-communication stage),
- the motives and goals of SR (communication stage), and
- the view of the stakeholders' acceptance of the content of the report and their perception of the corporate image (post-communication stage).

The findings of the paper are that the perception of communication in those two parties is different, and based on their knowledge of the environment, their competence, and their interests and ideals.

In the AS literature, Manetti and Becatti (2009) report the need of specific guidelines for assurance providers to increase effectiveness and reliability of assurance services. They do not compare the differences in the reports when produced by auditors or consultants, and they do not measure its quality as well. However, Hodge, Subramaniam & Stewart (2009) find weak support for the auditors having more credibility than other providers. They also find that the AS adds credibility to the SR, but they find no relationship between users' confidence and perceived credibility of the SR.

Focusing on AS quality measure, Simnett, Vanstrelan & Chua (2009) use the type of provider to measure the quality of the AS and assign higher ranking if the AS is issued by an auditor. With an industrial view, Fonseca (2010) measures the quality of a sample of AS of mining companies, based on compliance with requirements set out in current standards. The author applies a qualitative evaluation of a set of ten variables, establishing for each one the level of contents to classify them as "high quality" or "low quality". The ten variables analyzed are: Scope of engagement; Addressee; Responsibilities of reporter and assurator; Competency of assurator and respective team; Independence of assurator; Level of assurance; Assurance standards used; Methods and criteria used to assess

evidence and reach conclusions; Conclusion/Opinion; and Recommendations or additional comments and observations. The sample of ASs was selected from the websites of companies belonging to the ICMMⁱ and from other open databases of SR between November and December 2007. Fonseca concludes that procedure requirements increases trust on external assurance although “Trust is a concept whose meaning and implications may vary substantially among stakeholders, nations, and cultures” (364). Fernandez-Feijoo, Romero & Ruiz (2011) design a model to evaluate the quality of the SR and AS, based on a set of items disclosed, proposing a measure of its quality. They also analyze the characteristics of the companies that present high quality reports. The proposed model is supported by Spanish company data. This paper concludes that auditors issue higher quality AS than consultants, and that measures indicating size (size, listed companies, Big4 auditor) are associated with the quality of AS reports. Another finding of the paper is that those variables related to the industry of the company (sector, size, leverage) are associated with the quality of the SR report.

Methodology

The approach followed in the paper is descriptive and intended to understand how users of AS evaluate its quality. Since this “perception” is qualitative, it is measured in qualitative terms.

Our study was conducted in different moments and with different populations both in the United States and Spain, described as follows:

- Group 1 (November 25th 2010). 12 Spanish Master in accounting students. These students have an undergraduate degree in economics or business but in general, they have no previous knowledge of CSR. The study was conducted after they were lectured about GRI SR and AS standards. We call this group GAS1.
- Group 2 (November 12th 2010). 14 Spanish advanced accounting students. These are accounting and auditing students in the fifth and last year of their career. Due to the Spanish university systemⁱⁱ, these students can be considered as master-level students since they do not receive an undergraduate degree (bachelor) but a diploma accreditation. They have introductory level skills in CSR. We call this group GAS2.
- Group 3 (December 14th 2010). 23 US advanced accounting students. These are accounting undergraduate students in their last year with no formal training in CSR. We call this group GAS3.

The same questionnaire was used in the different sessions to evaluate AS quality perception. The questionnaire was divided in three parts. The first one refers to identification data, to define the students’ profile; meanwhile the second collects the importance given by the students to a set of variables, in a 7 point Likert scale. The variables tested are the ones proposed by Fernandez-Feijoo, Romero & Ruiz (2011) (FRR hereinafter) to measure AS quality. After completing the second part of the questionnaire, the students were asked to review and evaluate a set of AS, and to provide their opinion about the worst and the best of them.

Results

Descriptive Statistics

Table 1 presents the descriptive statistics of the participating groups. Group 1 includes 12 Spanish students in a Master in accounting program. 5 of them are younger than 26 (41.67%), 4 are between 26 and 35 (33.33%), and 3 are between 36 and 45 years old (25%). There are 7 female (58.33%) and 5 male (41.67%) students. The 83.33% of the students (10) have an average of 5.1 years of work experience in accounting, financial or commercial tasks, in all grouped sectors except Mining. Group 2 includes 14 Spaniards in the last year of a 5 years program BS/MS students. 12 of them (85.71%) are under 26, and 2 (14.29%) are between 26 and 35 years old. There are 9 female (64.29%) and 5 male (36.71%) students. 7 of the students (50 %) have an average of 2.14 years of work experience in accounting and financial tasks, in all grouped sectors except Mining. Group 3 includes 23 advanced accounting students, the majority under 26 (82.61%) and 13 women representing 56.52% of the total students. The 86.96% of them, (20 students), have work experience (5.4 years in average) and only 6 of them (26.09%) reveal not much previous knowledge about CSR.

TABLE 1. DESCRIPTION OF THE SAMPLE

	Number	Age		Gender		Work experience		Previous knowledge of CSR	
		≤25	>25	F	M	No	Yes	Not many	More
GAS1	12	41.67%	58.33%	58.33%	41.67%	16.67%	83.33%	66.67%	33.33%
GAS2	14	84.62%	15.38%	69.23%	30.77%	53.85%	46.15%	61.54%	38.46%
GAS3	23	82.61%	17.39%	56.52%	43.48%	13.04%	86.96%	26.09%	73.91%
Total	48	72.92%	27.08%	60.42%	39.58%	25.00%	75.00%	45.83%	54.17%

Findings

The analysis is structured around the main issue of the paper, AS quality perception, as follows:

- ✓ Analysis of GAS1 plus GAS2 plus GAS3 answers to the closed questions, to evaluate their opinion on the importance of the different criteria proposed, and to test if there are significant differences among the three groups or between the two countries (GAS2 vs. GAS2 vs. GAS3).
- ✓ Analysis of the answers of the groups to the measures proposed by Fernandez-Feijoo, Romero & Ruiz (2011) (Reliability of the FRR model).
- ✓ Relationship between student’s perceptions of quality and the result of the FRR model to measure AS quality, applied to the same companies (Validity of the FRR model according to the student’s assessment of AS quality).

GAS1 vs. GAS2 vs. GAS3

The FRR model is based on the contents and the structure of the assurance report. Taking into account that there are professional assurance standards dealing with those elements, the quality indicator is defined in terms of objective and formal components. To validate the measure developed in the mentioned paper, we collected the students’ evaluation of each one of the formal variables described by the standards (defined in Table 2), to infer their perception of the importance given to these variables. As stated before, all variables were measured in a 7 point Likert scale.

TABLE 2 VARIABLE DESCRIPTIONS

Variable	Value assigned to quality if the AS has
Formal aspects	
Name, signature, place & date	the name and signature of the auditor and the place and date of the auditing
Title	title of the document
Addressees	the reference to whom is addressed
Subject matter	the explanation of the assurance subject matter
Entity responsibility	the identification and responsibility of the entity whose SR are assured
Auditor responsibility	the identification of the auditor and his/her responsibility
Independence	the clear specification of auditor's independence
Verification	
Work performed	information about procedures and work performed
Assurance standards	information about the assurance standards used
No Limitations to the scope	limitations to the scope
Level of assurance	information about the level of assurance
Conclusions	conclusions
Recommendations	recommendations
Availability	
On-line access	an easy and clear access (on-line access)

The results of the participants’ assessment are resumed in table 3. An ANOVA test of the differences between groups deals no significant difference between them. The three groups of students assigned the lowest value to the existence of a clear identification of the addressee in the report. These values represent 81% (GAS1), 71.4%

(GAS2) and 73.4% (GAS3) of the maximum value of 7 for each variable. It seems that the participants in the study are not concerned about independence, quality and AS addressed to the managers. O'Dwyer and Owen (2005) question the independence of the assurance and the degree of management control, evidenced among other factors by the AS addressed to the managers.

TABLE 3. IMPORTANCE OF QUALITY AS CRITERIA

	GAS1 (n=12)		GAS2 (n=14)		GAS3 (n=23)	
	Mean	Sd	Mean	Sd	Mean	Sd
Formal aspects						
Name, signature, place & date	6.333	.888	6.286	.726	5.682	1.359
Title	6.083	.669	5.714	.825	5.591	1.652
Addresses	5.667	.888	5.000	1.155	5.136	1.583
Subject matter	6.333	.651	6.070	.730	6.409	.854
Entity responsibility	6.250	.622	6.429	.514	6.318	.894
Assuror responsibility	6.417	.669	6.357	.842	6.318	.780
Independence	6.083	.996	6.571	.756	5.955	1.133
Verification						
Work performed	6.000	.853	6.071	.917	5.955	1.090
Assurance standards	6.333	.651	6.143	.663	6.182	1.097
No Limitations to the scope	6.167	.835	6.500	.674	6.045	1.174
Level of assurance	6.500	.674	6.143	.949	5.909	1.151
Conclusions	6.500	.905	6.500	.650	6.272	.935
Recommendations	6.167	.718	6.290	.611	5.909	1.019
Availability						
On-line access	6.583	.515	6.000	.555	5.545	1.595

Table 4 presents the items with the lowest and the highest ranking. There is some agreement among groups in the less-valued items, but a great dispersion on the more-valued items. Master students rated all the variables over 6, except the one measuring the availability of the addressee of the report. They assign more value to aspects related to verification like the level of assurance and the existence of conclusions as well. This behaviour might be related to the maturity of the participants. A similar effect of age is found in the measurement of the availability of the reports. Younger students, especially American, assigned less value to the possibility of getting the report easily on line. Cultural country characteristics can explain this evaluation.

TABLE 4. LOWEST AND HIGHEST RANKING OF COMPONENTS OF AS QUALITY MEASURE

	GAS1	GAS2	GAS3
Lowest ranking			
Formal Aspect - Title	6.083	5.714	5.591
Formal Aspect - Addressees	5.667	5.000	5.136
Formal Aspect - Independence	6.083		
Availability - On-line access		6.000	5.545
Highest ranking			
Formal Aspect - Subject matter			6.409
Formal Aspect - Entity responsibility			6.318
Formal Aspect - Assuror responsibility			6.318
Formal Aspect - Independence		6.571	
Verification - No Limitations to scope		6.500	
Verification -Level of assurance	6.500		
Verification -Conclusions	6.500	6.500	
Availability - On-line access	6.583		

Reliability of the FRR model

To estimate the reliability of the measure of AS quality included in the FRR model, the Cronbach Alpha coefficient is calculated. The variables linked to formal aspects have a coefficient of .738, while the variables linked to verification have a coefficient of .821. Although there is no general agreement on what is a perfect coefficient, a value higher than .70 is considered a good measure (Peterson (1994), found a mean coefficient value of .77 among 4286 Alpha coefficients); therefore, we can argue that the FRR measure is reliable based on the scores of the participants in the study.

A principal component analysis of the student’s responses deals five components (Table 5). The first of them includes five of the measures linked to verification. Those variables define the technical scope of the assurance. The last component includes on-line access only, and is included in the model as a measure of availability of the report. Regarding format, component 3 relates to auditor characteristics (identification, independence and giving recommendations), component 2 relates to determinants of responsibility (existence of statements of responsibility of entity and assurance, and disclosure of the subject matter). Finally, component 4 includes the existence of title and identification of the addressee, formal variables that define an identification of the AS, and that were ranked in the lowest level by all the groups.

TABLE 5. PRINCIPAL COMPONENT ANALYSIS OF THE AS QUALITY CRITERIA

Variable	Verification technique	Formal responsibility	Formal auditor identification	Formal AS identification	Availability
Formal aspects					
Name, signature, place & date			.814		
Title				.692	
Addresses				.771	
Subject matter		.724			
Entity responsibility		.715			
Auditor responsibility		.828			
Independence			.685		
Verification					
Work performed	.808				
Assurance standards	.672				
No Limitations to the scope	.769				
Level of assurance	.745				
Conclusions	.577				
Recommendations			.481		
Availability					
On-line access					.897

The less weighted variable “Recommendations” is the only one not perfectly adjusted to the item structure. However, analyzing its valuesⁱⁱⁱ, it can be considered as a neutral variable for nearly all components.

Validity of FRR model according to student’s assessment of AS quality

At the end of the study, students were asked to evaluate at least two AS (some of them evaluated three). They were asked to measure in a 7 point Likert scale the level of satisfaction of the ASs with the variables defined in the FRR model, and to judge which AS was the best and which one the worst. 37 of the 46 students (80%) who evaluated the quality of the AS gave higher average rankings to the best than to the worst company assessed according to the FRR model, which indicates an agreement between both assessments.

A pair comparison of each student’s assessment and the related FRR model value shows that the means are not different ($p < .0217$) (Table 6).

TABLE 6 – PAIRED SAMPLE COMPARISON BETWEEN STUDENT’S ASSESSMENT AND FRR MODEL

	Mean	StdDev	N	t	sig.
Student valuation	.695	.328	104		
Value FRR	.655	.211	104		
Paired sample test	.040	.330		1.243	.217

Table 7 presents the mean of the students' assessment and the FRR model value. Both variables are highly correlated (Pearson Correlation = .768 at .001 level).

TABLE 7 - MEAN ASSESSMENT OF STUDENTS AND FRR MODEL

Company	StudentEval	FRRModel	Company	StudentEval	FRRModel
Telvent	0.87	0.90	Bancaja Habitat	0.48	0.40
La Farga	0.54	0.55	Ibercaja	0.78	0.90
Col. Farmac. Madrid	0.50	0.30	Caixa Galicia	0.52	0.50
Telefónica	0.77	0.90	Banesto	0.62	0.40
Puerto de A Coruña	0.78	0.65	Gas Natural Spain	0.94	0.90
Cajasol	0.51	0.40	ENUSA	0.68	0.70
SegurCaixa Holding	0.84	0.90	BBK	0.64	0.40
TERSA	0.55	0.50	Abbey Nat. Plc	0.75	0.80
Antena 3 Group	0.62	0.40	Reynolds	0.76	0.75
Repsol YPF	0.85	0.90	Amec	0.71	0.40
Lavola	0.69	0.50	Ferrovial-grupo	0.68	0.90

A comparison was made between the agreement in the judgment according to the students and the model. For that purpose, a variable PICKBEST was defined, with a value of 1 if the student picked the best company according to the model, and 0 if the judgment disagreed. There is agreement in 67% of the cases, but with differences between groups. There is a higher disagreement in the US undergraduate students than in the other two groups (Spanish). A chi square test shows that the differences are significant (Table 8). This difference can be related to the previous knowledge of the students since the undergraduates had not had any course related to CSR, while the other two groups had had at least some introduction to the topic of AS for sustainability reports. It could also be related to cultural differences between countries.

TABLE 8 – SELECTION OF THE BEST COMPANY ACCORDING TO THE FRR MODEL

		Group			Total
		GAS1	GAS2	GAS3	
Pickbest	0	0	1	13	14
	1	12	10	6	28
	Total	12	11	19	42

Chi-square test Asymp. Sig (2 sided) 0.000

Finally, we run a regression to understand which of the variables affected the selection of the best and worst AS. The independent variables are the differences in the ranking of the format, verification and access between the best and the worst companies, while the dependent variable is the PICKBEST variable defined before. The demographic variables age, group, work experience, previous knowledge of CSR, experience reading AS, and importance assigned to the AS are introduced in the model. The results show that previous knowledge of CSR, as well as verification and format differences affect the selection of the best company. Another significant difference is group, where the cultural factors may be present, since the previous knowledge of CSR was accounted for in another variable (Table 9).

TABLE 9. COEFFICIENTS LINEAR REGRESSION
(dependent variable: PICKBEST)

	St. Coeff. Beta	t	Sig.
(Constant)		3.83421	0.001
group	-0.59791	-3.81291	0.001
age	-0.21724	-1.43591	0.162
gender	-0.16048	-1.48731	0.148
workexp	0.06109	0.57795	0.568
csrknow	0.27070	2.22781	0.034
readas	0.01983	0.17223	0.864
importanceas	-0.08470	-0.66406	0.512
diffformat	0.29486	2.13889	0.041
diffverif	0.46837	4.37953	0.000
diffacc	-0.03130	-0.27095	0.788
R Square		0.772	
Adj R Square		0.693	

Group has a value of 1 if GAS3, 0 if GAS2, -1 if GAS1. Age is divided in ranks where 1 is the youngest group, and 4 the oldest. Work experience has a value of 1 if they worked, 0 otherwise. Gender is 1 if male, 0 if female, Csrkow is 1 if they have training in CSR, 0 otherwise. ReadAS is 1 if they ever read AS, 0 otherwise. ImportanceAS has a value from 1 to 7, where 1 is having no importance and 7 is extremely important. Diffformat, differif, diffacc is the difference between the individual assessment of the components of the best and worst companies.

Discussion, Conclusions and directions for future research

This paper reports the results of a study developed to evaluate if the users' perception of AS quality is in agreement with the model developed by Fernandez-Feijoo, Romero & Ruiz (2011). 49 accounting students participated as proxy for users of ASs, both in Spain and in the United States. The FRR measure has three components, formal, verification and accessibility. Each of them is described by different variables. All the variables included in the model were ranked by the participants as having high importance in the assessment of quality of AS. The lowest mean value, 5 in a scale of 7, was assigned by the Masters students, to the identification of the addressee in the report. The other groups agreed on the lower ranking for this measure, compared with the others. We found differences in the assessments of the groups, although they are not significant. Masters students, on one hand, gave less value to factors related to presentation formats, like the report having a title or identification of the addressee. They assigned more value to aspects related to verification like the level of assurance and the existence of conclusions as well. This behaviour might be related to the maturity of the participants. A similar effect of age is found in the measurement of the availability of the reports. Younger students, especially American, assigned less value to the possibility of getting the report easily on line. The usability of the Internet in the USA, which has levels of 77% according to www.internetworldstats.com, may reduce the assessed value of this variable because access is given for granted.

The values assigned by the participants to the components of the measures are highly correlated, which adds reliability to the measure. In this sense, the variable "formal aspects" has a Cronbach Alpha coefficient of .738, while the variable "verification" has a coefficient of .821. This variable, verification, was found affecting significantly the evaluation of quality of AS.

In evaluating the quality and picking the best and worst ASs among 2 or 3 that the participants had to evaluate, there was an agreement between the assessment and the model in 67% of the cases. The students with more disagreement were the ones in the undergraduate program that had not had any in class training on CSR. This result is significantly different according to the Chi-Square test performed. Besides the students being undergraduates, they were students in a US university. We need to stress here that CSR is not fully adopted in the USA. According to Kaye (2011) American companies lag behind other countries in the development of CSR, since 45% of the companies using the GRI reporting model are European and only 12% of them are American. By being part of a culture that does not place value in the AS of the SR, they may not be prepared to evaluate them. Students in Spain had formal training on CSR, and by knowing what it means, are more able to evaluate its quality. Although AS is an instance of assurance, like financial statement auditing, it is not mandatory, this has different implications for users' evaluation of trust.

This study has limitations due to the inclusion of participants of only two regions. We found differences that could be related to cultural components. Two of the participating pools are from Spain, a country that has had an important increase in their CSR reporting strategies during the last years. A KPMG survey places Spain second in the world with around 70% of the SR assured (KPMG, 2008, 57). The third pool is from the US, which has only 14% of their SR assured. Although half of the participants are undergraduate students, they are seniors, and familiar with analysis of corporate information. Future research requires the extension of the study to larger samples, preferably of MBA students. It is also needed research with participants in different countries, to look for the possibility of other cultural differences. It is also necessary to develop and test measures of quality for SR as a complementary task to the evaluation of AS quality.

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For a complete list references, please contact the author(s).

End notes

ⁱ International Council on Mining and Metals

ⁱⁱ The Spanish university system is changing nowadays. The reform will finish in three years, with the full adoption of the Bolonia model. The students in the study are still in the old system, where the degree ("licenciado") required five-years courses and was equivalent to an undergraduate plus masters degree.

ⁱⁱⁱ

	Components				
Variable	1	2	3	4	5
Recommendations	,340	,220	,481	-,348	,402

Environment Related Reporting in Indian Cement Companies-a sustainability study

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Abstract

Environmental issues have become major business factors due to the negative externalities inflicting higher external costs on to the society. Besides, allocative efficiency is impaired, particularly in the areas of non-renewable assets. Thus increased awareness of social responsibility and environmental concern is now a challenge facing the corporate world. This study is intended to construct an index, based on the environmental issues related information in annual reports and find its relationship with firm values. The data is based on the listed cement companies whose market values are available in the Annual Reports for the year 2008-09. The findings reveal that board size and compositions has a significant relationship with environmental reporting.

Introduction

Progressive cement companies, of late are slowly realizing that to remain competitive in the future, they must combine sound financial performance with a commitment to social responsibility and environmental stewardship. These three dimensions are referred to as the “triple bottom line” of sustainable development. This translates into a fundamental goal of meeting the needs of the present without compromising the ability of future generations to meet their own needs. To achieve this there is a need for a paradigm shift in redefining the objectives of the company into economic growth, ecological balance, and social progress instead of straight jacketed focus on enhancing shareholder’s wealth.

The purpose of this research paper is to develop an index, (Environmental impact score-EIS) based on the data available in the annual reports on the lines of sustainability and correlate it with performance. The construction of the index is on the premise of factors concerning stakeholders outside the industry and boards, (who are primarily responsible for such implementation) as internal governance mechanisms.

Accordingly the chapter is organized as follows. Section 2 deals with literature review. Section 3 deals with the methodology, section 4 deals with analysis of data and section 5 deals with conclusion.

Literature review

In the developed countries there have been numerous studies on corporate social reporting and environmental reporting (Gray *et al.* 1995; Deegan and Gordon, 1996; Hackston and Milne, 1996; Adams, 2002; Cormier and Magnan, 2003, 2007). There is a similar growing trend in the developing countries as well (Cho and Patten, 2007; Zauwiyah *et al.*, 2003; Nik Nazli and Maliah, 2004; Romlah and Sharifah, 2004; Sumiani *et al.*, 2006; Amran and Devi, 2008).

The idea of this study is to link company’s internal processes to the environmental information contained in the annual reports. The premise of this idea is rooted in the concept of Adams (2000), who says that there are three factors that can influence corporate social reporting, namely, corporate characteristics, general contextual factors and the internal context.

According to Cho and Patten (2007), the companies disclose environmental aspects in financial reports. This ensures that the firms' activities are perceived to be legitimate in the eyes of the stakeholders thereby enhancing the firm's reputation.

Following the 1997 Asian financial crisis and 2002 ENRON collapse, regulators have focused on corporate governance legislations aimed at protecting the shareholders, primarily the minority ones. However there are no specific regulatory measures except state enforcing discipline mechanisms related to the environmental issues. The focus was on accounting transparency, disclosure and accountability and not beyond. In this context, voluntary reporting on environmental issues and CSR improves the social visibility of the firm.

Scandals of high profile as Enron, WorldCom, Tyco and some other firms in the U.S, have raised the question of the effectiveness of monitoring mechanisms in organizations (Raphaelson and Wahlen, 2004). As per Kolk (2006) the focus is shifting towards the internal mechanisms and in this context, corporate governance and sustainability reporting has emerged. This is on voluntary basis concerning the societal issues. Disclosure on environmental issues has the potential to increase shareholder's wealth and can be regarded as one of the elements of good corporate governance (SIO, 2006).

Theoretical aspects of environmental issues

The most frequently cited theory in social and environmental reporting studies is the *legitimacy theory* (Gray et. al., 1995). The theory is based on the notion of 'social contract', which limits the activities of an organization within the boundaries set by the society (Gray et. al., 1996).

In essence, the organization will gain support from the stakeholders and continue in existence in so far as its activities give benefits, or at least are not harmful to society. 'Legitimacy' is said to exist as there is congruence between the activities of the organization and societal expectations. Otherwise, the organization has to deal with the 'legitimacy gap' by improving its actual performance, changing the societal expectation, or the perception of its performance, or deviating away the public attention from the issue under scrutiny (Lindblom, 1994).

Another useful theory to explain the environmental reporting practice is the *stakeholder theory*. This theory stems into two other theories: the *normative stakeholder theory* and *empirical stakeholder theory* (Gray et. al., 1996). The *Normative stakeholder theory*, the more relevant of the two, posits that an organization (this would mean any party interested in the corporate environmental performance including NGOs, government and the public at large) will report on the environment simply because the 'environment' is one of its many stakeholders and its information needs must be fulfilled. Thus, in the absence of any mandatory reporting, a company should report on the environment voluntarily to discharge its environmental accountability to the public.

Methodology

Cement companies cause huge external costs, both in production and in supply chain process.

We have considered awards and other practices (global reporting initiative etc) as the criteria for developing the index because it is a bottom up process. Mandatory practices such as complying with ISO900 are considered as threshold levels of compliance and hence they are considered as a top down process. Accordingly issues like earning carbon credits, Global reporting initiative figure in our index (Environmental impact score-EIS)

For board composition and meetings; the source of data is from the annual reports.

Financial data is from the CIME data base which all researchers use in India (Balasubramanian, 2008; Palepu, 2006).

Analysis of Data

Table 1 shows the results of the regression with Tobin's Q is the dependent variable and other control variables[. reg tobinsq eis brdind brdsiz brdmtg]

	Coef.	Std. Err.	t	P>t
EIS	0 .163054	0.0564293	2.89	0.008
Board ind	0.0373064	0.0646075	0.58	0.568
Board size	-0.0383191	0.0473516	-0.81	0.425
Board meeting	0.0427117	0.0725676	0.59	0.561
_cons	0.8399022	0.4957785	1.69	0.102
Source	SS	df	MS	Number of obs = 32
Model	1.07794	4	.26948517	F(4, 27) = 2.18
Residual	3.3390	27	.123667904	Prob > F = 0.0983
Total	4.41697411	31	.142483036	R-squared = 0.2440
				Adj R-squared = 0.1321
				Root MSE = .35166

The value of EIS is positive and significant at 1% levels; other positive factors being board independence and meetings which is consonance with other research findings.

TABLE 2

EIS	.1521399	.0570202	2.67	0.013	.0349331	.2693466
tobinsq	Coef.	Std. Err	t	P>t	[95% Conf. Interval]	
_cons	.6374236	.525847	1.21	0.236	-.4434704	1.718318
Dual CEO	.178105	.1596202	1.12	0.275	-.149999	.506209
Board size	-.0410379	.0472011	-0.87	0.393	-.1380611	.0559854
Board ind	.0375112	.0643166	0.58	0.565	-.0946935	.1697159
Board meetg	.0618239	.0742434	0.83	0.413	-.0907857	.2144335
Source	SS	df	MS	Root MSE = .35008		
Total	4.41697411	31	.142483			
Residual	3.18644905	26	.1225557	Adj R-squared = 0.1399		
Model	1.23052506	5	.2461050	R-squared = 0.2786		
Prob > F = 0.1108				F(5, 26) = 2.01		

The second set of table comprises of regressions with additional control variables .While there is change in the coefficients the values are positive and significant showing consistency in EIS values.

Conclusion

The purpose of the current study is to examine the level of environmental reporting among Indian cement companies and its association with corporate governance mechanisms such as board structures. On the whole, this study concludes that environmental reporting practices are not very clear. This finding provides limited evidence on the application of the stakeholder theory where ‘environment’ is considered as one of the important stakeholders. Additionally, findings on the corporate governance variables suggest that only the *board independence and meetings are* positively related.

The findings of the study should be interpreted in light of several limitations. First, only one year of data was considered in the current study. Hence, it would be interesting to conduct a longitudinal study on a yearly basis as it may help to trace the trend of environmental disclosure and the impact of corporate governance on environmental reporting practices. Second, the study focuses merely on examining the existence of environmental reporting in annual reports. Future research may adopt content analysis to examine the quantity, quality and nature of the reporting.

The findings might have altered if these variables had been applied and, therefore, would be able to explain environmental reporting behaviors. Additionally, the result will possibly have important implications on our understanding of the motive and consequences of environmental disclosure.

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Sustainability Collaboration: Integrated multiple stakeholder contracts

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Abstract

We develop the concept of Sustainability Collaboration in B2B marketing to be consistent with the Resource Based View (RBV) and the often cited UN Committee (convened in 1983) conceptualization of Sustainable Development. We propose that a contractual approach is central to Sustainability Collaboration (SC). The usual three dimensions of externalities in sustainability can be reflected in contractual SC agreements provided a multiple stakeholder perspective of business is taken. SC and the contractual approach is then applied to typical multiple stakeholder configurations employing appropriate contractual instruments. We illustrate the concept with examples. The paper contributes to understanding why and how multiple stakeholder contracts find their nexus in a firm's Sustainability Collaboration performance.

Introduction

Sustainability efforts are by essence collaborative. There are two main reasons. One is that successful results affect all stakeholders and are in the common domain. For instance, a major metric of success in anthropogenic global warming is tons of CO₂-equivalent emissions. Regardless of the specific effort, green house gas (GHG) output is homogenous and immediately mixed into the planet's atmospheric layer. Therefore trading of the results of GHG reduction efforts can be commoditized in carbon markets, even for the most location-specific effort. Other sustainability collaborations may not have such universal logic, but usually there are many beneficiaries. A second reason is that the effort is long term, risky and involves substantial financial burdens, and therefore requires alliances between different specializations in the entire supply chain. For instance, replacing petroleum based fuels by biofuels require innovative technologies, R&D, biomass sources, logistics, blenders, brokers, fleet managers and ultimately consumers to align their expectations and business models. Similarly, renewable energy for the grid is generated by a variety of start-up businesses that need to collaborate on building an infrastructure of high voltage direct-current transmission, which does not exist today, to deliver power to major utilities located thousands of miles away. Collaboration is beneficial to multiple partners.

Sustainability Collaboration is a performance outcome that demonstrates the firm has overcome these barriers and found solutions to negative externalities generated by traditional business models. Sustainability Collaboration is strategic since performance can advantageously orient businesses to superior future financial performance outcomes. While collaboration in general may be voluntary and arise from mutual self interest, there are many reasons why formal contracts should be attempted where possible. We argue that Sustainability Collaboration arises as a superior performance outcome only when it harnesses contractual agreements.

Modern business models require managers to clearly identify strategic resources that enable them to develop advantages in competitive marketplaces. Their firm's financial and non-financial performance outcomes depend on their ability to employ resources that are unique, and hard to imitate or surpass. The link between firm resources and firm level performance is a focus of the Resource Based View of the firm (Wernerfelt 1984; Barney 1991). Collaboration among businesses is widely studied in the literature, and its importance to innovation cannot be overstated. However, collaboration among multiple stakeholders, some of whom are not businesses, is necessary for business level performance outcomes in a sustainable world. How may we conceptualize performance? This paper addresses the central question of a "collaboration for sustainability" concept. It argues that a Sustainability Collaboration stems from and is safeguarded by contracts. A sound understanding of contractual approaches is central to performance.

The firm that does not seek to develop its business along sustainable lines may come out ahead for a short period, but is courting collective disaster in the long run. As all businesses survive in a collective business environment, the wisdom of Sustainability Collaboration among all stakeholders should translate to enlightened self-interest. Regulators argue that as enlightened self-interest is not always voluntary it may have to be mandated and compliance may have to be enforced. But evidence from Green Clubs (such as RGGI, the mid-Atlantic US based Regional Greenhouse Gas Initiative) shows that firms embrace enlightened self interest quite often, even when not stimulated by the possibility of imminent regulation. Firms voluntarily enter into contracts with a variety of stakeholders. Often these contracts are bilateral and therefore self-enforcing. Contracts are designed to reduce business risks and provide incentives in the supply chain for improved performance.

Broadly, externality risks and therefore all sustainability performance outcomes stem from environmental, social and economic sources. While these mutually reinforce in some ways, they may also be in conflict if sustainability business solutions are not well designed. Sustainability success metrics are determined along these three dimensions. They are closely related to pre-existing KPIs from various established business frameworks that were considered independent in pre-sustainability business models. Therefore, Sustainability Collaboration retains many features of business solutions already in place. Guinipero et al (2006) argue that supply chain managers must develop specific skills and apply them entrepreneurially in the future. However, to the best of our knowledge the literature has not explicitly proposed Sustainability Collaboration as performance outcome. The role of contracting in Sustainability Collaboration is an additional contribution of this paper.

The next section of the paper briefly reviews the literature relevant to the construct of Sustainability Collaboration (SC). The next sections propose agency-theoretic contractual instruments that SC can build upon. We next outline an illustrative example of the consequences of SC failure, and conclude with future research directions.

Literature Review

The relevant literature for a framework on Sustainability Collaboration links sustainability, resource based views, collaboration and contracts.

Sustainability: In the course of producing goods and services in modern economies, firms emit various types of pollutants, wastes, and emissions. Many products such as waste packaging have a post-consumer life that contributes even further to environmental degradation. These environmentally degrading consequences impose an unwanted and unintended social cost, and traditional business models seek to relegate them to external costs by avoiding their impact on the bottom line or on prices. A true cost to society that does not show up in a firm's profit and loss statement is termed an external cost or externality. One major class of external costs is due to environmental degradation in the production of goods and services. The producer and the recipient of the externality may be different parties, as in an upstream paper mill and a downstream water supply system, or the same party as in global green house gas emissions (Field & Field 2009: p. 74). The economic impact then becomes an externality. The problem is broader than economic externalities as was recognized in the economics literature many years earlier. A telling quote is: "But it is, of course, desirable that the choice between different social arrangements for the solution of economic problems should be carried out in broader terms than this and that the total effect of these arrangements in all spheres of life should be taken into account. ... problems of welfare economics must ultimately dissolve into a study of aesthetics and morals (Coase 1960: p. 43).

Traditional business models generate externalities such as toxic pollution, climate change and depleted natural resource. These are all damaging to mankind's ecological environment. The Stern Review Report on The Economics of Climate Change (2007) has pointed out the wide ranging market failure associated with emission. Over five years ago, the UN sponsored MEA (Millenium Ecosystem Assessment 2005) found that approximately 60 percent of the ecosystems services that supported life on earth were being used unsustainably. A measure of the economic value of such services is GBP 30 trillion in 1996. The costs of stabilization would be about 1 percent of GDP by 2050, according to the Stern Review, although it is a considerably higher percentage at this time. What if stabilization is ignored? The Stern review estimates the direct and indirect costs to consumption, environmental services and health 11-14 percent of GDP. The obvious conclusion is that a small cost to the GDP could prevent ten

times as much in lost value. Not many investments in the “business-as-usual” approach can boast of such returns (May 2008).

Other externalities are economic and social, and damage long run business environments and community systems. Negative externalities by definition are difficult to deal with by voluntary actions, as they arise as mutual best responses to tragedy of the commons or prisoner dilemma situations. These “best” responses are individually rational actions which aggregate to collectively inferior outcomes. Almost three decades ago sustainable development was defined by a UN Commission that grappled with these externalities on a global scale. The often cited definition is consistent with a performance outcomes orientation inherent to Sustainability Collaboration.ⁱ

Resource Based View: A major paradigm in management strategy research is that of the resource based view (RBV: Barney 1991; Wernerfelt 1984;) of the firm. In the RBV, the firm’s performance is explained by its resources. Resources can be material, financial, organizational, technological or human capabilities. Barney (1991) includes as resources all organizational processes that “enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness.”(p.101). Firm resources are hard to imitate, unique and are developed over long periods of time. From a strategy perspective, Resource Based Theory (RBT) postulates the most basic conflict in market economies is in the competition between processes for resources. RBV is proposed as an approach naturally compatible with sustainability research as natural resources should be nurtured over time, ecological advantages can provide economic advantages (Connelly et al 2011).

Crook et al (2008) conduct a meta-analysis of RBV research to examine the links between strategic resources and performance, and find that human and intangible resources are more effective than tangible resources. They argue that RBV studies should develop performance measures that are unaffected by financial reporting norms. Functional level performance measures, such as corporate social responsibility (CSR), are preferable to organizational measures in RBV studies as the latter may be confounded by financial accounting adjustments.

CSR, an aspect of sustainability, leads to improved corporate social performance. Research has demonstrated that corporate social performance has a positive effect on financial performance (Orlitzky et al 2003); Luo & Bhattacharya 2009). Epstein (2008) finds that corporate sustainability performance leads to superior financial performance. Recent research indicates that more specific pathways to financial success. Greater expenditure on mitigation efforts significantly enhances Tobin’s Q, and that the market is beginning to penalize large emitters, while at the same time rewarding firms that undertake concrete mitigation efforts (Aggarwal & Dow 2010).

Collaboration: A business-to-business view of collaboration is usual in the literature. An early investigation into collaboration uses the RBV to argue unique joint competencies emerge from heterogeneity of capabilities (Jap 2001). Many authors closely link collaboration performance with financial performance (for instance, Spekman and Carraway 2006; Paulraj, Lado and Chen 2008; Nyaga, Whipple and Lynch 2010; Claro and Claro 2010).

Even earlier work links collaboration performance to innovation and new product success (Lehmann and O’Shaughnessey 1974, 1982; Sivadas and Dwyer 2000). Meta analysis shows that there is a sales growth advantage with innovation and inter-organizational networking (Bahadir, Bharadwaj and Parzen 2009). Collaboration is well established as a concern at introduction stages, including new product design and development. Jean, Synkovics and Kim (2010) link relationship learning to collaboration performance in a cross border context. Their indicators use technology and product information sharing, and adjustments in common understanding of trends in technology. Collaboration in new product development and commercialization needs involvement in specification development processes (Min, Mentzer and Ladd (2007). A primary route to more rapid innovation is supplier collaboration (Piercy (2009). Dabhilkar *et al* (2009) measure collaboration as active adaptation of production processes for both companies, and early supplier participation in the development of new products (see also Seshadri 2011).

La Forme et al (2007) differentiates between structural and procedural models of collaboration. The authors stress the importance of collaboration, and related processes such as coordination and cooperation, to facilitate responsiveness, competitor satisfaction and competitiveness. Hallikas *et al* (2005) discusses single and double loop learning in the context of collaborative strategic planning.

Crittenden et al (2011) note that many companies treat sustainability as a single level rather than an end-to-end supply chain issue. They argue for a proposition (P4a: p. 77) that “a sustainability strategy will be associated with a collaboration culture among supply chain members.”

Contracts: Contracts between a principal and one or many agents can be designed as mechanisms that help resolve divergent interests of the parties. The theory that underlies this approach to understanding contracts is Agency Theory. The strategic use of information asymmetries and the costs of monitoring and verifying costly effort underlie agency costs. Jensen and Meckling (1976) proposed the theory, and the business and economics literature finds many applications of agency theory to contract mechanism design. A recent survey of possible theoretical approaches to sustainability research identified the potential of agency approaches (Connelly et al 2011). From a collaboration perspective, it may be more appropriate to focus on bilateral contracts. Agency Theory helps identify bilateral contractual elements that shift the financial burden of risk between parties, and thereby provide incentives for aligning interests between a principal and its agents. The level of risk is greatly increased due to externalities. Contracts allocate and shift the balance of risks and obligations in the supply chain. Information asymmetries introduce agency problems in the design of contracts. Sustainability Collaboration results in highly uncertain performance outcomes. Effort from various parties can improve outcomes, but not deterministically. Therefore, if risk is apportioned mainly to a single party, other parties in the supply chain have an incentive to shirk effort and save costs. A departure from cost-plus contracts is therefore necessary to *deliberately include some risk* for suppliers and other parties. The interaction of externality and agency needs to be addressed in contracts for Sustainability Collaboration. As both moral hazard and signaling (varieties of agency costs) are similar to externalities, there is a natural fit with mechanisms such as contracts to reduce moral hazard and signaling costs. Many contractual designs are directed toward these ends. Therefore, contractual approaches to reducing externalities may be fruitfully explored.

Neoclassical contracts use instruments such as royalties, fees, expense sharing, profit sharing, penalties, damages, and the like to share risks and provide incentives. They are typified by the Uniform Commercial Code and the Second Restatement of Contracts. Relational contracts, on the other hand, subjugate short term self interest to long term or enlightened self interest (Feinman 2000; Macneil 2000). Learning, commitment, and reputation are processes that link the two. Transaction costs can be very high in markets with high contingency situations, as when externalities are involved, and relationships help mediate neoclassical contracts (Nordberg et al 1996).

Sustainability Collaboration: A definition

We offer a definition that draws on RBV, sustainable development, collaboration between multiple stakeholders and the pivotal role of contracts. *Sustainability Collaboration is the firm's strategic performance in sustainably governing multiple stakeholder interests through practices based on mutually reinforcing contractual agreements.*

The more general construct of Collaboration has been defined in early work as the degree to which partners are able to work together in a joint fashion toward their respective goals (Frazier 1983). Another early definition of Collaboration is “two or more independent companies work jointly to plan and execute supply chain operations with greater success than when acting in isolation (Simatupang and Sridharan 2002, p. 19).” Our definition of *Sustainability Collaboration (SC)* differs as it includes RBV, multiple stakeholders, contractual approaches and the goal of sustainability. Like definitions of other forms of collaboration, SC is a desirable outcome for the firm in and of itself.

Epstein (2008) discusses collaboration between firms and NGOs for sustainability, and devotes several pages (P. 97-102) to this important process. He explains Sustainability Performance with nine principles: Ethics, Governance, Transparency, Business relationships, Financial return, Community involvement / economic development, Value of products and services, Employment practices, and Protection of the environment, and provides over five dozen metrics for the construct (p. 172-3). Our definition is complementary, in that we identify Sustainability Collaboration as a performance outcome in the RBV, and the three dimensions of sustainability. However, the emphasis is on contractual collaborations rather than the relational partnerships that the Corporate Sustainability Model proposes.

It is useful to examine definitions of Sustainability that may include aspects of collaboration. An excellent summary of definitions of sustainability and its principles of its assessment is in Gibson *et al* (2005). Global cooperation and inter-country assistance is listed repeatedly as core objectives of Sustainability in declarations such

as from The Stockholm Conference of 1972; UNEP, WWF, IUCN declarations of 1980; and the Brundtland Commission of WCED in 1987. Other definitions include democratic self-determination and distributive justice. Several include loyalty of adherents through economic equity, special mechanisms, public involvement, and ability to participate creatively and self-directly. Community participation and shared knowledge are recurrent dimensions in regional, and country level declarations. Stronger versions are community control, provision of social structures, pluralism and participation of civil society. Other assessment approaches require municipal councils to have multi-sector stakeholder group and community consultation, including formal public consultations and public hearings of draft regional growth strategies. Effective and negotiated conflict resolution and deliberations with related stakeholders and authorities are basic. Stewardship Councils require multi-stakeholders in a consultative process and specifically lists environmental and social organizations, sector bodies and corporations, community groups, indigenous peoples' organizations, and certification bodies.ⁱⁱ

Governance of Sustainability Collaboration

A useful definition of governance in sustainability contexts is provided in Francesch-Huidobro (2008: p. 11): "Patterns of *interaction* between the state and civil society and the various processes of *coordination and collaboration* between government and NGOs for policy making, as well as the *participation* of non-state actors in the policy process [emphases in the original]." The multi-stakeholder perspective and the collaborative nature of sustainability efforts is evident in this view of governance. The plurality of forms is less explicit, but reference is made to interaction, coordination, collaboration and participation processes. Plural forms of governance are likely to provide greater flexibility in safeguarding inter-firm exchanges (Cannon et al 2000). These options, the authors note, should be viewed as building blocks for complex governance structures and not as either/or alternatives. Multiple stakeholder involvement creates a higher imperative for plural form governance.

Relationships are complex exchange governance mechanisms, in which efforts at relationship continuity are necessary. There is no pre-set duration, and recourse to third parties is not enforcing, although they may be bilateral or multilateral, and may often reveal leadership roles. Relationships as exchanges therefore have a spectrum of interactive behaviors. They range from arms length, one time transactions to close, repeated collaborations (Day 2000). The market-contract and transaction-collaboration relationship interdependencies are a useful way to think of exchange governance mechanisms for sustainability, from emission allowances to clean technology R&D.

Markets are exchange governance mechanisms, usually based on spot prices, or small spreads between bid and ask prices. There are large numbers of buyers and sellers, many exchanges, and a commonly acceptable mechanism for registering the trades and transacting payments, thereby transferring ownership of the tradable offering. In sustainability markets the tradable offerings could be physical products such as biofuels, basic certificates and allowances such as emission permits, or more complex derivative products such as futures and options on those permits. Trading schemes for emission allowances are voluntary or mandatory. In mandatory markets the allowances are allocated by regulatory authority to specific sources of emissions that are required to participate in emissions allowance program. Over-the-counter trades directly match buyers and sellers without moving them through a centralized exchange (Bataller et al 2008).

It is well recognized that market forces alone are inadequate. Sachs (2008) explains four macro-reasons why market forces fail. Profitability may not be attractive enough for R&D investment; adoption and diffusion of innovations may be too slow; cause and effect may actually be reversed and markets may be the outcome of larger forces like population distributions that are harmful; and not all people have access to markets. With negative externalities social costs remain unaccounted for, and the market price mechanism for coordination of business decisions has failed. The logic of contractual interventions for sustainability could be the lowest cost alternative, and we note that the organization in society that is best placed to design and engage in contractual behavior is the firm.

Contracts are departures from markets in two ways. One is the period from inception to liquidation of the contract is finite and not necessary immediate. The duration may be long. The second is that parties to the contract are restricted and do not include all buyers and sellers. Usually the restriction is severe and may have only two parties. Contracts are often self-enforcing but third parties may also be involved, such as courts or arbitrators. The

terms and conditions further qualify the offer and exchange and make it a one-off exchange. Contracts are characterized by a principal and one or more agents; and contractual rules are largely determined by the principal. In contracts, the effort is long term, risky and substantial; and therefore requires collaboration between different specializations in the entire supply chain. For instance, energy from renewable sources is generated by a variety of start-up businesses that need to collaborate on building an infrastructure of high voltage direct-current transmission, which does not exist today, to major utilities located thousands of miles away. Some OTC trades are contractual in nature, although the contract may be simple and standard.

Markets, Contracts and Relationships are complementary mechanisms. Better contractual agreements, where they can be drafted, support deeper and more complex relations (Seshadri and Mishra 2004). An industry's ability to rapidly accelerate sustainability innovation is critically dependent on better governance mechanisms for exchange. Sustainability efforts are governed by, for example, cap-and-trade (markets); vendor-purchaser agreements that specify emission targets (contracts); and associations and relationships between firms in many sectors (transactional and collaborative relationships).

Businesses often use all three governance mechanisms simultaneously to improve exchanges. Markets provide a baseline for self-enforcing contracts, and parties to a contract usually write future-looking contracts to improve on what they can clearly achieve or offer at the current time with markets. Contracts provide a fall back basis for building relationships, and can limit perceived risk from violations of trust. Relationship complexity and continuity can improve in incomplete contracting situations, when such fall-back simpler contracts exist. The remainder of the paper focuses on the pivotal role of contracts in Sustainability Collaborations.

Sustainability Collaboration and Contractual Instruments

Externalities are difficult to deal with since self interest drives consumption in the supply chain, but that self-interest is the source of collective disasters. Consumption of natural resources and technological capacity to meet present and future needs through the market mechanism cannot be curtailed without adequate incentives (Salzman 1997). Specific contracts provide a framework of incentives that could be used to support Sustainability Collaboration.

Principal-Agent Contracts: Two parties may develop bilateral contractual agreements in order to govern their exchange in a manner that does not require recourse to courts or arbitrators. The contracts usually are self-enforcing and specify what penalties will occur if terms are breached. Bilateral contracts recognize that complexities of modern business render third parties incapable of understanding the relevant details and the best parties to govern exchanges are the concerned parties themselves. The parties are either two businesses, or a business and a regulatory authority. Contracts that are not self enforcing need a third party to enforce the contract, and perhaps adjudicate and penalize breach of contract. The third party is usually the presiding court, relevant government body such as a Pollution Control Board, or industry association. Instruments in Sustainability Collaboration third part contracts are introduced by law, such as the Clean Air Act, or a Clean Water Act. They may also be Association Certification requirements, such as the MARPOL Annex VI, *Prevention of Air Pollution from Ships* of the International Maritime Organization, IMO (Moffat 2010). Instruments of bilateral contracts may typically be:

1. **Quotas:** Resources are rationed based on the ability of natural processes to regenerate. Forestry and fisheries have long been subject to such quota limitations. Longer term quotas provide R&D targets, as in fuel efficiency and car exhaust emissions. Energy supplied over the grid has positive quotas for renewable sources that must be exceeded.
2. **Linear Incentives:** A target level of pollution is established and under-runs or over-runs are rewarded or penalized in accordance with a formula agreed upon between the supplier and the buyer in the contract. This removes the need to verify polluter effort when supplier specific uncertainties on cleanness of technology exist.
3. **Equity Investments:** Supply chains may internally finance investments in clean technology with loans and equity shares between buyer and seller. Financial benefits can accrue to the supply chain by lowering the cost of working capital and ensuring investments go to mutually beneficial clean technologies.
4. **Mandates:** Laws against using specific chemicals (chlorofluorocarbons in refrigeration equipment) or production processes (child labor) changes products and services offered at the point of sale or consumption.

5. Taxes: Pollution is taxed directly where possible, and output from dirty technologies is taxed at a higher rate than clean technologies which may even receive a subsidy. This modifies consumption of technological processes and reduces pollution.

Multiple Stakeholder Contracts: Battacharya et al (2009) emphasize the need to include all stakeholders for value creation, and to avoid a single stakeholder perspective. Sheth et al (2011) argue that sustainability must necessarily reflect the stakeholder view. They note that the customer embodies multiple stakeholder identities.ⁱⁱⁱ Contractual agreements in value chains between multiple stakeholders could have beneficially addressed externalities. Performance management requires recognition of all stakeholders and the necessity of securing their collaboration (Donaldson and Preston 1995; Crittenden et al 2011). Criteria for improvement of incentives depend on appeal to multiple stakeholders.^{iv} A variety of instruments, such as those listed below, govern exchanges with multiple stakeholders.

1. Branding: Certifications that impact customer perceptions of environmental friendliness help modify demand for branded products and services. The ISO 14000 certification is one, but several sector specific awards exist.

2. Yardstick incentives: Contests and tournaments between suppliers for business rewards are useful when common uncertainties and unverifiable effort are involved. These instruments allow the principal to use multiple agents as their own yardstick for performance. Pollution abatement can become an effective learning race between agents.^v

3. Bidding and reverse auctions: Hidden information on supplier competencies and types are revealed by special price discovery mechanisms. These help in creating a market for sustainability outcomes and setting reference prices for contractual agreements.

4. Markets – Permits and Credits: A system of allocating permits is introduced, with the possibility of a permit trading market. Cap-and-trade is the best example of this. Permits of units of pollution are quantified and businesses are allocated or have to buy amounts of pollution permits. Exceeding pollution without commensurate permits is steeply penalized. Subsequently a market of bid or brokered exchange allows buying and selling (and donations) of permits.^{vi} Unutilized capacity which reduces dirty output can also yield excess permits to the seller that earns it an income. A price discovery mechanism follows from this process for pollution permits.

5. Labeling: Information is provided to the customer at the point of purchase that influences purchase and use behavior. The usual labels for sustainability are carbon footprints, and Green Marks.

6. Lifecycle Assessments: Extended Producer Responsibility (EPR) laws, such as EPR take backs, require the producer to assume responsibility for post-consumer disposal of waste. The principle of “least cost avoider” applies and the stakeholder with the lowest cost of dealing with the externality is assigned the task (Wiersema 2008). EPR can also extend upstream to an expanded boundary for emissions disclosure (Vandenbergh and Cohen 2010).

7. Consortia: Global consortia such as Global Reporting Initiative (GRI) have influenced CSR reporting initiatives (Nikolaeva & Bicho 2011)

Parties to Contracts: Social choices by multiple stakeholders will lead to conflicts of interest between specific parties, and systemic conflicts will need to be resolved through specific arrangements. Coase (1960) concludes his famous essay : “ ... in choosing between social arrangements within the context of which individual decisions are made, we have to bear in mind that a change in the existing system which will lead to an improvement in some decisions may well lead to a worsening of others. Furthermore we have to take into account the costs involved in operating the various social arrangements (whether it be the working of a market or of a government department), as well as the costs involved in moving to a new system. In devising and choosing between social arrangements we should have regard for the total effect. This, above all, is the change in approach which I am advocating (p. 44).” Adopting the Coasian approach requires businesses to devise new approaches. Contractual agreements between stakeholder dyads in an industry are not hard to visualize. As the NKH example (Appendix 1) and others illustrate, these may typically be:

1. Pollution Board – Pollution processing plants . Pollution processing plants (like CETP in the example) have a critical part to play. At NKH a moving target based on current state-of-the-art technology rather than a zero liquid discharge mandate would have encouraged development.

2. Pollution processing plants –Polluter Units: Incentive contracts from polluters that rewarded CETPs for advancements in treatment standards.
3. Banks – Pollution processing plants: International transfers of funds under Clean Development Mechanisms and other supply chain financial arrangements will be necessary. In TKH, larger loan amounts for effluent treatment using advanced cascade technologies and for R&D into “clean tech” with subsidies. Employer-Worker: Unionized agreements for planned community benefits and provident funds, retraining and community development.
4. Global Brands- Value Added Resellers/Suppliers: ISO 14000 certification requirements and Green Mark auditing from suppliers. Carbon disclosure agreements in the broadened boundary of supply chains across developed and developing countries is one proposal that furthers the involvement of global brands with VARs. emissions reduction incentives can extend to offshore suppliers. Wal-Mart is a well researched example of a global retailer that enforces sustainability standards domestically in the US as well as in emerging economies such as China.^{vii} The Supply Chain Leadership Collaboration (SCLC) furthers this agenda with a standardized process for supply chain reporting of carbon emissions (Vandenbergh & Cohen 2010).
5. Value Added Resellers/Suppliers – Polluter Units: Supplier financing for clean tech investments and mandatory certification. Reverse Marketing franchise agreements for unit development. ComEd, a unit of Exelon, purchases electricity generated from landfill methane gas at 22 sites, and wind energy from two additional projects. More than 50 photovoltaic systems by end 2004 came from several universities, single family homes, and a court house. In another instance, the German engineering firm Siemens has annulled its contract with Areva on the Finland nuclear reactor project due to delays over 42 months and cost escalations of 90 percent. This has entangled Areva and the Finnish operator in litigation (Bidwai 2011).
6. Pollution processing units – R&D Institutions: Consortium contracts for technical solution to effluent evaporation, involving multiple Institutes of Technology and CETPs. For instance, DuPont leads the Integrated Corn-Based BioRefinery (ICBR) project – a US Department of Energy funded research program. As part of the ICBR, DuPont, the National Renewable Energy Laboratory, and other companies will develop the world’s first integrated pilot-scale “bio-refinery” – with multiple products (Hoffman 2007: p. 133). Cummins joined the US Government and other industry partners in the Twenty-First Century Truck Initiative, with the goal of developing commercially viable truck and propulsion system technologies, that will dramatically improve current solutions (ibid: p. 152).
7. Associations/ Coalitions - Global Brands: Global Brands would require these cross-border associations to certify adherence to common standards. TEA (India) in the apparels sector could form affiliations with similar associations in China, and SE Asia for mandated standards that augment TÜV SÜD PSB standards for dyers. DuPont in another relationship is partnering with BP to develop “biobutanol” that offers significant advantages over biofuels currently on the market (Hoffman 2007: p.134).
8. NGOs – Pollution Control Board/National Regulators: Standard setting and MVR (monitoring, verification and reporting) agreements between non-governmental organizations (NGOs) and Pollution Control Boards.^{viii} Environmentalists lament the disrespect for civil rights in advancing developmental projects in emerging economies.^{ix}
9. Pollution Control Board (State Government) – Dept of Environment (Central Government): National and state policies are often aligned, and often at odds. National manufacturing policy is cited for infrastructure facilities development such as financial subsidies, import of machinery, containerization and railheads. National environmental acts need to be locally applicable to plug disparities in environmental law.
10. Polluters- Customers & community: *Interface* purchases a range of carbon offsets to support its Cool Carpet™ program, enabling its customers to purchase “climate neutral” flooring products. It is also a member of CCX. AEP is a founding member of the Chicago Climate Exchange (CCX), a group of organizations that includes the City of Chicago and Mexico City. Through CCX, AEP has made legally binding commitments to reduce its GHG emissions by 4 percent below the average of its 1998 to 2001 baseline in 5 years (Hoffman 2007:p. 161).

SC Propositions: The construct of *Sustainability Collaboration* (or SC) is associated with other useful concepts for strategic business management. Based on the previous development of the SC concepts we may propose the following set of associations.

- P1: SC is positively associated with other collaboration performance measures.
- P2: SC is positively associated with organizational performance measures.
- P3: SC is positively associated with policy performance.
- P4: SC is positively associated with firm sustainability assessments.
- P5: SC is positively associated with contractual performance.
- P6: SC is positively associated with relationship performance.
- P7: SC is positively associated with market success.
- P8: SC is positively associated with brand image.

The next section concludes with future research directions.

Conclusion

The paper argues for a construct *Sustainability Collaboration* that is complementary to but distinct from previous constructs of Collaboration or Sustainability Performance. One of the first authors to call for an examination of practices that underlie collaborative and inclusive approaches to sustainability may well have been Coase (1960): "... it is possible to conceive of better worlds than the one in which we live. But the problem is to devise practical arrangements which will correct defects in one part of the system without causing more serious harm in other parts. (p. 34)." Leading management theorists have recently recast even the most durable frameworks as collaborative shared value. Michael Porter says: "A growing number of companies known for their hard-nosed approach to business—such as GE, Google, IBM, Intel, Johnson & Johnson, Nestlé, Unilever, and Wal-Mart—have already embarked on important efforts to create shared value by re-conceiving the intersection between society and corporate performance. Yet our recognition of the transformative power of shared value is still in its genesis. Realizing it will require leaders and managers to develop new skills and knowledge—such as a far deeper appreciation of societal needs, a greater understanding of the true bases of company productivity, and the ability to *collaborate across profit/nonprofit boundaries* [emphasis added]. And government must learn how to regulate in ways that enable shared value rather than work against it." (Porter and Kramer 2011). With its focus on contractual collaborations with multiple stakeholders this paper provides a departure from previous approaches to sustainability that is more closely aligned with this concept of shared value.

Sustainability Collaboration is a firm level performance construct. It positions the firm advantageously in comparison to its competitors. Its long term positive impact on firm financial performance may be direct, or indirect through a collective improvement for the industry. Sustainable Collaboration development requires businesses to accelerate a variety of efforts. Many of these efforts may not be undertaken without closer attention to the pivotal role of multiple stakeholder contractual agreements.

We envisage future theoretical and empirical research to further deepen and develop the Sustainability Collaboration construct and to operationalize its measurement. A suitably validated scale should be linked to other performance measures that may be based on organizational and financial data. The propositions suggested in the paper are possible starting points for such an investigation. RBV approaches will suggest models of competencies that have direct and indirect causal effects on Sustainability Collaboration. Specific contractual arrangements that leverage markets and relationships may be explored, as Sustainability Collaboration expands the number of concerned parties to multiple stakeholders. The contractual processes between firms in the formation of syndicates and consortiums could impact their access to and pricing discovery in tradable emission permits. This direction of research would assist in understanding alternate practices and social arrangements.

References

For a full list of references, please contact the author(s).

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End Note

ⁱ The Brundtland Commission, formally the World Commission on Environment and Development (WCED), known by the name of its Chair Gro Harlem Brundtland, was convened by the United Nations in 1983. The commission was created to address growing concern "about the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development." In establishing the commission, the UN General Assembly recognized that environmental problems were global in nature and determined that it was in the common interest of all nations to establish policies for sustainable development. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: (1) the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and (2) the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

ⁱⁱ See Gibson et al (2005: p.206-234) for references, other elements, and several definitions of sustainability that do not include collaboration.

ⁱⁱⁱ Smith (2010, p.4) calls the customer a "citizen, a parent, an employee, a community member, or a member of the global village with a long term stake in the future of the planet."

^{iv} For example, carbon disclosure helps multiple stakeholders with information. Some decision makers who are enabled are customers, NGOs, investors, employees, managers. Decisions improve when stakeholders are able to understand, compare, and act. Financial stakeholders are individual investors, public pension funds, and socially responsible investment (SRI) funds (Vandenbergh and Cohen 2010).

^v "Significantly, the Agreement also allowed for a form of adaptive management. The 1987 Agreement committed to develop, adopt, and begin implementation of, by July 1988, "a basin-wide strategy to equitably achieve by the year 2000 at least a 40 percent reduction of nitrogen and phosphorus entering the main stem of the Chesapeake Bay." 175 Yet it also provided for reevaluation of this 40 percent reduction target by December 1991, "based on the results of modeling, research, monitoring and other information available at that time." Over the next thirteen years, the Chesapeake Bay Program re-evaluated its target and expanded its protection to the Bay's many tributary" Wiersema 2008.

^{vi} DuPont has been active with others in pilot emission trading schemes, through bi-lateral agreements and on the emerging carbon exchanges [using therefore relationships and markets]. DuPont is a member of the Chicago Climate Exchange and the International Emissions Trading Association. The Winter Olympics of 2002 could be declared "climate neutral" due to DuPont's donation of 120,000 metric tons of CO₂ e emission credits (Hoffman/Pew Center 2007).

^{vii} A firm uses supply chain contracts and screening to act as a "private regulator of its supply chain, imposing requirements on suppliers that are typically the concern of governments, not private firms. ... The pressure for emissions reductions will arise from numerous acts by private parties in response to public and private disclosure requirements, not by demands for emissions reductions from national governments "(Vandenbergh & Cohen 2001).

^{viii} "Bargaining occurs not only over legally constructed entitlements, but also socially-constructed entitlements, and it occurs not only at the local level, but also at the global level." (Vandenbergh & Cohen 2010)

^{ix} France, where an EPR design nuclear reactor is set up in Flamanville, and India have instances of civil protests against EPR design nuclear reactors. In India, the Department of Atomic Energy plans to locate six (1,650 MW each) nuclear reactors designed by Areva in Maharashtra's Ratnagiri district in India. Almost all the 2,375 families in the area who have lost land have refused compensation. The democratically elected local governing bodies have passed resolutions opposing the project.

Symbiotic linkage of Sustainability, Development and Differentiation

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Abstract

Care for environment with growth necessitates symbiotic linkage of sustainability, development and differentiation. The framework addresses intensity of innovation to woo consumers' need for novelty with ecology benign development mandated by climate change concerns. Such adoptions are cost add-on that lacks competitive advantage. Differentiation creates grassroots distinctiveness to development that transforms sustainability into opportunity. This cost to benefit gap is bridged through the symbiotic chain of sustainability, development and differentiation. The competitiveness coupled with environmentally benign technology can be sustained when the customers' preference for products and services satisfy their quality of life needs. This paper uses logit analysis to estimate the symbiotic index of a local, regional or globally scalable habitat. The output indicates the significance (0.037 at 95 percent confidence level) of the constant term representing 'quality of life need for novelty' justifying symbiotic linkage of sustainability, development and differentiation and need for further research with primary data.

Keywords: sustainability, differentiation, symbiosis, logit, innovation intensity, quality of life need for novelty

Introduction:

Why Sustainable Differentiation

Care for environment with growth necessitates symbiotic linkage of sustainability, development and differentiation. The ongoing debate on issues of sustainability, emissions reduction post Cancun (Climate Change conference, 2011) poses the challenge mitigation commitments, policy approaches and incentives to organizations for the technological adoption of eco-efficiency. The path of sustainable development needs to have symbiotic and cooperative sector specific as well as cross-sectoral interrelationships. The technology mechanism transition to low carbon development for developed as well as developing countries need enhanced climate financing along with innovation. This also puts to focus the need to secure an enduring relationship satisfying the quality of life need for novelty aspirations of the customers and stakeholders. This is addressed as sustainable differentiation. The symbiosis of sustainability, development and differentiation promises to fuel the momentum of the virtuous sustainability trajectory. Sustainability, development and differentiation in synchronous linkage provide innovative growth paths that are holistic and resilient and allow creative maneuvering to meet the changing consumer needs evolving due to health, food and lifestyle adaptations in response to climate change. Consumers and grassroots community faces consequences of global warming and are responsive towards the environment. Sustainable differentiation creates mutually symbiotic opportunity that serves produces and service providers with resurgent demand for sustainability products and services as well as collaborative partnerships customers and stakeholders. When people consume they do so with some rational as well as for empathy or emotional fulfillment. Sustainable development evolves to sustainable differentiation when there is a rational as well as an emotive linkage. Incessant rise in damages caused by climate change triggered disasters and the viewpoint of organizations that sustainability investments are more like a cost than a benefit has led to a search beyond sustainable development. This research gap is addressed here. The emotive linkage is usually excluded from sustainable development models for lack of a metric.

This paper explores sustainable development (SD) literature based on four parameters that unfurls or enables sustainable differentiation (SDf) in terms of interpretation, interactions of relevant parameters, comparison of coefficients and measures of the two levels of sustainability, SD and SDf. The concept of value gear is introduced as a model that unfurls innovation.

Organizational strategy is usually driven by the investors and stockholders who look for returns. This is literally the 'push' factor for organizations. This 'push' generated by embedding sustainable development could be

strengthened with innovation driven 'pull' to maintain the value derived from sustainability. This is sustainable differentiation. Uncertainty, change and volatility pervade global markets (Elliot, 2011). Dynamic and complex economic events such as debt crisis, global currency imbalances, quantitative easing policy are influencing the foreign direct investors. Additionally, it is mandatory to offer rapid yet sustainable response to climate change triggered events impacting the sustainable growth of institutions (Sachs, 2008). The lingering effect of the recession slows growth. The care for environment coupled with economic growth poses a challenging balancing task.

Literature Review:

Conceptual basis for Sustainable development to Sustainable differentiation

Usually markets reflect an organization's economic performance. This fails to reflect the full costs of the processing including natural resource inputs like water and climate sensitive outputs like waste. These are not factored in the calculations. Integration of environmental footprint into economic calculations determines sustainable developmental efficiency or eco-efficiency (Nikolova, 2008). However the challenge is to incorporate into the entrepreneurial mindset the fact that green growth adds value economically and ecologically (MCED, 2005). The reality is that the cycle of economic productivity is not synchronized with that of the ecological efficiency. This poses as a research gap that is addressed here with the concept of sustainable differentiation model. Sustainable differentiation not only puts in step the environmental costs along with the process costs, but also adds a competitive durable pitch by engaging the customer and the community at the emotive plane. Consumers and community usually look for originality in the products and services and adheres long term with such organizations who unfurl innovation in an ongoing manner. The organization stands out as it is sustainably differentiated from the competitors.

Sustainable development tends to be embedded with limited scope to generate appeal of novelty through differentiation of networks in action (Zuscovitchf, 1994). Innovation is the key factor for Sustainable Differentiation (SDf) in organizations including small and medium-sized enterprises (SMEs) based on the sustainability intensity required to mitigate and adapt to climate change while retaining growth. The contemporary literature identifies the relevant policy tools that guide to develop this conceptual framework. It tracks the sustainable development pathway driven by technology which unfurls into sustainable differentiation powered by innovation. The framework dynamically integrates technology with the need to innovate that combines reason with empathy. This justifies the need to incorporate sustainability practice onto development (Lacy, 2007). Sustainable differentiation adds a competitive durable pitch over sustainable development that engages organizations to unfurl innovation to woo consumers who look for novelty. This innovation need necessitates the incorporation of green growth vision in order to shape a more balanced economic, social and ecological order (Chung, 2008). Sustainable differentiation creates grassroots distinctiveness through innovation while sustainable development adopts environmentally friendly technology based common platform. The stakeholders (Freeman, 1982) and consumers were conditioned to respond to the 'marketing mix' emanated creative communication cues. With the world population doubling from 5.5 billion to 11 billion by 2030, sustainability issues such as loss of biodiversity, waste, deforestation necessitate technology for nature swaps. This would lead to the intensity to innovate in ecologically efficient competitive strategies for sustainable differentiation (Shrivastava, 1995).

Development that is designed with sustainable infrastructure principles provides the sense of emotional novelty that is imperative to community adherence to sustainability habits. The sustainability oriented quality of life need to be reoriented in terms of seeking novelty in consumption. Such control can manifest through measures like adopting green tax, eco efficiency, environmentally benign processes of extraction of natural resources in areas where sustainable development can influence, such as, housing, transport, energy, water, waste and sanitation services (Sachs, 2007).

Limits to absorb pollution and provide natural resources, Sustainable development builds on clean technology and enterprise. Sustainable Differentiation forges enduring and competitive growth through innovation (McKee, 2008). Growth becomes ingrained with differentiation leading over sustainable development by adopting delineation that etches a lasting and sustainable appeal on the users' empathy and emotions. Sustainable development is more norm based and policy driven. This leaves limited maneuvering space among competing organizations to woo and retain consumers.

Conceptual model:

The need to innovate

Ecological sustainability practices to harness climate change are inadequate at current practices of consumption intensive, need for novelty triggered quality of life aspirations. This gap is addressed in the conceptual model (figure 1) of the Innovation Value Gear relating Sustainable development to Sustainable differentiation by the emotive parameter of quality of life need for novelty (Viotti, 2002, Rungpry, 2007). The network is driven by the need to innovate and connected with bidirectional flow of the required intensity of eco-efficient technology, competitiveness related sustainable intensity and climate change related innovation intensity.

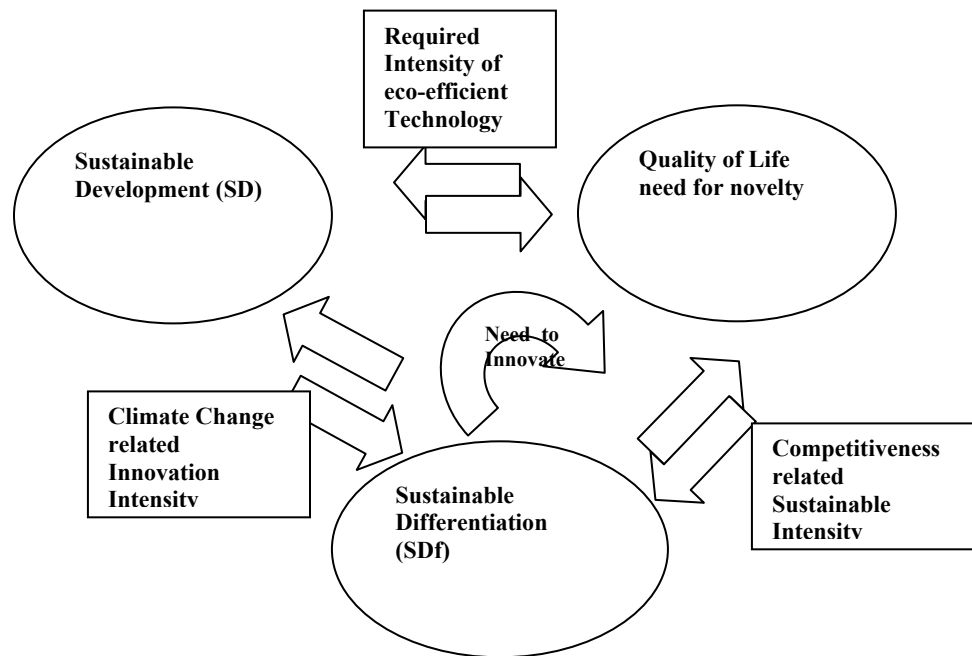


FIGURE 1: SUSTAINABILITY SYMBIOSIS

In the pursuit of climate change mitigation and adaptation, policy makers urge organizations to shift to environmentally friendly technology in their quest for sustainable development. Such adoption is often viewed as a cost add-on that affects competitive advantage. This Innovation Value Gear model (figure 1) is driven by need to innovate to scale the stages of sustainable development with the increase in intensity of eco-efficient technology transfer and adoption. The environmentally benign technology *push* drives the value gear. The competitive pressures from the customers' preference for differentiated and distinctive products and services create a *pull* for features that go beyond the mere appeal for sustainable development. This need is manifested by the quality of life need for novelty by the consumers and community. This intensifies the need to innovate, as firms compete to stay emotionally connected to the consumers and stakeholders. The momentum in the value gear is *picked up* by the innovators and entrepreneurs.

Organizations create a niche, and competitors need to be differentiated to generate sustained appeal from the consumers and community who may be potential users. Sustainable development focuses on underlying

processes such as eco-efficient transfer of technology that soon get standardized. This creates a gap in the empathy space in the minds of the users who look for novelty to fulfill their quality of life aspirations. Often investors and corporate service providers feel the cost of investing in sustainable development technology without receiving commensurate hike in consumer generated revenues. Sustainable differentiation provides the opportunity to apply sustainable technology as well as the emotive and differentiated appeal for consumers and community. Organizations may innovatively reposition themselves in the evoked mind-set of consumers, stakeholders and people through sustainable differentiation.

Research framework:

sustaining the sustainable development through sustainable differentiation

The research question proposed here is whether sustainable differentiation can better embed the balance of the demand from natural resources with quality of life needs for novelty than sustainable development. Assessing the efficacy of sustainable development drivers need the dynamic envelopment of innovation elements such as intensity of eco-efficient technology, competitiveness related sustainable intensity and climate change related innovation intensity.



FIGURE 2: THE SUSTAINABILITY ARRAY:
SYMBIOTIC LINKAGE OF INNOVATION, DEVELOPMENT, DIFFERENTIATION

The value gear transform provides the Sustainable differentiation scorecard that would benefit policy makers to assess options of growth while integrating the sustainable development inputs (figure 2) of intensity of eco-efficient technology, competitiveness and climate change with sustainable differentiation outputs of sustaining quality of life, satisfying ones’ need for novelty and creating a sustainable emotive collaboration with the organization.

Methodology

The research problem needs integration of issues that is best practiced by the use of mixed methods research methodology (Given, 2008). In this value gear, the dependent variable, Sustainable Differentiation may become an indicator variable that may assume binary form. Here the policy makers are interested to assess whether a selected region is a good prospect for unfurling sustainable differentiation from its position of sustainable development. This can be envisaged as:

$$SD_f = \begin{cases} 1 & \text{for Sustainable Differentiation} \\ 0 & \text{for Sustainable Development,} \end{cases}$$

This represents the logistic regression function (Hoetker, 2007) and is represented by equations 1a and 1b and the value gear as equation 2:

$$y_i = \alpha x_i + \varepsilon_i \quad (1a) \qquad SDf_i = \alpha SD_i + QoLnovl_i \quad (1b)$$

where, y_i = Propensity for symbiosis between sustainability, development and differentiation (SDf_i)

i = applicable area under consideration, e.g, ASEAN

x_i = Observable variable, e.g, Sustainable development (SD_i)

ε_i = other not directly observable factors, Quality of Life need for novelty (QoLnovl_i)

As the propensity for symbiosis between sustainability, development and differentiation represented by Sustainable Differentiation is not observable and is a paradigm or category. Representative of logit models, the limiting values are assigned as one when there is full propensity for Sustainable Differentiation and zero when there is Sustainable Development, without Quality of life need for novelty.

This leads to the hypothesis: Intensity of innovation makes it possible to sustain the sustainable development through sustainable differentiation.

wherein, $y_i = 1, \quad SDF_i = 1$ for Sustainable Differentiation (2)

and $y_i = 0, \quad SDF_i = 0$ for Sustainable Development

The logit model (Boulanger & Brechet, 2005; Iram, 2008; Hair et al, 2006) methodology provide good indicators to predict direction and magnitude of the symbiosis towards differentiation aligned with sustainable development. The statistical significance of each of the estimated coefficients can be an indicator of the possibility of interaction and need for alignment of the interrelatedness between the vector variables of sustainable development and sustainable differentiation. The vectors variables (conceptual model, figure 1) are the intensity of eco-efficient technology (Iecotech_i), competitiveness related sustainable intensity (Icomp_i) and climate change related innovation intensity (IclimCh_i). These are driven by the need to innovate.

Equations 3 describe the expected value of y_i given x_i . This estimates the probability that y_i will equal 1, given the value of x_i . It indicates the propensity for going beyond sustainable development represented by sustainable differentiation, expressed as probability of $y_i = 1$ (SDF_i) subject to x_i (given the scenario that there is Sustainable Development, SD_i) is expressed as represented graphically (figure 2):

$$P(y_i = 1 | x_i) = \frac{\text{exponential}(x_i \beta)}{1 + \text{exponential}(x_i \beta)} \quad \text{for Logit} \quad (3)$$

where $\beta =$ vector of the coefficients being estimated

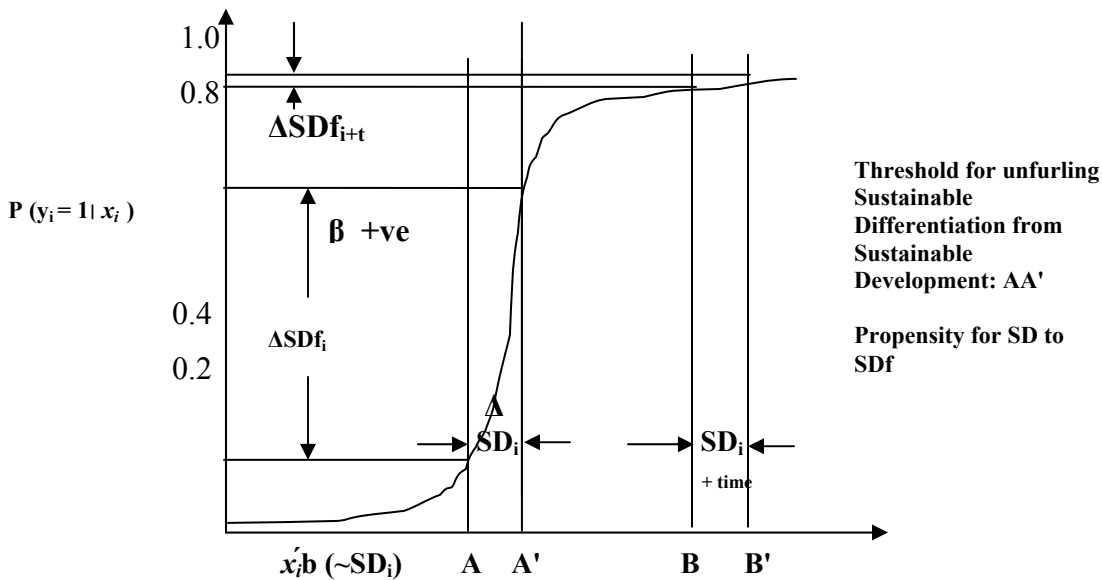


FIGURE 2: LOGISTIC DISTRIBUTION THRESHOLD FOR SUSTAINABILITY, DEVELOPMENT AND DIFFERENTIATION

Sustainability, Development & Differentiation Symbiotic analysis and interpretation of logistic regression

Secondary data analysis (adapted from Wackernagel, 2005; Tubiana, 2010; UNFCCC Climate Change Conference, 2011) was performed for key ASEAN and Asia Pacific countries including Thailand, Malaysia, Indonesia, China, India, DPR Korea, Republic of Korea, Japan extrapolated over the period 2008 quarter one to 2010 quarter four. Growth in the Asia Pacific region were factored on population, GDP and ecological footprint and used as a indicators of sustainable development, viz, intensity of competitiveness, intensity of eco-efficient technology, intensity of climate change and those of sustainable differentiation, viz, sustaining need for novelty, sustaining quality of life, sustaining empathy (table 1). The dependent variable Sustainable Differentiation index is a categorical, non-metric variable, while the independent variables are metric variables. The propensity for symbiosis between differentiation while adhering to sustainable development is represented by the dichotomous value of SD_f .

Table 1 is a representative part of the secondary data is used for the pilot logistic regression application for symbiosis between sustainability, development and differentiation indicated by direction and magnitude of logit dependent variable SD_f :

TABLE 1: PILOT DATA FOR LOGISTIC REGRESSION

	Sustainable Development			Sustainable Differentiation		
	Intensity of Eco-efficient technology GDP (Logistic Regression input)	Intensity of Competitiveness Population (Logistic Regression input)	Intensity of Climate change Ecological Footprint (Logistic Regression input)	Sustaining Need for Novelty(Logistic Regression input)	Sustaining Quality of Life(Logistic Regression input)	Sustaining Empathy (Logistic Regression input)
Thailand	46% (2)	12% (4)	16% (4)	70% (3.5)	70% (3.5)	82% (4.1)
Malaysia	47% (2)	13% (4)	22% (3)	90% (4.5)	74% (3.7)	44% (2.2)
China	158% (5)	10% (4)	23% (3)	50% (2.5)	54% (2.7)	70% (3.5)
India	78% (4)	20% (1)	18% (4)	50% (2.5)	46% (2.3)	84% (4.2)
Indonesia	44% (2)	16% (3)	15% (4)	40% (2.0)	42% (2.1)	78% (3.9)
Japan	12% (1)	3% (5)	7% (5)	100% (5.0)	84% (4.2)	80% (4.0)
Korea, DPR	n.a. (1)	11% (4)	-25% (5)	10% (1.0)	24% (1.2)	28% (1.4)
Korea, Rep.	71% (3)	9% (5)	37% (1)	80% (4.0)	78% (3.9)	50% (2.5)
Philippines	40% (2)	23% (1)	40% (1)	50% (2.5)	40% (2.0)	68% (3.4)
World	32% (1)	15% (3)	13% (5)	40% (2.0)	48% (2.4)	60% (3.0)

Sources: Adapted from Wackernagel, 2006, Tubiana 2010, Climate Change Conference 2011

Goodness of fit from the initial stepwise estimation provides a reliability of alpha 0.5617, Wald statistic 0.93establishes the significance of the three variables of GDP (representing intensity of eco-efficient technology), population (standing for intensity of competitiveness) and sustaining empathy (in response to climate change). Their statistical significance indicates the propensity to differentiation given sustainable development would substantively improve the overall construct (tables 2a, 2b).

TABLE 2a: SIGNIFICANCE OF SUSTAINABILITY INDEX (COEFFICIENT IN LOGISTIC REGRESSION)

	Logistic Coefficient	S.E.	Wald	df	Sig.	Exp(B)
Sustain. Constant	.062	.203	.093	1	.037	1.064

TABLE 2b: SIGNIFICANCE OF SUSTAINABLE DEVELOPMENT CATEGORY WITH SUSTAINABLE DIFFERENTIATION

			Score	df	Sig.
Variables:	Eco-Eff Tech.	GDP	27.489	1	.000
Sust Develop.	Competitive.	Population	3.781	1	.052
	Intensity of CC	Ecology Fprt	1.311	1	.252
Sust Differen.	NewProd&Ser	NeedForNovel	.297	1	.586
	HealthAwaren.	QltyOfLife	.202	1	.653
	P-P-CommuP.	Empathy	15.936	1	.000
	Overall Statistics		68.242	6	.000

The chi-square value is small (134.378) and measures the change from the base likelihood model indicates a better model fit designated as symbiotic fit of sustainability, development and differentiation. The Cox & Snell R square (0.750) and Nagelkerke R square (0.867) being over 0.5 indicates that the logistic regression model accounts for at least one half of the variation conforming to the SDF_i equals to 1 for Sustainable Differentiation and SDF_i equals 0 for Sustainable Development logistic conditionality.

Learning outcomes & Limitations

The output of the Logistic regression (Table 3a) provides learning outcomes that underscores the validity and significance of the emotive parameter of 'quality of life need for novelty' (QoLnovl) in the overarching metric of sustainable development. The value gear framework advances knowledge base of assessment, prediction, and scenario building for sustaining the sustainable development through sustainable differentiation. The output indicates the significance (0.037 at 95 percent confidence level) of the constant term representing Quality of Life Need for Novelty (QoLnovl). Output justifies further research with primary data. Among the coefficients, sustained need for novelty is significant. The limitation is the extensive variation of the parameters and the divergent notions on sustainable differentiation that exists across the sample. In order to unfurl sustainable differentiation strategy, firms need uniqueness. More attributes needs to be significant (Table 3b). The findings underscore the vital need to innovate, and reinforces the need to sustain customer empathy that ensures loyalty while being responsible to the ecological needs. This criterion is applicable across firms. Hence, the distinctiveness is provided by sustainable differentiation.

TABLE 3a: INTENSITY OF ECO-EFFICIENT TECHNOLOGY, COMPETIVENESS, CLIMATE CHANGE (approximated by GDP, Population, Ecological Footprint impacts across key countries, regions, Globe)

	B	S.E.	Wald	df	Sig.	Exp(B)
Quality of Life Need for Novelty Sustainability Constant	-2.197	1.054	4.345	1	.037	.111

TABLE 3b: SUSTAINABLE DEVELOPMENT CATEGORY WITH SUSTAINABLE DIFFERENTIATION

	B	Sig.	Exp(B)
Logit Step GDP	-2.612	.280	.073
Popul	-11.531	.214	.000
EcoFP	5.606	.269	272.013
NeedNov	-2.330	.070	.097
QltyLife	.243	.111	1.275
Empathy	-.855	.353	.425
Constant	.258	342.467	5.39134197 6071420+1 48

Variable(s) entered on this Logit step 1: GDP, Population, EcoFootprint, NeedForNovelty, QltyOfLife, Empathy.

Conclusion and Recommendation Future Scope:

This approach benefits policy makers to estimate the propensity to adopt sustainable development path or the sustainable differentiation route. This Sustainable differentiation metric harnesses a dormant, yet fundamental key to the success of sustainable development, the emotive linkage. This explanatory variable adds robustness to sustainable development models by way of etching a long-term memory trace for the sustainability practices of the organization as well as innovation efforts to differentiate long term providing an essence of competitiveness.

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Strategic Leadership: Innovation as a Strategy for Competitive Advantage in Banking

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Abstract

As cost pressures mount in a bad economy, financial institutions (FI) challenge internal non-core competencies to rethink their value-proposition or be outsourced. Yet, 50% of outsourcing fails, partly because the existent problem is cost, not quality, while outsourcing brings questions of quality. Competitive advantages must, therefore, come from a differentiating strategy – contributing better value – than from technology costs reduction. Innovation, coupled with organizational streamlining and governance, is the solution. This paper recommends how to drive innovation, with evidence of best practices in FI.

Our data shows two primary drivers for driving innovation: Prevalence of a ‘Culture of Innovation’, and an organization to sustain this culture. With IT budget-to-revenue ratio at 7.5% for FIs (compared to 1.1% for construction firms), the challenge is bigger in the financial sector. An innovation for the currency remittance industry in Singapore was done by the authors and proposed for implementation to Singapore Telecom to enter the financial sector as a strategy to derive competitive advantage.

Introduction

The Global Innovation Survey, 2010, mentioned clearly that “The Innovation Roadmap should be driven jointly by the IT department as well as various ‘Lines of Business’. The Lines of Business tend to have more input into the Innovation Strategy and the Execution Strategy, while the IT department tends to have more input into the Innovation and Technology Enablers”

What differentiates a successful bank from another? Given that the fundamental product is the same (repository of money, source of loans, basic products like bonds), banks were once distinct from each other only by the financial backing they had (solidity of reputation, stolidity of backing), and management styles. There was little to distinguish one bank from the other. Hence, older banks sought to convey solidity by employing symbols of stolidity (such as big buildings, Greek columns etc. and pictures of eminent well-suited Board members). The strategy, thus, was to convey an impression of safety and risk aversion.

Innovation As Strategy

In time, regulation from national monetary authorities enhanced further indistinctness between banks. But, with advent of deregulation from the 1980s came innovation of financial products offered by banks which led to an ability to offer differentiated services (service differentiation). Scaling – capitalizing on economies of scale and geographical reach (the ability to project resources across geographies) – enabled financial institutions to offer even larger base and hence ability to project security. This security in turn helped them leverage even higher and consequently, a larger and riskier product range.

Thus, with the advent of globalization and consequent reach of banks to audiences across traditional national boundaries, the significant – if not the primary – driver of competitive advantage changed from stolidity to product range to innovation of products offered. Banks changed from being traditional repositories of money to lender of first resort, to growth vehicles for personal funds.

Forward looking banks are now focusing on several types of innovation – limited only by imagination:

- Business Model Innovation: Zopa, Prosper, Grameen Bank, ING Direct

- Product Innovation: Capital One's Identity Theft Service. (this product was a finalist at the 2008 financial innovation awards and is differentiating Capital One from other credit cards in UK).
- Operations Innovation: Washington Trust Company
- Business Function Innovation
- Services Innovation: Citibank Philippines' mobile banking; Banco do Brasil partnering with VISA
- Strategy Innovation: Zecco.com
- Marketing Innovation: Washington Mutual (WaMu)'s "WaMu Kid Area"; Credit Suisse's provides gay financial advisors to clients who are themselves openly gay.

To harness the power of imagination, it is recognized by corporate leaders that innovation is an intangible resource which, like any other internal resource, needs to be managed and channelized if we are to reap the most benefit from it. According to March 2005 McKinsey Quarterly survey of 9,345 global executives, "CXOs recognize innovation as the most important capability for competitive differentiation and growth Source". One of the critical challenges is that innovation is instinctively resisted down the ranks since it is intrusive (interferes in the day to day set pattern of doing things), is everywhere (impacts several layers in the organization), and is disruptive (impedes the 'normal'). The key to overcoming this challenge is to stress on the fundamental principle of change management – that the organization's need for the change be aligned to the individual's self-goals. While it is instinctive to resist change, it is also instinctive to want to improve oneself and one's own environment, by emphasizing and harvesting enlightened self interest, we will be able to overcome the instinctive resistance to change.

Industry analysis – supported by my peer survey and surveys from INSEAD etc. – shows two primary drivers for boosting or encouraging innovation in any organization:

1. The prevalence of a 'Culture of Innovation', and
2. An organisation to organise, measure and sustain this culture of innovation.

My survey shows that respondents felt the need for autonomy and clarity on many skills (63% of IT respondents, 80% of non-IT). Thus, innovation is desired by most people but needs to be managed; i.e. Innovation "management".

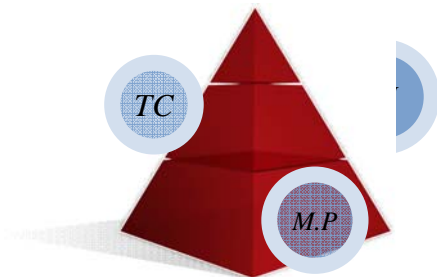
The First Driver: Creating an Innovation culture. In the words of McKinsey Consulting, "Organizing the innovation process from beginning to end is a critical element of IM. Lack of formal organization is a common problem. Execution is the biggest challenge. Fundamentally, the biggest challenge is organisation". There are two ways to start the innovation journey in any organization:

- a. **Big-bang** method of becoming a partner in achieving the strategic KPI of the business. It is a blue-ocean strategy since it is a new area, the equivalent of building an Eiffel Tower, of venture.
- b. **Systematic developing of the culture** – the equivalent of building a city. We start the innovation journey by developing an innovation culture within each Service Function of the FI. Setting up an Innovation Management organisation to guide and lead the introduction of the culture, and setting up a consultancy organisation within each Service Function for Fast Innovation

Innovation Management is a pyramid. Successful innovation management is a multi-layered pyramid of 3-sides: managing (a) the **competencies of the team**, (b) the **external influences**, and (c) the **management platform**. Implementing Innovation in an organization boils down to implementing a good Innovation Management (IM) system.

Within each of these 'sides' (columns in table below) we have the different component layers. We will now examine these layers.

TEAM CORE -COMPETENCIES	EXTERNAL INFLUENCES	MANAGEMENT PLATFORM
<u>Idea Management</u>	<u>Internal to Company</u>	<u>Culture</u>
<u>User Management</u>	<u>Industry Level</u>	<u>Strategy</u>
<u>Projects portfolio management</u>	<u>Socio-Technical Level</u>	<u>Tools & processes</u>
<u>Platform Management</u>		<u>Metrics</u>
<u>Project Management</u>		



All sides of the IM Pyramid are equally important, without anyone of them the effort will not succeed. As a business function, IM requires specific expertise and tools. The proposed Centre of Innovation Management will manage these three cornerstones.

INSEAD's survey⁴ indicates a number of areas like 'Idea Generation', 'Structured Processes', 'Leadership' and 'Skilled Workers', 'Promoting Industry Clusters', 'Improving the Environment for Innovation', and 'Boosting Company Payback on Innovation' as key areas to work on, to drive innovation. (This

is supported by my own survey. Of these, Structured Processes, Improving the Environment, Promoting Clusters (or collaborations) need an organisation to be driven by.

Consultancy group, McKinsey, reports a survey⁵ where "the responses indicate that a lack of formal organization is a common problem: more executives chose the absence of a formal process to align the necessary internal resources as the top commercialization challenge, although those at companies with a formal process for commercialization – 23 percent of all respondents – say execution is the biggest challenge"... "Fundamentally, the biggest challenge is organization: 42 percent of respondents say improvement in this area alone would make the most profound difference in innovation performance (And) is closely followed in importance by developing a climate that fosters innovation; commercializing new businesses, products, or services; and selecting the right ideas and managing a portfolio." Accountability is also seen as critical, "... notably, even among respondents at early-growth companies, where innovation is likely to be a particularly high priority, only 34 percent say their business leaders are effectively held accountable."

What these terms cover and what they encompass is explained in some detail below.

1. CORE COMPETENCIES is the entire gamut of skills set of the organisation – from technical skills to the ideation process, and everything in between such as ideas, project management, execution skills, etc. – the 'essential capabilities' that we need to manage.

Idea Management: We need to understand, absorb, validate and categorise innovative ideas. We need to foster the climate of innovation (as mentioned in earlier sections of this paper). Next, we need to create an atmosphere and capability to collaborate with others such as technology experts, colleagues and outside experts if possible such as universities and competitors where possible. Next, we need to use known innovation techniques like technology scanning/evaluation, collaboration, and boundary spanning. To encourage ideation, we need also a good rewards scheme, with performance measurement criteria quite different from the traditional.

Customer/Users Management: Look for opportunities and prioritise according to greatest value to users and to FI. What is different here is to classify the information into categories of usability.

Projects portfolio management: Focus on the right set of projects in line with KPI increase (dovetailing into the strategic partnership role that is needed to be played as opposed to executor/service delivery role) as well as projects that provide differentiation.

Platform management: Setup the platform strategy, reference architectures. Examine new platforms that could produce differentiation, e.g. applications (apps) development for the mobile smart-phone paradigm to enable e-remittances, which is \$450 billion market worldwide by World Bank estimates (in 2009)

Project Management: provide project management and development capacity guidance for all innovation projects including major projects for Operations.

2. ENVIRONMENTAL INFLUENCES – Environment includes the IT skills that we don't have, or don't yet have but are available in either our competitors or in the market, the threats that exist to our business and to our skills –sets, including the ability of competitors to poach our resources. (For the ease of discussion, the IT function is taken as representative of all the non-financial or non-core competencies, below):

Internal: IT is part of the Corporation, both as a service provider today or as a strategic partner in the future as proposed in this paper. Therefore, we are influenced by the environment that surrounds us. Innovation Management involves setting up channels of communication to enable collaboration within the FI as well with the players we work with such as suppliers, competitors where required and experts on the topic, setting up a conducive environment to encourage open communication on ideas and problems resolution.

Industry Level: CoIM will need to identify industry trends and benchmark our practices, tools, processes and metrics.

Socio-Technical Level: CoIM will follow trends in academia and industry and study their probable impact these trends could have on our internal IM tools and processes. A good example is the trends towards cloud computing or toward computing on hand-held devices, mentioned in the appendix as well as in section 9.3. It will also participate in various Innovation Management forums that prevail in the business, both within the semiconductor industry and other businesses.

3. MANAGEMENT PLATFORM – primarily is the set of actions that IT managers / management must take in order to foster a culture of innovation that we talked of extensively in Sections earlier. These cover five dimensions: culture, strategy, tools & processes and measurement criteria.

Culture: This determines IT capability to encourage, sustain and gain from innovation. We need to assess our skills and strategy to cover those skills that are currently lacking in the team. Further, we need to define the values we wish to encourage. This includes freedom to take risks, measurement of processes rather than successes (in order to avoid risk-aversion), seeing all employees as Innovators (with the caveat that those with a higher propensity to invent and innovate will be full-time innovators and valued equally with those who innovate as well as are involved in operational aspects.), encourage empowerment (which is already a value strongly promoted in the FI) and participation.

Strategy: Strategy determines success. Therefore, we need to define the metrics we use for strategy development and enhancement. Further, IT products and services define the value proposition and relationships with the Business. Therefore we need to ensure alignment between strategy and the Business.

Tools & processes: Management must define the tools to encourage collaboration, project management, simulation/forecasting, scorecards, etc., and ensure the widespread dissemination of these tools and techniques. Collaboration tools include widespread use of virtual meeting-rooms. Processes include metrics used for measuring not only projects but also the innovation parameters and the rewards scheme that sharing of best practices across the corporation should be encouraged.

Metrics: These are simply the KPIs of the innovation strategy of the organisation. It is essential that the rewards models should be tied both with the strategic intent, proficiency of innovation as well as the propensity to innovate.

SUMMARY OF FIRST DRIVER: In summary, FIs need an Innovation Management organisation at top management level to create, and coordinate the Core competencies, Management platform and the Environmental factors. The proposed organization, CoIM, will need to have the sponsorship of the office of the CIO, and report into it.

Nine Steps for Successful Innovation:

1. Innovation management is not about ideas; it is about the successful implementation of ideas. It is said, “Generating ideas is fun – execution is hard work.”
2. Innovation comes naturally from motivation. And motivation comes from reward and clarity on the rewards pattern. In fact, lack of reward will kill motivation.
3. Everyone can innovate – yet, someone needs to take care of operations too. Depending on the skills, some people in the team will be more innovative / innovation oriented – they need to be more ‘full-time’ innovating. Meanwhile others have to do operations as well as some innovation. Yet, someone needs to take care of operations. Both innovators (fulltime ones and ones that share operations workload) are equal.
4. Titles are important. Dedicated innovators may not fit into traditional titles because their roles are different. Find new titles for them.
5. Spatial considerations: keeping the full-time innovators separate from the operations avoids temptation of “putting-all-hands-to-the-deck-to put-out-the-fire” syndrome.
6. Look for external staffing also when setting up innovation teams.
7. Have clearly defined roles and skills within the team. While the atmosphere should promote an ability to suggest across skill sets, overlapping roles lead to problems.
8. The original plan is not sacrosanct – make sure that it can be modified along the way as and when necessary, without the innovation team feeling let down.
9. Embrace the uncomfortable; accept that teams will go from enthusiasm to resistance from time to time. What is important is not to lose sight of the big picture.

The Second Driver – Organization to Drive Innovation Process

Fostering a Culture of Innovation

Innovation is a strategy to improve the competitive advantage. To manage the culture of innovation is an implementation of that strategy, and requires a focused and continues effort. This requires an organization to manage it at the corporate level. We propose an organization (to be named the Centre of Innovation Management or CoIM) as part of the Strategy Organization within the Office of the CIO, for this.

Gartner studies (Feb 2009; see their chart below) indicate that the biggest IT value is achieved through encouraging of Innovation and through business restructuring. Bringing efficiencies into the IT function follows the four steps for bring efficiencies into the IT function.

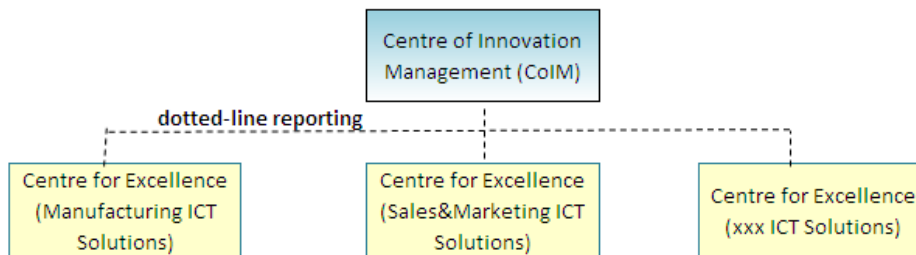


Source: Gartner (February 2009)

The least value accrued comes from negotiating pricing for IT purchases, since all competitors are likely to get similar negotiated price, the competitive advantages from this is not significant. Highest efficiency is achieved by identifying internal opportunities to reduce IT costs and implementing cost-saving through BITa-like processes (“implement process improvement, business restructuring and innovation”).

FIs have been moving up this value / difficulty chain for the last few years and currently are looking at the possibilities that could accrue from innovation and business restructuring.

An organisation structure for the proposed CoIM is shown below. CoIM should be embedded within the existing Strategy organization. The Centres of Excellence (dotted line reporting into the CoIM, but otherwise embedded within each of the Solutions group) will make innovation management more effective, since they will enable **collaboration** – a key requirement for innovation – by ensuring a ‘pull’ from the functional IT as well as business group it serves, rather than being ‘pushed’ by the CoIM from above.



Responsibility distribution between the corporate (CoIM) and the embedded Centres of Excellence is as follows:

CoIM	Centres of Excellence / Teams of Experts
Defining the metrics	<u>WORKING WITH FUNCTIONAL SOLUTIONS-GROUPS:</u>
Managing the ideas life-cycle	- to provide timely help, advice, suggestion
Definition of clear goals	- acting as repository of all sites' experience
Correct alignment of actions to goals	<u>WORKING WITH BUSINESS ANALYSTS:</u>
Ensuring high participation in teams	- clarify technical requirements for sites
Constant monitoring of results	Managing ideas life-cycle (with CoIM)
Improve communication, access to information	

Managing the Transition: Although the basic elements of traditional management are planning, organizing, controlling and motivating, managing change requires a different skills-set and approach, innovation and management seem counter-intuitive. Hence, traditional managers think of innovation as a loss of power (control). In reality though, leadership is critical in orchestrating change – seeding the team with ideas, building a team that goes beyond power play and acceptance of the risks involved in change that sees the individuals' goals being satisfied by the team goals.

Creating the Culture of Innovation: Creating an innovative business is not a straightforward question of implementing an innovation strategy overnight. First, the senior leaders must show staff that they are champions of innovation. Second, the organisation must have an “innovative climate” – i.e. all managers appreciate and understand the complexity of the innovation process and the risks involved. Every manager should be trained to understand the theoretical and practical approaches to innovation, and taught that innovation can mean introducing new or improved products, services or processes, and therefore, the following traits and behaviours need to be inculcated: analyse the market, Identify opportunities for innovation, overhaul the services delivery processes, assess whether team ideas have profit potential – and encourage innovation.

Sustaining the Culture: Methods & Practices The organisation should pay undivided attention to creating and sustaining the presence of Enabling Processes, Ownership, Career track, Hiring, Inspire colleagues to be more innovative, etc.

Defining The Problem

As cost pressures mount, top managements challenge organizations to rethink their value-proposition to the Corporation. Every challenge is either a tipping point or an opportunity in disguise. The current economic downturn has led to costs-model being challenged; this is, in fact, an opportunity for FIs to move further up the value chain by introducing Innovation into their operations.

- In order to remain in-house and relevant, non-core competencies will need to
- Increase their cost effectiveness: How to find cost savings? Can they themselves generate revenue?
 - And prove its value to the business as a partner who can contribute to the process, and not just as a provider of commoditized services that can be outsourced.

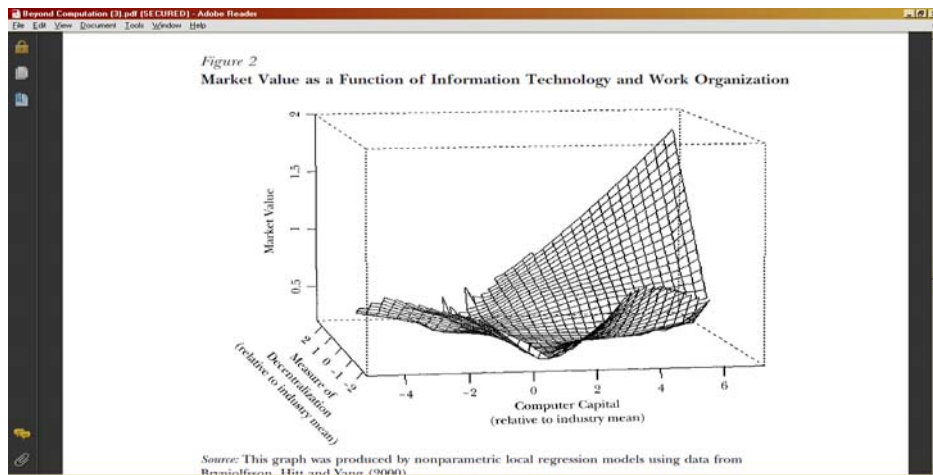
While this is a challenge, Financial Institutions recognizes that the streamlining of financial practices they undertook and the adherence to the governance structure which have now been put in place, points to innovation as the next logical step forward and the ideal methodology in order to achieve the new costs-model that FI Managements have challenged it to achieve to avoid obsolescence.

At the base of the challenge is the awareness of the fact that any organisation could pursue one of the following business models: As-is: Remain an OEM, designing and develop its own products, with in-house non-core competencies, or outsource its non-core competencies. Competitive advantages will determine which

model will be adopted, and will at least partially depend on the cost-effectiveness. Challenges & Key Priorities are set accordingly.

Why innovate? To avoid obsolescence and to contribute real value to the business, it needs to transform itself to become more cost effective and to re-invent itself as a strategic partner. Why is it important? IT and org decentralization together increase productivity by 5%.

Why not outsource? Surprisingly, there is evidence of a direct correlation between IT, organizational transformation and organisation's performance. Firms that are more decentralized than the median firm have, on average, a 13% greater IT elasticity and 10% greater investment in IT than the median firm (*Journal of Economic Perspectives*). The graph below shows that economic value of firms is significant for firms that are simultaneous high users of IT and are highly decentralized.



- The weight of the firm-level evidence shows that a combination of investment in technology and changes in organizations and work practices facilitated by these technologies contributes to firms' productivity growth and market value.

But, why innovate? With increasing competition from the Eastern world, falling prices and huge market opportunities, financial institutions need to innovate to adapt to the new world of globalised purchasing power and reach out to a customer base that is vastly spread out compared to what they were in earlier decades. The world is becoming richer – farther and faster. With ever increasing globalization – and with emergent economies now driving globalization and innovation – demand curves are shifting towards a de-aggregation.

- United Nations' World Investment Report calculates that there are now around 21,500 multinationals based in the emerging world. This leads to **far greater competition for existing companies.**

But the opportunities are equally extraordinary. The potential market is huge: populations are already much bigger than in the developed world and growing much faster (see chart).

What is known about this problem? The problem is not quality, it is cost. FIs needs to build a differentiating strategy. Innovation is the solution to both the above. It is known, that the problem is not quality, it is cost. Non-core competencies are expensive, and is easier managed through outsourcing.

The purchase of IT and development of an I.S. are seen as sources of increasing cost and concern to management (*Heo and Han, 2003; Legris et al., 2003*). According to the World Information Technology and



Services Alliance (WITSA) (2005) report, Global IT spending is expected to be nearly \$3.7 trillion in 2008 (with a compound growth rate of 7.7%). With technology cost continuing to fall, it is no longer efficient for management to try and reduce direct infrastructure costs alone.

To secure a bigger share of the market, organisations tend to invest substantial sums of moneys on IT investments. Yet, the costs of IT infrastructure continues to fall (Hamm et al., 2004), exerting more pressure on organisations to find new areas of cost reduction beside the direct costs related to hardware and software.

Companies want to see value and ROI; thus, the expectation of the Business is for non-core competencies to demonstrate explicit value addition. To remain relevant, FI's need to redefine core strategies by building a differentiating strategy so as to move down the experience curve faster and contribute better value, as well as to avoid the risk of being outsourced.

Innovation, organisational streamlining and governance are the solutions to both the above problems. The examples cited in this report show how Innovation can be used by FIs to change their value proposition by generating a new revenue stream, as well as help improve processes and ICT products.

Innovation Strategy: Since innovation is clearly not 'creativity', we need to have a clear innovation strategy. However, creating an innovative business is not a straightforward question of defining and implementing an innovation strategy. The truly innovative firm has several ingredients.

- First, the senior leaders must show staff that they are champions of innovation.
- Second, FIs must have an "innovative climate", and all managers must understand the complexity of the innovation process and the risks involved.

The real catalyst behind these two factors is management development which accelerates and guides firms on the path of becoming more innovative, what is called the "innovation journey". It is difficult to quantify the benefits of generalized innovative proposals. Much of it depends on specifics of the organisation that implements the idea, its environment and its topicality – i.e. the point of time that it was deployed.

Business is beginning to see non-core competency both as an enabler and a strategic partner. Indeed, "increasingly, business leaders are demanding that IT play the role of a business partner and a strategic enabler" (Agarwal, Ferratt & Roepke, 2000). My survey also shows that 90% IT practitioners are favourably inclined towards strategic partnerships. Business colleagues feel a less capability (66%), but agree in principle.

Methodology

1. An industry survey will help benchmarking, especially with regard to resultant benefits. Innovation Management techniques are developed using literature survey and case studies.
2. Suggestions for Innovation are established through the Quality Circle method, largely brainstorming.
3. Finally, a survey of IT professionals and other corporate professionals will help validate theoretically established needs perceived by the actual practitioners of the IT function in business enterprises, and specifically to understand whether a strategic role (as opposed to service provider role) is desired by them.

Thus, in seeking to improve innovation, we target to:

1. Achieve strategic **partnership** with Business ensuring value-add for the non-core competencies like IT. IT is a very important player. Hence incorporating a culture of innovation in IT will showcase IT to the rest of the organisation and enhance ICT's nascent role as a strategic partner in the business. In fact, this process has already been started with the B-ITa – the Business-IT Alignment.
2. Achieve strategic **leadership**: Make a break-through improvement in role, potentially helping the FI achieve leadership in the industry by helping make a critical change.
3. Inculcate and diffuse a culture of innovation in the whole organization.
4. Last, and certainly not the least, improve the quality of solutions deployed.

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Social Entrepreneurship: Opportunities And Challenges In East Africa

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Abstract

Social entrepreneurship is the creation of social value through innovative entrepreneurial business models (Seelos and Mair, 2004). Social value is about satisfying basic humanitarian needs such as abject poverty, needs which typical business entrepreneurship cannot or doesn't satisfy. Situations such as this are growing everywhere, even in countries such as the U.S. Consequently, social entrepreneurship is a growing sub-field within the entrepreneurship field. In response to this trend, the United States Association for Small Business and Entrepreneurship (USASBE) just recently added social entrepreneurship to its list of membership interests. Universities, for example Oxford and Harvard, have set up research centers that focus on social entrepreneurship. There is also an expanding number of corporate and philanthropic foundations devoted exclusively to social entrepreneurship. The Skoll Foundation is one of the leaders. Recently, the Nobel Prize for Peace has gone to social entrepreneurs, such as Muhammad Yunus, the founder of the Grameen Bank. Social entrepreneurship is extremely important in developing countries such as Kenya in East Africa. But how does one succeed as a social entrepreneur, especially in East Africa? This paper examines existing literature to provide some answer. It studies four successful social enterprises, including the Grameen Bank in Bangladesh and the Green Belt Movement in Kenya.

Introduction

Social entrepreneurship is the creation of social value through innovative entrepreneurial business models (Seelos and Mair, 2004). Social value is about satisfying basic humanitarian needs such as abject poverty, needs which typical business entrepreneurship cannot or doesn't satisfy. For example, people may be too poor to buy goods and services produced by traditional entrepreneurs. Situations such as this are growing everywhere, especially in developing countries. Consequently, social entrepreneurship is a growing sub-field within the entrepreneurship field. In response to this trend, the United States Association for Small Business and Entrepreneurship (USASBE) just recently added social entrepreneurship to its list of membership interests. American and European universities are beginning to set up research centers and chairs that focus on social entrepreneurship (Urban, 2008). Three such centers are at The Skoll Centre for Social Entrepreneurship at Oxford University, The Hauser Center for Non-profit Organizations at Harvard University and the Center for Economic Self-Reliance at Brigham Young University. There is also an expanding number of corporate and philanthropic foundations devoted exclusively to social entrepreneurship. Probably the most famous of these is the Skoll Foundation, which also sponsors the Skoll Awards for Social Entrepreneurship. Others include the Ashoka Foundation which appoints Ashoka Fellows, and the Cisco/Kellogg-sponsored Acumen Fund, which is New York-based but specializes in supporting social enterprise to eradicate poverty in developing countries (Credit Suisse, 2010). Additionally, in the last 10 years the judges for the Nobel Prize as well as the Right Livelihood Award have recognized the contributions of leading social entrepreneurs and awarded three of them these honors. One recipient is Muhammad Yunus of the Grameen Bank.

Deficits in political, economic and social development in East Africa create social problems that attract social entrepreneurs. Take the recent political upheaval in Kenya (East Africa) following the 2007 elections. Social entrepreneurs found an opportunity to help Kenyans who had been left homeless, hungry and jobless.

The opportunities for social entrepreneurship in East Africa are abundant, given the political, economic and social environment in the region. But so are the challenges. Like commercial entrepreneurship, social entrepreneurship requires an appropriate "context". The absence of political stability and legal transparency, which are commonly known, can thwart the chances of a successful social enterprise just as it does a traditional, commercial enterprise. For example, a social entrepreneurial venture undertaken by the Swedish International

Development Agency (SIDA) to promote organic exports from East Africa highly succeeded in Uganda although it appears to have succeeded only slightly in Tanzania (SIDA 2008). Why did this happen? As Boris Urban (2008) states, it is time to ask such questions about social entrepreneurship in Africa. This paper attempts to identify and examines patterns of successful social entrepreneurial ventures in East Africa.

The paper focuses on three cases of successful social entrepreneurship in East Africa: The Green Belt Movement in Kenya, ApproTEC, also known as KickStart, in Kenya and Tanzania, and Yefu Microfinance in Kenya. The paper also examines Grameen Bank, mostly because of its growing influence on the thinking about how to design business models with a prominent concern for social value. In order to examine these cases the paper extensively relies on a framework developed by Alvord, Brown, and Letts (2002) in which they identified common patterns in internationally well-known social enterprises. Furthermore, the paper relies on existing literature in terms of reports by social entrepreneurs and published research papers.

Social Entrepreneurship: What is it any way?

Even though there is a growing interest about social entrepreneurship, there doesn't appear to exist a common definition of this concept. Nevertheless, social entrepreneurship is a form of entrepreneurship. It is entrepreneurship that focuses on social problems. Morse and Dudley (2002) stated that social entrepreneurs and social entrepreneurship combine a spirit of enterprise and a spirit of community in order to bring about community improvement. This concept of social entrepreneurship is complicated by the fact that nearly all legitimate enterprises, i.e., socially and legally sanctioned enterprises, are connected with a certain degree of community spirit, to the extent that any enterprise satisfies a community need. Traditional enterprises provide employment opportunities and pay taxes. Other things being equal, traditional entrepreneurship and the market system can take care of all people's needs. Also, again other things being equal, the government can use tax revenues to finance and provide purely public goods, goods that are consumed collectively, such as police protection.

Now, there is no country where all things are equal for traditional entrepreneurship and government to produce and cater for all social needs. This is particularly true in poor developing countries. First, there aren't enough traditional entrepreneurs (Seelos, Mair, 2004). This is a problem many governments try to address. Where government programs aren't working fast enough to create new entrepreneurs, there is a need for social entrepreneurs. Essentially, social entrepreneurship addresses failures in market and public sectors.

Social entrepreneurship is not the only way humanitarian needs such as lack of healthcare, education and food can be addressed. Food, medical services and other afflictions of the poor can be directly met through donations of money and materials. Enlightened philanthropy, corporate social responsibility and civil society organizations have been making donations towards the alleviation of human miseries for years. All these arrangements are humanitarian needs-oriented. But they aren't necessarily socially entrepreneurial. Social entrepreneurial initiatives create social value; they bring about lasting improvements in the well-being of those afflicted by poverty, disease, and hunger.

Patterns In Well-Known Social Entrepreneurship Ventures

S. Alvord, D. Brown and C. Letts (2002), all associated with the Hauser Center for Non Profit Organizations at Harvard University, did a study in which they identified four key patterns in highly successful and well-known social entrepreneurial ventures. They based their study on seven cases. Two of these cases operate in Africa, and one specifically in East Africa (The Green Belt Movement in Kenya). The cases also include the now world-famous Grameen Bank in Bangladesh. With the exception of one case, the Highlander Research and Education Center, operating in the Appalachian region of the United States, all seven cases relate to developing countries. Furthermore, with the possible exception of the Green Belt Movement, which also focuses on sustaining the environment, all seven cases are centered on the eradication of poverty.

The seven cases are not only means to fight against poverty, but their approaches are highly entrepreneurial in the sense that they all embrace very innovative components. Innovation is considered by Schumpeter and many other observers to be the foundation of entrepreneurship. These social entrepreneurial ventures attack poverty, and

do so in an innovative way. For example the Grameen Bank identified the demand for very small loans among poor people and created a mechanism for delivering such loans. The key innovation of the Green Belt Movement in Kenya, was building local capacity. Poor people, at grass roots level, were organized to plant trees to protect the environment and to improve their own well being.

All seven cases had leaders who were able to create bridges across diverse and often antagonistic groups. In the case of the Grameen Bank, Mohammad Yunus, its founder, was able to build lasting relations with business leaders, both in Bangladesh and abroad, government officials at different levels, donors, and academicians. Most importantly, Yunus was trusted by poor villagers and he trusted them. In the case of the Green Belt Movement, Wangari Maathai, was an activist within women groups in Kenya. She was also highly respected internationally for her long-standing commitment to environmental causes. To launch the Green Belt Movement Wangari Maathai needed and was able to get support from many stakeholders.

The establishment of sound organizational structure was also critical in all seven cases. There was a critical mass of passionate and capable staff. The staff on the payroll was critical, but so was the presence of volunteers. Grameen Bank had a large staff because they distribute loans to poor villagers. The Green Belt Movement relied on a small cadre of highly passionate staff who worked directly with local groups.

In all seven cases the founders had a long term vision for their social enterprises. But also they had to find ways for scaling up the social impact of those enterprises. Grameen Bank hired more staff, while the Green Belt Movement involved more external actors. Additionally, both social entrepreneurs developed new products. In the following section we discuss how these patterns contributed to the success of four social enterprises, including Grameen Bank and the Green Belt Movement.

Grameen Bank, Green Belt Movement, ApproTEC, Yehu Microfinance

According to Alvord, Brown, and Letts (2002) the following four broad patterns run through the seven highly successful social ventures they had studied and analyzed: a true innovation that made the venture truly entrepreneurial, leaders with long term vision and capacity to build bridges across different stakeholders, organizational structures that matched chosen innovations, and well-articulated ways to scale up the social impact of the initiative. As indicated earlier, the Grameen Bank in Bangladesh and the Green Belt Movement in Kenya were included in the seven well-known and highly successful social entrepreneurial ventures that were studied by Alvord and his colleagues. In this section we discuss more extensively the factors that made them successful. To see how these same factors have led to success in a few other social entrepreneurial ventures in East Africa, we also discuss ApproTEC (Kenya, Tanzania and Mali) and Yehu Microfinance (Kenya and Uganda). For clarity, we discuss these factors separately. Table 1 below provides a summary of the four patterns in terms of Grameen Bank, the Green Belt Movement, ApproTEK and Yehu Microfinance.

Innovations to Eradicate Poverty

The innovation to eradicate poverty is by far the greatest distinction about the social entrepreneurial ventures being discussed here. It is abject poverty that attracted the attention of the founders of each of the four initiatives.

Grameen Bank started out as a deliberate effort to find a way for helping poor people in Bangladesh. Muhammad Yunus, a Nobel Prize laureate, the founder, was head of the Rural Economic Development program at a university in Bangladesh. In a research project seeking ways to reduce poverty, he found out that group lending could rescue poor people from exploitative money lenders. The groups could get small loans without offering collateral. There was no need for the traditional collateral because group members put enough social pressure on one another to repay the loan.

Yehu Microfinance, which started in Kenya, but now operates in Tanzania and Uganda, was inspired by and modeled after the Grameen Bank in Bangladesh. Yehu Microfinance was founded by Louis Pope, an industrialist and CEO in the United States. Concerned about poverty in developing countries, Pope had joined and became a Board member of CHOICE Humanitarian, a charity non-governmental organization (NGO). This

organization sent volunteers to Kenya, among other countries, to work on development projects such as constructing school facilities. This is the modes operand for most development NGOs. Pope felt that this approach, while commendable, provided no lasting solution to poverty. Helping poor people to help themselves was a better approach. He persuaded CHOICE Humanitarian to initiate a microfinance project. Relying on personal resources, Pope decided to operate the microfinance project independently from CHOICE Humanitarian, mostly because he wanted to concentrate on the extremely poor people in Kenya’s Coast Province, areas that were not being served by urban-based microcredit organizations. Many NGOs have been criticized for not being able to reach those who deserve their benefits most (Bars,Fafchamps & Owens 2005). He was able to capitalize on the “Harrabee” (Self Help) movement being promoted by the political elite in Kenya at that time to organize groups of poor women who would be able to borrow small loans without collateral.

The Green Belt Movement was founded by Wangari Maathai. She was a longtime activist in two movements, the environment movement and the women movement. She was able to combine these two interests to organize groups of poor people to begin planting trees to both protect the environment and to create a source of income for themselves. Wangari’s innovation was to use tree planting to build local capacity for self help. Poor people can come and work together to improve their well being.

TABLE 1: PATTERNS IN FOUR SUCCESSFUL SOCIAL ENTREPRENEURIAL INITIATIVES

	Innovations	Leadership	Organization	Scaling Up
Grameen Bank (M Yunus, Bang’desh Nobel Laurete)	-Group lending for poor people without collateral. -Bank staff help villagers form groups	-Well-educated founder - had contacts in NGOs, government and academia and poor villages	-Large staff to deliver services to borrowers	-Created new microcredit packages -Expanded staff to reach more clients
Green B’t Movem’nt (Wangari Maathai Kenya, Nobel Laurete)	-Grassroots mobilization -Leadership development through environment alactivities	-Well-educated founder had leadership roles in academia, government and women groups	-Small staff that worked closely with village representatives	-Developed new programs for skill building in village groups
ApproTEC/ KickStart (N Moon and M. Fisher Kenya, Tanzania, Uganda)	-Developed and promoted inexpensive and easy to fix farm tools for poor people to buy and use to grow four crops a year instead of one	-Founders former volunteers for international NGO -Had contacts in Bangladesh and East Africa to develop manufacture & produce inexpensive farm tools	-Small staff to design farm tools, train manufacturing personnel and monitor farm tools usage	-Developed even cheaper farm tools -Small profit made on farm tools used to expand production to reach more poor farms
Yehu Microfinanc e Trust (L. Pope Kenya, Tanzania, Uganda)	-Group lending to poor people without collateral. - Focused on rural poor people not served by urban-based microfinance organizations. -loan insurance	-Founder was a successful CEO with great leadership skills. Also member and Board of Trustees of Choice Humanitarian -Set up Foundation to raise funds.	-Minimal staff, mostly family and volunteers from his alma matter (BYU) -Lately recruited Kenyan CEO with local contacts	-incorporated client reps on advisory board -new loan programs (e.g) meat goat loans -Attracted Unitus .

ApproTEC's founders, Nick Moon and Martin Fisher, launched their organization after recognizing the limitation of traditional practices in development NGOs. The two men were volunteers for ACTIONAID, a British charity NGO. ACTIONAID manufactured farm equipment and donated it or sold it at heavily subsidized prices to poor farmers. The founders felt that ACTIONAID's approach was not providing a long lasting solution to the poverty problem. "We were creating dependency and all too often left things no better off" (Rangan 2003). ApproTEC's innovation introduced three incremental changes: their farm tools were easier to fix and maintain, the tools were not given away for free, and ApproTEC's staff regularly visited poor farmers to provide advice on how to use the tools. ApproTEC's innovation led to improved incomes because poor farmers were now able to grow four crops per year instead of one.

Transformational Leadership in the Service of the Poor

Passion about a social concern and garnering support from diverse and often antagonistic stakeholders are critical for launching a social enterprise towards alleviating that concern.

Grameen Bank reflected Mohammad Yunus's passion about doing something for the rural poor in Bangladesh. Even though he belonged to the professional elite, and was highly educated in the West, he empathized with the poor. He used his university position to research the root causes of poverty and look for a solution. He began to trust rural community groups and the latter did the same. To launch and develop the microcredit project for the rural poor, Yunus needed the support of many stakeholders. The list included the academic community, himself being a leader at a university. But he also garnered the support of government officials. Grants from governments, domestic and foreign, along with those from international NGOs, such as the Ford Foundation, ultimately led to the formation and expansion of the Grameen Bank. Yunus was able to positively influence an assortment of stakeholders, exhibiting a great degree of "bridging capacity" (Alvord, Brown and Letts, 2002).

Yehu Microfinance was founded by Louis Pope. He was already a CEO of a major corporation in the U.S. Pope had joined CHOICE Humanitarian, a charity NGO, to help with poverty eradication in Africa. The development projects sponsored by CHOICE Humanitarian in Kenya led Pope to think about microfinance as a better approach to the eradication of poverty. Although Pope incubated the microfinance project while still connected with CHOICE Humanitarian, Yehu Microfinance developed as a separate organization (NGO), outside CHOICE Humanitarian. Pope wanted Yehu Microfinance to concentrate on the extremely poor people in Kenya's Coast Province. As Yunus in Bangladesh, he began to work with local community/village groups to help the very poor. In return the village groups began to understand him. In order to launch Yehu Microfinance Pope had to rely on personal resources. Family and friends chipped in. He relied extensively on volunteers.

The Green Belt Movement In Kenya was founded by Wangari Maathai. She was already a charismatic leader and activist within women groups in Kenya. She was also highly respected internationally for her long-standing commitment to environmental causes. Before launching the Green Belt Movement, Maathai was a professor and department head at the university of Nairobi. She had also been a member of parliament and government minister in Kenya. Her good political and leadership skills played a critical role in galvanizing government and community support for her organization in the highly contentious political and social environment of Kenya. This is in spite of the fact that Maathai is a Kikuyu, easily the most dominant ethnic group in Kenya. Although recognized as one of most successful social entrepreneurship initiatives in the world, Alvord, Brown and Letts (2002) found that the impact of the Green Belt Movement has been markedly compromised by tribal frictions in Kenya. This forced her to rely more on international support, especially support from environment and women organizations.

ApproTEC was founded by two volunteers of the Britain-based charity NGO, ACTIONAID, which had development projects in the slums of Nairobi, Kenya. One of the founders, Nick Moon, had already owned and operated his own company in the U.K. He left the company to volunteer on development projects, first in Togo and later in Kenya. The other founder, Martin Fisher, initially went to Kenya on a Fulbright scholarship to study how development agencies apply technology to solving poverty problems in developing countries. Fisher and Moon met at ACTIONAID and passion to eradicate poverty brought the two together. Disillusionment at ACTIONAID, because of this NGO's "development philosophy" (Rangan, 2003) forced the two men to launch ApproTEC.

However, they persuaded ACTIONAID to support their new organization with a \$500,000 grant. Close contacts with other international development agencies, such as the USAID, brought them more funding. To develop and promote their low-cost, low-maintenance and easy-to-use farm tools, ApproTEC worked and continues to work with external actors. Some of their tools, for example, the irrigation pump, were adapted from the one used in Bangladesh.

Organizational Structures Designed To Match Core Innovations

Any innovation to eradicate poverty can only be implemented when there is staff and other organizational arrangements. In each of the four social entrepreneurial initiatives being discussed here there was a critical mass of capable staff. Within the staff, passion about the social cause of eradicating poverty was important. The staff on the payroll was critical, but so was the presence of volunteers. Few social enterprises succeed without support from volunteers and philanthropists (Dees, 2007)

Grameen Bank always had a large staff, now over 20,000 (Grameen-info.org, 2010), because its core innovation is to package small loans and to widely promote them to groups of poor people throughout the rural areas of Bangladesh. Unlike a traditional bank, borrowers and savers don't come to the bank. Bank staff meet the poor at whatever convenient place the village groups can find within their villages. The bank's approach also includes closely working with the villagers on the deployment of the loaned funds. The "misuse" of loan funds has been one of the major problems that microfinance organizations in Africa have faced (Sigalla & Carney 2009). To minimize this problem Grameen Bank provides extensive staff training. This is what makes the loan program to experience minimal default rates.

Yehu Microfinance, which is registered as an NGO in Kenya, operates in very much the same way as the Grameen Bank does. But the organization started much more slowly and relied a lot more on volunteers, especially from the founder's family in the U.S. and his alum-mata, Brigham Young University. It still had only 40 paid employees by 2007, serving 13,000 clients. That number had risen to 20,000 clients at the end of 2010. Yehu Microfinance has its main office at Mombasa in mostly rural Coast province. But its clientele is the rural poor outside of Mombasa. There are ten branch offices and numerous sub-branches located in villages 1 to 2 hours from the main office. This enables the organization to "offer friendly and accessible customer service" (Yehu.org 2010).

The Green Belt Movement has a small staff and has relied a great deal on volunteers, enthusiasts of both the women and environment movements, with which Wangari Maathai, the founder, has long been associated. The core staff employed by the organization largely operates through representative of local groups, for example a local church, to promote tree planting skills. Because the scope of the Green Belt Movement is tree planting in villages and urban parks, working closely with government agencies, such as the police, sanitation, and zoning, has been critical for the Green Belt Movement. It was pointed out earlier that this has not been always easy because of political, religious and especially tribal divisions in Kenya.

ApproTEC's organizational structure has, what can be described as a "network organizational structure" (Anand & Daft, 2007). The founders, Nick Moon and Martin Fisher, rely a great deal on outside actors in their approach to the eradication of poverty. To design some of the farm tools they are known for, such as the inexpensive irrigation pump, they consulted with local machine shops and farm equipment designers in Bangladesh. While they help train the machinists to manufacture the tools, the machine shops where the tools are manufactured are independently owned. ApproTEC's core innovation calls for inexpensive farm tools being made available to poor farmers, but not without charge. The founders believe that poor people aren't motivated enough to use tools that they get for free. So, the tools are sold. They are sold in independently-run retail stores. As a result, many of the core activities in ApproTEC's innovation strategy are carried out by outside actors. So, the organization maintains a small staff, mostly for training outside groups. They train employees for equipment manufacturers. More importantly, they train the purchasers of the farm tools in how to use the tools.

Poverty Eradication Has No Quick Fixes: Scaling Up The Social Impact

Social Entrepreneurship is entrepreneurship in the first place. Joseph Schumpeter (1947) and many others define successful entrepreneurship in terms of venture growth. In the case of social entrepreneurship, expanding the

social impact of the venture is the most visible sign of success. Obviously they are different ways a social enterprise can scale up its social impact. Alvord, Brown and Letts (2002) have identified three patterns in scaling up social impacts in social ventures: expanding coverage to provide services to more people, expanding the range of services/products to the initial group or groups targeted by the venture, and activities that change the behavior of other actors who directly or indirectly influence a given social problem.

Grameen Bank started in a single village. It now operates in over 81,000 villages throughout Bangladesh. First and foremost, it has expanded by increasing staff, which now stands at over 20,000. Secondly, the bank has introduced many additional loan packages, e.g., housing loans and education loans.

Yehu Microfinance now serves nearly 20,000 members, up from about 5000 in 2000. This has been accomplished in two basic ways: expansion of staff to reach more poor villages and creating new products. The organization has opened more sub branches, especially in recent years after the appointment a Kenyan CEO, in 2006, with very local roots. They also have created new loan packages, the most important of which is the “meat goat loan”.

ApproTEC’s founders proudly say that their organization has moved over 500,000 people out of poverty, 400,000 in east Africa. They farther say that over \$100 million of new income has been generated (Kickstart.org). The organization has achieved these impressive results through reaching more poor people by expanding staff and especially by introducing new farm tools. For example, they came up with a cheaper irrigation pump which sold for half the price of the older version. An additional important contributing factor to the success of ApproTEC has been operational efficiency. They outsource most production and promotion activities. Also the founders have been able to maintain good relations with the international donor community. They state that a \$1 dollar donated creates \$15 in profit that goes back into their campaign to eradicate poverty.

The Green Belt Movement has grown so much as to divide into two: “Green Belt Movement KENYA” and “Green Belt Movement INTERNATIONAL”. Founded by Wangari Maathai, this organization has been responsible for planting 45 million trees in Kenya, since its inception in the early 1980s. It now operates in 9 districts in Kenya, especially in Central, Western and Rift Valley provinces. Rooted in two social movements, women and environment, the Green Belt Movement appeals to a wide cross section of the population, both in Kenya and outside. Its beginnings required a large number of volunteers. Volunteering is even enshrined in its mission. Clearly, its expansion is hugely related to the constant flow of volunteers. The donor list to the organization reads like who is who of philanthropists, government agencies, churches and other organizations.

Summary and Conclusions

Social entrepreneurship is more complicated than traditional entrepreneurship. It is also more complicated in East Africa than it is in developed countries such as the United States. In the U.S. a major source of funding comes from government sources. There is also funding from private foundations. The social enterprise can even tap donations from individuals. In African countries nearly all funding for social enterprises come from international sources. First, African governments face immense problems financing basic government obligations such as roads. Second, the newness of these nations remains a source of all sorts of division. We referred to how tribalism has compromised the success of the Green Belt Movement in Kenya. Winning the support of government for a social venture often is difficult, especially if the social entrepreneur doesn’t belong to the same ethnic group as the one’s own. The founders of ApproTEC in Kenya complained that government didn’t show interest in their organization (Rangan, 2003). They were not even Kenyan.

The funding for social ventures in East Africa comes from international sources. But international organizations often find it to evaluate the need for funding. Fighting poverty is often the basis of the request. But an international organization faces difficulties determining how much of the granted funding goes towards fighting poverty and how much is put into huge salaries (Aldashev & Verdier, 2009) To address this problem, at least partly some major social entrepreneurship foundations operate branch offices in East Africa. One such organization is the Ecumen Fund. Even more promising are a few homegrown foundations. These include the Zain Foundation set up by Sudanese Mo Ibrahim and the Africa Grantsmakers Network, founded in Ghana and Kenya. The founders of the Network aim to “change the narrative of Africa as helpless and hapless...tilt the balance of stories” (Credit Suisse,

2010)

Funding for a social enterprise is essential, but even more essential is human capital. East Africa needs more Wangari Maathai, the founder of the Green Belt Movement. She was challenged by tribal forces but persisted. She even uses her organization to fight poverty and other social ills, because misery has no tribal boundaries. In response to the post-2007 elections tribal war bloodshed, her organization set up “Peace Tent Initiative”, to bring the warring groups together. Wangari Maathai belongs to the elite class in East Africa, just as Muhammad Yunus belongs to the elite class in Bangladesh. They share the passion towards reducing others’ misery, which is probably the most commonly shared trait among highly successful social entrepreneurs. ApproTEC has been hugely successful, removing 500,000 poor people out of poverty (KickStart 2010) The founders are professionals from the West. There is a need to develop avenues for attracting more people of this caliber. International NGOs, such as ACTIONAID, through which these men were introduced to East Africa should be commended and requested to do more of the same.

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Section 2

Global Trade, Investment & Economic Growth

The Determinants of Outsourcing Decision in Emerging Economy: A Case from Malaysia

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Abstract

The purpose of this study is to understand the factors influencing outsourcing decision in the manufacturing industry. Existing literature reveals that manufacturing industry face with challenges in the competitive environment with expectation to produce products at the lowest cost possible yet meet customer specification without affecting the quality and delivery schedules. Thus, outsourcing has become one of the alternative opportunities among the manufacturing firms. The theoretical framework is developed to understand two components namely operating cost and internal resources and technology. The questionnaire was distributed to 150 firms in Northern region of Malaysia with a response rate of 45%. The data was analyzed using regression to test the hypotheses. The findings showed that capital investment, latest technology and high efficiency becomes the key determinants for outsourcing decision among the manufacturing firms. It poses some implications for managers and policy makers.

Introduction

Outsourcing means engage outsiders to handle some business functions that reduce the company's expenditure and save money. It is not a new phenomenon. For decades, jobs have been migrated from other part of the countries namely, American and European countries as well as other countries worldwide, to global service providers, primarily India, China, Singapore and Malaysia, due to lower operating cost. The recent wave of outsourcing affected a different mix of jobs, at different wage levels. It has confined only to a small industry but cut across all industrial sections in new geographic area rapidly. Not many companies fully understand the benefits of outsourcing. It is true that outsourcing can save money, but that is not the only (or even the most important) reason to do it. As many companies discovered during the outsourcing "mania" of the early 1990s, outsourcing brought mix results to companies that choose outsourcing. However, outsourcing can provide a number of long terms benefits: lower operating cost, improve competitiveness, reduce in capital investment, shift resources to focus on core functions, generate demand for new growth and market segment, access to world class capability, sharing risks and make capital funds available for core business investment. In Malaysia, there were many companies looking into outsourcing opportunity to reduce cost, to overcome internal limitations and achieve lower cost of operation especially in the current economic recession. In view of this, the objective of this research is to understand the factors influencing companies in Malaysia in the outsourcing decision.

Review of Literature and Hypothesis Development

What is Outsourcing?

The term 'outsourcing' from literature has different interpretations recent years. Therefore, it will be good to review the various views on the meaning of outsourcing. Most authors agree that outsourcing means exploring business activities outside the firm. Thus, we can classify the definitions into three types: (a) the outsourcing entails a stable, long-term collaboration agreement in which the supplier becomes a strategic partner and where there are exchange relations with independent firms (Mol, Van Tulder & Beije, 2005; Quelin & Duhamel, 2003), (b) the type of activity or service that can be outsourced, i.e. activities and services that are non-strategic for the firm (Quinn &

Hilmer, 1994) and (c) outsourcing is an action that transfers planning, responsibility, knowledge and administration of activities through contacts (McCarthy & Anagnostou, 2004).

This definition has three important characteristics. Firstly, it states that outsourcing has to be a strategic decision that forms part of the firm's strategy and aimed at the pursuit and maintenance of competitive advantage. Secondly, it considers the firm must be able to identify which activities or business processes are candidates for outsourcing and developed by suppliers whose capabilities and skills are superior to those of firm. That means outsourcing decisions are relate to the firm's resources and capabilities. Thirdly, it includes the concept of business processes, whereby resources can only be a source of competitive advantage if they exploited through it (Ray, Barney & Muhanna, 2004). Therefore, outsourcing is a strategic decision that entails the external contracting of determined non-strategic activities or business processes necessary for the manufacture of goods and services by means of agreements with higher capability firms to undertake those activities, with the aim of improving competitive advantage.

Propensity to Outsource and Performance

The literature review suggests dividing the discussions into two categories according to the objectives: firstly, study the propensity to outsource and secondly study the relationship between the decision to outsource and organizational performance. The first analysis analyze the level of outsourcing according to moderating variables such as the type of resource, the environment, strategic orientation, the suppliers' capabilities (Argyres, 1996; Aubert, 2004; Leiblein & Miller, 2003; Quinn & Hilmer, 1994). In a conceptual-type work, Quinn & Hilmer (1994) see the suitability of developing internally the activities that comprise the core activities, and in every case advise that their outsourcing been undertaken in a framework of strategic alliances with the aim of reducing the vulnerability of the organization. Argyres (1996) shows that organizations tend to outsource when the suppliers have superior capability, and the organization does not accept the short-term cost of in house development with the aim of developing the necessary capabilities internally. Leiblein & Miller (2003) conclude that specific assets and uncertain demand increase the danger of exchange and so decrease the probability of outsourcing activities.

The second analysis reveals the use of specific assets and other variables to determine the relationship between outsourcing and the performance of the activity and/or organization (Gilley & Rasheed, 2000; Klaas, 2003; Murray et al., 1995; Poppo & Zenger, 1998; Teng, Cheon & Grover, 1995). Teng et al. (1995) conclude that the discrepancies in the perception of the outcomes (i.e. cost, the quality of the activities and financial performance) are positively relating to the propensity to outsource. Murray et al. (1995) identifies a negative relationship between outsourcing and organizational performance as the asset specifically and innovations in products and processes increase. However, there is also negative relationship between outsourcing and organizational performance when the bargaining power of supplier increase. Apart from these two groups of works, the contribution of McIvor (2000) has also been included because he analyzed outsourcing in the perspective of core competency, resources and capabilities. McIvor proposes a theoretical framework that integrates the elements of value chain, the concept of core competences and the selection of suppliers, which are key aspects that should guide the outsourcing decision.

Outsourcing in the Manufacturing Industry

In Malaysia, the demand for outsourcing was not only from global multi-national companies but also from local companies. Among the local companies, Bumiputra-Commerce Bank (BCB) was the first bank to outsource its IT function in late 2002 to Electronic Data System Corp. Subsequently, Maybank follows the footstep in outsourcing its IT function in 2003 to Computer Sciences Corporation group. SMT Industries also outsource its IT function to Sun Network and Human Resource Management to Human Resource Consultancy in Penang. The demand of the outsourcing has driven by the fact that companies could access a more reliable infrastructure that could ensure smooth core business operations at lower costs and flexibility. As Malaysia ranked the third (3) most attractive outsourcing locations in the world, Penang and Kulim Hi-Tech Park could be an advantage of this fact by attracting quality operators to the state. In addition, the government decision in constructing the second bridge connecting the island and the mainland to improve the efficient and effective way of transportation to the locals would also help Penang as a strategic location for outsourcing niche businesses. The competitive tax regimes and customized incentive would also be a pull factor for foreign outsourcing investors.

Decision Factors

This study would assess the relationship between the factors (as independent variables) and the outsourcing decision (as dependent variables). The conventional approach to the creation of resources has centered on the lack of firm resources and capabilities. He believes that the firm has to decide between developing resources internally and acquiring them externally. Therefore, in order to exploit the combination of resources and capabilities existing in the firm and to develop a strategy leading to competitive advantages, it may be necessary for the firm to acquire complementary resources from outside, and therefore an organization must not be limited to exploiting its own stock of resources and capabilities (Teng et al, 1995). Generally any lack of resources can be made up by purchases or strategic alliances, and outsourcing is one way of complementing the firm's resources and capabilities by helping to improve the firm's strategy to make better use of its capabilities when faced with external opportunities. Whilst, Schroder (1989) focused on high performance competency, which was a relatively stable set of behaviors that, produces significantly superior workgroup performance in more complex organizational environment.

Reduce In Operating Cost

Williamson (1974) used *operating cost* as a starting assumption from traditional economic theory but not explicitly measured in most transaction cost economics (TCE) based study of outsourcing. Therefore, instead of confounding scale economies with other factors, we consider the cost advantage or cost saving from outsourcing a project versus produce internally. Cost advantage has defined as the expected overall cost saving gained from outsourcing a project instead of pursuing it internally. This conceptualization allows us to examine the cost advantage or reduce in operating cost by outsourcing. There are three areas being measure would be the capital investment, overhead and fixed cost as well as space. How would the outsourcing help in reducing the capital investment such as equipments, building and land used in operating activities? Outsourcing the non-core operation functions would save some portion of the capital investment and used the investment into the core business that can generate more revenues to the companies. The saved fund could also used on researching and generating new market segment development (Williamson, 1974). This lead to the first hypothesis:

H1a – Reducing in capital investment positively determines outsourcing decision

The current economy recession has forced many people out of work. Outsourcing the non-core business function to external provider would reduced the number of headcounts or employees, and shift the core employees to focus on the core functions. In addition, utility cost also could reduce due to less consumption. Overall, the greater the perceived reduce in overhead and fixed cost by outsourcing a project, the higher the likelihood the companies in northern region of Malaysia will choose to outsource the project. This lead to the second hypothesis:

H1b – Reducing in overhead and fixed cost positively determine outsourcing decision

Space was a measure of the extent on how outsourcing would help to reduce space consumption, flexibility for core business use, capacity expansion to generate new revenues or cash infusion to reduce operating cost. As project complexity increase, it will lead the companies in northern region of Malaysia will be more likely to outsource the process. This lead to the third hypothesis:

H1c – Space constraint positively determines outsourcing decision

Unavailability of Internal Resources and Technology

Knowledge as a key resource that guides in managerial decision making. According to the theoretical perspective, firms viewed as distributed repositories of tacit and explicit knowledge whose heterogeneous knowledge bases are they key determinants of sustained competitive advantages. Therefore, outsourcing arrangement serves as a vehicle for utilizing vendors' complementary skills and expertise. Firstly, focus on whether the company has the necessary technical knowledge for successfully accomplishing a project; the second on whether the company has the latest and sophisticated technology during the new product development process. The final focuses on whether the company has the intensity to growth in term of space and capacity.

The organization will retain in-house the operations for which it has a higher capability, with the result of efficient production (Argyres, 1996). The operations for which a firm does not have a higher capability or technical expertise would be outsourced. As Argyres (1996) states that organizations outsource what they do not know how to do and develop in house on what they do better than the suppliers do. Therefore, lack of internal technical expertise and infrastructure will lead the company in northern region of Malaysia to outsource his project to external provider. This also leads to the next hypothesis:

H2a – Lack of technical expert and support infrastructure positively determine outsourcing decision

Outsourcing has implication for strategic management. In particular, it poses challenges to the company to explore and expose to the latest and high technology equipments at the vendor’s premises. Old and low efficiency technology equipments make the company more difficult to perform a high quality product, unable to access to the new product development and hard to fulfill the customer’s upward demand in sudden. Therefore, the lower the client’s technical equipments in house, the higher the chances of the company to outsource to the external provider. This lead to the next hypotheses:

H2b – Latest and high efficiency technology positively determine outsourcing decision

Intensity to growth is one of the objectives of any company to success in their business platform. Unfortunately, production and space limitation would be a major constraint for any expansion. Outsourcing non-core business activities would create space and capacity flexibility to support the core business function or customer’s upside demand. If the company’s outsource the non-core business in bulk volume, it could help the company in cost saving by negotiating for lower operating cost. Such exercise could benefit for both companies. This lead to the next hypothesis:

H2c – Company’s intensity to growth positively determines outsourcing decision

Research Model

Based on the above discussion, the research model for this paper depicted in Figure 1.

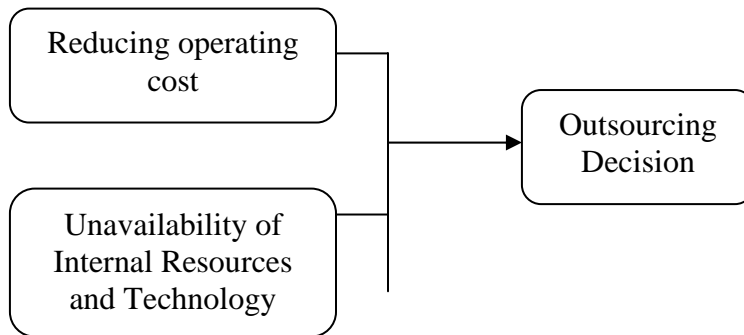


FIG. 1: RESEARCH FRAMEWORK

Methodology

This study is a quantitative research and questionnaire used to collect data for statistical research analysis. A hundred (100) questionnaires had distributed to Managing Director, Procurement Manager, Operation Manager, Engineer and Buyer of the companies in northern region of Malaysia. Data collection from respondents was used SPSS (Statistical Package for Social Science) software to evaluate the factors that influencing outsourcing decision in manufacturing industry of northern region Malaysia. Questionnaire survey form was send by the researcher to few companies as a pilot study, which required the respondents to feedback on their understanding to the questions. The objective of the pilot study is to understand the relevancy of the questions, difficulty to answer the questions, to understand the quality of the questions and the question appropriateness. In view of the time constraint, the respondents are required to return within three (3) days from the date of delivery.

Population and Sampling

The source of getting the population was from FMM directory, labor department, friends and internet. The population is all the various manufacturing industries in northern region of Malaysia and the researcher only selected a hundred (100) respondents targeted were the working adults from multinational company (MNC) such as Motorola, Intel, Daewoo, Celestica, Flextronics, Toshiba, Matsushita, Hitachi, Yamaha and few SME companies. A hundred questionnaires have distributed to the selected respondents via electronic mail (e-mail) and hard-carry. This non-probability sampling has selected due to (1) cheap, (2) greater speed of data collection, (3) flexibility, and (4) availability of population elements. Cost and time considerations influence decision about the size, type of sample and data collection method. Almost all studies have some budgetary constraint, and this is the reason encourage the researcher to choose a non-probability sample. The analysis of the independent factors that lead the manufacturing industry in northern region of Malaysia has likelihood to choose “outsourcing” as a strategic tool to solve their problems. Therefore, a candidate selected to serve as respondent to represent each company.

Findings

This result has made up of 70% response rate. The sample population of demographic data shows that the data quite evenly distributed to the manufacturing industry, with different segment of duration of company established and size of the organization. Table 1 shows the results of the linear regression analysis. From the results of the regression analysis, the R square of the model of this study is 0.264. This indicates that this model can explain only 26.4% of the outsourcing decision variability. The R is 0.514, which indicates a high level of linearity within the model, which fit to the key assumption of the linear regression analysis. The Durbin-Watson is 2.077 indicating no auto correlation problem in the data.

TABLE 1: LINEAR REGRESSION ANALYSIS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	Sig. F Change
	B	Std. Error	Beta			
1 (Constant)	2.437	0.926		2.632	0.011	0.022
Capital investment	0.682	0.297	0.364	2.297	0.025	
Overhead & fixed cost	0.184	0.272	0.115	0.678	0.500	
Space constraint	-0.414	0.437	-0.187	-0.948	0.347	
Lack of technical expert & support infrastructure	-0.013	0.235	-0.006	-0.055	0.956	
Latest technology & high efficiency	-0.712	0.263	-0.331	-2.707	0.009	
Intensity to growth	-0.479	0.252	-0.226	-1.899	0.062	

The analysis result shown that H1b and H1c have no significant impact to the outsourcing decision because the sig. t higher than 0.05 significant effect level. However, reducing in capital investment (H1a) positively influence in outsourcing decision because the significant effect of 0.025, which was below the 5% significant level. Thus, the hypotheses H1a has accepted. The H2a and H2c predictors had found no significant impact on outsourcing decision based on the result of analysis because sig. t was higher than 0.05 significant effect level. Thus, the hypotheses of H3a and H3c had rejected. Conversely, H2b has found to have significant effect on the outsourcing decision, which at the 5% significant level. Therefore, the hypotheses H2b has accepted.

Discussion

The results have three important practical implications for both clients and vendors. First, outsourcing decisions are not driven predominantly by relative cost advantage of doing so. Clients must therefore better understand the best practice element of an internal cost structure before outsource a project to vendors, to avoid any unnecessary significant amounts of hidden costs occurred during outsourcing. Second, technology knowledge, skills and attitudes differences influence outsourcing decisions. For vendors, this suggests the need to convince and demonstrate how their technical expertise exceeds that of prospective client. Finally, in projects of high strategic importance, client's willingness to outsource is influence by their ability to specify requirements and to keep them stable over the course of a project. Vendors with well-developed capabilities for requirement analysis and management might therefore enjoy an advantage in attracting contract for strategic applications development projects.

The respondents are from the selected manufacturing industry in northern region of Malaysia. Total 70 companies been selected to collect the quantitative response and sampling data. There were several limitations to this research study as the following. Cost and time might influence about the size, type of sampling and data collection method. The budgetary constraint will lead the researcher to choose a non-probability sample in this study. The interpretations of the questionnaires are subject to the understanding of the respondents, the different manufacturing experience and exposure might influence the respondents on answering the questions. The survey was conducted based on different market segment in the manufacturing industry and various levels of employees as the respondents. It may not be accurate and good representing of support the factors influencing the outsourcing decision. The constraints on how many attributes could simultaneously be included in this analysis limited us to just twelve predictors from reducing operating cost, new product development, unavailability of internal resource and technology as well as management competency. This also constrained the breadth of some measures such as lack of coordination and control cost, which was measured on the somewhat simplistically as the absence of the client-vendor trust and teamwork.

Based upon the limitations, the researcher would like to provide some suggestions for future research into outsourcing decision in relation to capital investment as a factor of influencing outsourcing decision. First, studies on capital investment as a factor should cover a large sample in Malaysia not only northern region of Malaysia to evaluate the consistency of the responses across the country. With the sufficient capital investment, the research may conduct better sampling method and interview the respondents personally. This would help to obtain more data, which would lead to applicable and accurate results. Secondly, Questionnaires design has to be well defined and restructured to ensure the respondents understand the questions in order to provide accurate feedback. Third, the researcher would suggest that survey has conducted based on similar business market segment in the manufacturing industry and limit to management level as the respondents. Feedback on the similar manufacturing industry will produce better analysis results.

Lastly, lack of coordination and control cost can mitigated through a variety of features of the outsourcing contracts. Similarly, a shared identity and culture can also help create shared understanding and build a good business partnership beside the requirements. Future work should examine such less salient variables identified by these theories that have not considered in our analysis. Future research should also incorporate and analyze other variable such as sharing risks, accelerating re-engineering and cash infusion due to outsourcing. It would be interesting also to include the moderator for the future research such as top management support.

Conclusion

This research was motivated by the scarcity of a systematic comparison of the various theoretical perspectives that have been invoked to examine the principal findings of research on outsourcing, four independent variables such as reduce operating cost, focus on new product development, unavailability of internal resource and technology as well as management competency. Our primary objectives were therefore to understand whether there is a cost implication after the outsourcing decision, and to analyze the relationship of the above-mentioned factors that influencing in considering the outsourcing decision. We also explored how these four independent variables complement and contradict in their predictors for some factors.

We tested the model using regression analysis and the results showed only two out of twelve predictors supported the hypotheses and have positive as well as significant influence in outsourcing decision. This study has given some insight views and usefulness of the research data to the manufacturing industries that cost is not the only and main factor to determine outsourcing decision. It is necessary to validate the conceptual framework to the outsourcing decision in different economic sectors and geographical zone that helps to forecast the types of activities that need to outsourcing and in demand by the companies. In order to consider outsourcing as one management strategy to keep the business running, managers need to study carefully for better understanding the position of manufacturing firms in dealing with outsourcing. The government agencies should understand the realities in Malaysia before making any policies, which will be impact the profit of manufacturing firms.

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Key Nation Branding Drivers in Emerging Economies: A Strategic Perspective for India

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Abstract

Nation branding is all about positioning a particular nation state in the minds of consumers. The consumers might be voters or citizens of other countries, potential tourists, potential investors. There are a number of different segments that a typical nation branding strategy could potentially target, but the idea is to put the best image forward and make clear to each target segment what the special qualities, attributes and benefits are, vis-à-vis the many other nations in the world. Emerging economies are the ones who are in a larger space competing for the attention of investors, tourists, and citizens. **An emerging economy can be defined as a country that satisfies two criteria: a rapid pace of economic development, and government policies favoring economic liberalization and the adoption of a free-market system (Arnold & Quelch, 1998).**

Introduction

Marketing a country is not entirely new; in fact, numerous countries have traditionally promoted their image for tourism. However, the current process of globalization has underlined the need for countries to brand themselves on four different dimensions (public diplomacy, tourism, exports, foreign direct investment) and in an integrated manner. As we are over with a decade in the new millennium, three things are clear: i) state branding is no longer a choice but a necessity; ii) it is no longer conceived as a function to be performed individually by the state, associations or individual private companies, but as an integrative and concerted effort by all interested stakeholders; iii) if done effectively, state branding can provide 'soft power to create preference in terms of choice both for consumers and investors. Many cities, regions and countries are now actively marketing themselves using techniques normally associated with the creation of classical product brands. This phenomenon has manifested itself in several ways with varying degrees of success.. Governments are turning to branding techniques to differentiate their country on the global stage in order to establish a competitive edge over rival countries in the belief that a strong country brand can contribute to the country's sustainable development (Jaffe and Nebenzahl, 2001; Kleppe and Mossberg, 2006). American Marketing Association has defined a brand as a name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers. Branding a country is rather a very complex task and it involves multiple dimensions to be analyzed. But at the same time in the current era of competitiveness branding a country is very important to generate a cognizable position in the world market. Consumers and investors continue to rely heavily on images of places to make their economic decisions. Brands or images have become a shortcut to a purchasing decision. Effective state branding not only serves to reinforce positives images but also helps to fight negative ones by shaping new images and associations. Equally important, branding has become a central tool of state competitiveness because having a bad reputation or none at all seriously affects a states' ability to compete. Dinnie (2008) has stated that country branding is an exciting and complex but controversial phenomenon; it is exciting because there is currently little theory but a significant amount of real-

world activity. It is complex because it encompasses multiple levels, dimensions, and disciplines beyond conventional branding. And, as a highly politicized activity that generates conflicting viewpoints and opinions, it can be controversial. A country brand can also be influenced in the short- or long term by major events. Egypt's country brand, for example, was deeply affected this year by the public outrage and the environment of political instability prevailing over the country. (Papadopoulos and Heslop, 2002) have investigated the influence of major events on the country image.

Literature Background & Research Gap

Research on state branding is not new. For the past 40 years, numerous studies have been carried out on the so-called 'country of origin effect': the effect of national image on products. During the 90s, Philip Kotler dealt with the topic of place branding and marketing in four books: *The Marketing of Nations*, *Marketing Places Europe* (on how to attract investments, industries, residents and visitors to cities, communities, regions and nations in Europe), *Marketing Asian Places*, and *Marketing for Hospitality and Tourism*. Another significant contribution to the field is *National Image and Competitive Advantage* by Eugene D. Jaffe and Israel D. Nebenzhal. In addition to reviewing the theoretical underpinning of country image for products, they provide useful insight as to how it can be managed by countries, industries and firms. One of their central points is that country image is product specific. What's much more recent, however, is the coining of the term "brand state" or "state branding." The September 2001 publication in *Foreign Affairs* of the article "The Rise of the Brand State" by Peter Van Ham was a turning point, attracting a great deal of attention both from the academic community and the world of practitioners, and bringing about further research on the multidimensional nature of state branding. In April 2002 *The Journal of Brand Management* devoted a special issue to the topic of "Branding the Nation" bringing together contributions from the leading experts in the field, including scholars (Kotler, Papadopoulos), consultants (Anholt, Ollins) and practitioners. Simon Anholt, one of the leading international marketing thinkers, has written about state branding in the collective work *Destination Branding*. Despite an increasing number of articles dedicated to the topic, there is still no common definition of country brand. Fan (2006, p. 8) makes an early attempt at defining it as "a country's whole image, covering political, economic, historical and cultural dimensions. The concept is at the national level, multidimensional and context dependent." Dinnie (2008, p. 15) defines country brand as "the unique, multi-dimensional blend of elements that provide the nation with culturally grounded differentiation and relevance for all of its target audiences." Aronczyk (2008, p. 42) states that a country brand should "attract the 'right' kinds of investment, tourism, trade, and talent." Kotler et al. (1993) as well as Rawson (2007) argue that governments should create, promote, protect, and supervise a country's brand. According to Fetscherin (2009) it entails the collective involvement of the many stakeholders it must appeal to. It concerns a country's whole image, covering political, economic, social, environmental, historical, and cultural aspects. The main objectives of country branding are to stimulate exports, attract tourism, investments, and immigration, and create positive international perceptions and attitudes. Anholt in his book *Brand New Justice* argues that developing countries can increase their competitiveness and therefore reduce economic disparity through effective branding. Similarly Wally Ollins in his book *Trading Identities* establishes a linkage between state branding and companies going global. The International Marketing Council of South Africa (IMC) has put together a number of case studies of how countries around the world (of India, Britain, Brazil, Thailand, Spain, Germany and others) have approached the promotion of their national image.

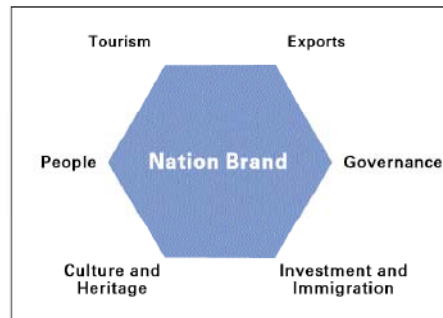


FIG. 1 NATION BRAND HEXAGON, SIMON ANHOLT 2002

Thus the related research reflects how India from a developing nation' just two decades back, India, today, has emerged as one of the decisive nations shaping the contours of the world economy consistently charting a growth path over the last few years. As people and companies decide where to plop down their roots and cash, just like with any other buying decision they need to feel the emotional connection to their needs and the earned trust to reduce their fears. Our literature review reveals that, there is a gap in terms of identifying the dimensions of country branding for an emerging economy like India. Anholt (2002) stated that the nation brand is the sum of people's perceptions of a country across six areas of national competence. Together, these areas make the Nation Brand. They are defined by the hexagon above in fig1.

Based on the above literature review it has been identified that not much of work has been done in studying and defining branding drivers and strategies for emerging economies individually. This paper contributes to assess the branding drives for an emerging economy like India. The paper provides organizations and governments with a tool to measure the strengths of India as a brand, and then revise the country brand strategy, to achieve a significant position on the world map.

Objective

The objectives are framed with the reference of India as an emerging economy

1. To assess the current country image of India as an emerging economy in the world map
2. To identify the impactful dimensions of country branding for an emerging economy like India
3. To suggest a suitable branding strategy for an emerging economy

Hypotheses

1. There is a linear relationship between business environment of an emerging economy and the investments made in the economy
2. Governance of a country has a direct impact on country image
3. Exports of a country has a direct impact on country image

Research Instrument

A structured questionnaire was administered on the sample. The questionnaire was divided into three sections. Section I dealt with the profiling information. Section II focused on aspects of country brand image and perceptions regarding image building. Section III used the Anholt GfK Roper Nation Brand Index as the basis for identifying attitudinal responses regarding five parameters viz; Exports, Governance, Culture, Tourism, Immigrations and Investment.

Sample

The sample size was 60 respondents selected through convenience sampling from India and residing in India as well as in foreign nations. The criterion for selecting the respondents was that they should have visited any foreign destination in the past 6 months or are residing in a foreign location for the past 6 months.

Hypothesis Testing

There is a linear relationship between perceptions regarding business environment of an emerging economy and the investments made in the economy

TABLE 1 RELATIONSHIP BETWEEN BUSINESS ENVIRONMENT AND INVESTMENT

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	.303	1.879		.161	.873
i1	.629	.284	.310	2.217	.032
i2	.137	.287	.062	.478	.635
i3	-.110	.339	-.046	-.325	.746
i4	1.152	.454	.345	2.538	.015

This hypothesis was tested using regression analysis. Regression analysis is a powerful and flexible procedure for analyzing associated relationships between a metric dependent variable and one or more independent variable. In the above hypothesis Business Environment was taken as independent variable and country image for emerging economies was taken as dependant variable. An attempt has been made to understand that the variation in country image be explained in terms of perceptions regarding business environment. *The result of the analysis is as follows.*

The above table indicates that the critical value of t with 58 degrees of freedom and alpha= .05 is 1.67. As the calculated value of t for i1*and i4*is larger than the critical value the null hypothesis is rejected and the above is

accepted for i1 and i4 and rejected for i2 and i3. Hence it shows that there is significant linear relationship between perceptions regarding business environment and investment opportunities in India and the liberal policies for business set up. An open business environment will always position the country in a better framework than otherwise. This indicates emerging economies should concentrate on creating better business environment and attracting foreign direct investments from the better part of the world. However people don't link quality of life and quality education programs with the overall business environment as proved by the above analysis.

Governance factors will have a positive impact on country image

TABLE2: GOVERNANCE PERCEPTIONS AND BRAND IMAGE

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.043	.335		3.118	.003
g1	-.020	.041	-.058	-.475	.637
g2	.116	.066	.250	1.776	.082
g3	-.092	.058	-.229	-1.583	.120
g4	-.144	.064	-.273	-2.237	.030
g5	-.145	.049	-.398	-2.946	.005
g6	.070	.062	.190	1.134	.262
g7	.341	.077	.697	4.439	.000

The above hypothesis is tested using regression analysis. This hypothesis was tested using regression analysis. The above table indicates that the critical value of t with 58 degrees of freedom and alpha = .05 is 1.67. The above hypothesis is accepted for parameters g2 and g7. These state that India is competently and honestly governed and secularism is actually practiced in India. The Indian citizen with exposure to foreign countries stated that the brand image of a developing economy is impacted by the ideology and competence of governance. Hence it can be established that emerging economies need to concentrate on these two parameters of governance along with the others included in the governance sector.

Exports of a country has a direct impact on country image

The above hypothesis is tested using regression analysis. The table indicates that the critical value of t with 58 degrees of freedom and alpha = .05 is 1.67. The above hypothesis is accepted on the e4 parameter which states that Indian products are considered trustworthy in foreign nations. This further establishes that brand image has an impact on reducing country of origin effect, thus rendering more trust on the brands of the country which has a better brand value in the foreign nations.

Note: Perception parameters are defined in appendix 1.

TABLE 3 EXPORT PERCEPTION AND BRAND IMAGE

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.344	.241		5.585	.000
e1	-.171	.069	-.299	-2.484	.016
e2	.044	.086	.089	.506	.615
e3	-.138	.078	-.311	-1.773	.082
e4	.257	.060	.505	4.252	.000

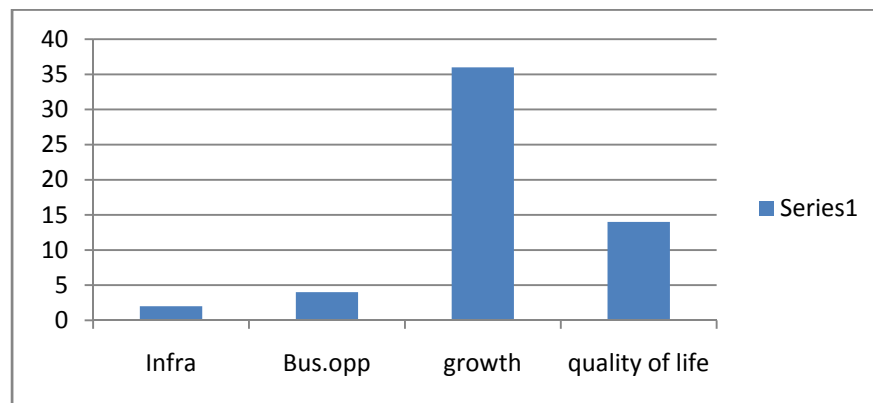
The above hypothesis is tested using regression analysis. The above table indicates that the critical value of t with 58 degrees of freedom and alpha = .05 is 1.67. The above hypothesis is accepted on the e4 parameter which states that Indian products are considered trustworthy in foreign nations. This further establishes that brand image has an impact on reducing country of origin effect, thus rendering more trust on the brands of the country which has a better brand value in the foreign nations.

Findings

1. The respondents were asked to rank India on parameters such as infrastructure, law and order, business opportunities, government Support, Business Environment, Taxation policies, growth potential, quality of life for a common man. The analysis reveals that respondents feel India is ranked high in the world in terms

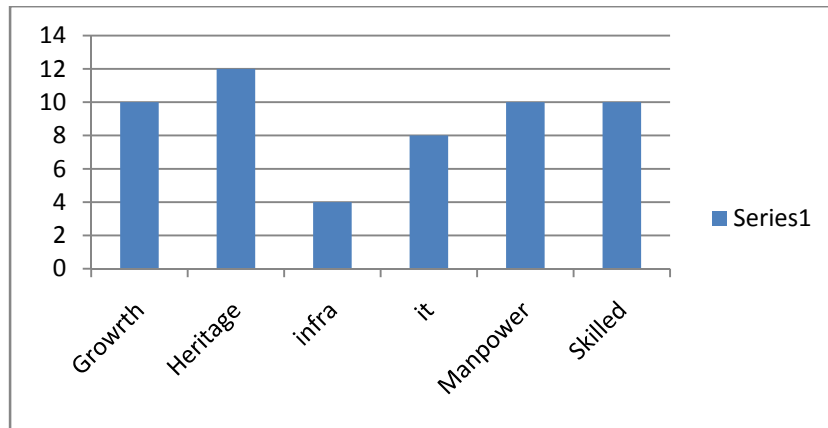
of growth potential and the world recognizes the potential of India to make a significant presence on the world map. The second aspect on which India was rated high was quality of life for a common man. Approximately 20% of the respondents view that an India can be ranked high on this parameter. However business opportunities and infrastructure hold very low scores and the other features like government support, law and order and taxation policies feature nowhere in the preference criteria. Hence the government has to take these into consideration for further enhancing the brand value of India in the world.

\TABLE 4 RANKINGS OF INDIA



2. Respondents were also asked to identify the most impactful dimension in designing a brand image for India. The responses show that heritage sites along with growth potential, skilled manpower and cheap power can be used to create an effective brand message.

TABLE 5: IMPACTFUL PARAMETERS IN DESIGNING BRAND MESSAGE FOR INDIA



- 3 The respondents were also asked to rank the parameters which contribute to spoiling the image of brand India. The results show that the infrastructure sector is the one contributes the most towards spoiling the brand image of India. This is also supported by the fact that the majority (approx. 75%) of the respondents who were unhappy with the image of India found infrastructure as the major reason for their dissatisfaction.
- 4 The results also display a very strong association of brand India with Mahatma Gandhi. This reveals that brand India is perceived as a mature, humble, ethical and visionary with immense amount of tolerance.
- 5 The citizens of India feel that an open business environment will always position the country in a better framework than otherwise. They believe that India should concentrate on creating better business environment and attracting foreign direct investments from the better part of the world. However people don't link quality of life and quality education programs with the overall business environment as proved by the above analysis. As shown by the analysis in Table 1. Significantly high scores for the statements [i1 & I4] show that the citizens view a better business environment can be linked to higher returns on investment and will attract the best resources from around the world.
- 6 The Indian citizen with exposure to foreign countries stated that the brand image of a developing economy is impacted by the ideology and competence of governance. Hence it can be established that emerging economies need to concentrate on these two parameters of governance along with the others included in the governance sector.
- 7 The Indian citizen who are not happy with the image of brand India believe that the brand image of a developing economy is impacted by the ideology and competence of governance. (Ref; Table 2)
- 8 The brand image associations of brand India is directly linked to the parameter (Ref. Table 3) which states that Indian products are considered trustworthy in foreign nations. Hence reflecting that this aspect of trust and belief can be further emphasized in designing a branding strategy for India.
- 9 The 5 parameters identified for measuring brand perceptions were charted on a pentagon.

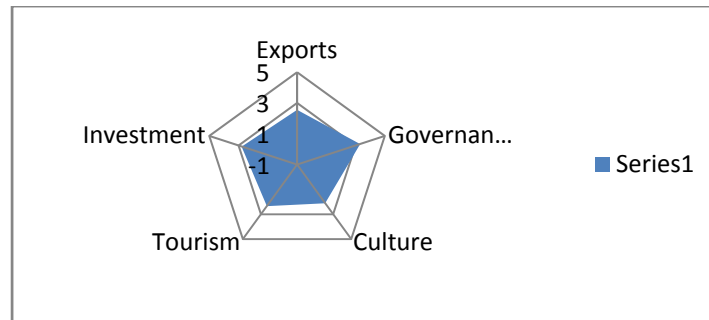


FIG2. NATION BRAND PENTAGON

The above chart depicts that governance is a major factor contributing towards creating positive perceptions of nation's brand. Governance is closely followed by the investment parameter. However tourism and exports are at par. Culture does not have a major impact in creating positive brand perceptions as far as India as an emerging economy is concerned.

Conclusion

The above paper highlights that India can utilize dimensions like Governance and infrastructure to strengthen its brand image. The brand message should essentially project India as a land of immense growth potential for business opportunities and availability of skilled labor at competitive compensation add on to the business facilitation. Hence emerging economies should work on creating better value for business in their nation and creating business facilitations for attracting more FDI's through better governance and infrastructure. An emerging economy predominantly focused on culture like the case in India where India is positioning itself as Incredible India has to be revisited and a new communication message incorporating the above values of superior governance and infrastructure need to be planned.

Further scope of research

The paper has incorporated all the five dimensions and a combined analysis had been done. However a sectoral approach can be followed and each parameter of probed in deeper to Exports, Governance, Culture, Tourism, Immigrations and Investment so that specific dimension based brand strategy can be identified. This can be further used for customized targeting depending type of audience and venture. Further this

paper has taken a case study of India which can be expanded and other BRIC economies can also be compared so as to create a differentiation for brand India amongst the BRIC economies

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Note: Contact authors for full list of references

Appendix1

I Exports:		India excels at sports	C1
India has made major contribution to innovation in science and technology	E1	India is an interesting/exciting place for contemporary culture such as music, films, art and literature.	C2
Indian products enjoy high quality value abroad	E2	Indian religions are accommodating	C3
Indian companies enjoy a high brand value in foreign nations	E3	IV Tourism	
Indian products are considered trustworthy In foreign nations	E4	India is a preferred destination for tourism	T1
II Governance		India is rich in natural beauty	T2
Globally India is recognised as a creative place with cutting-edge ideas and new ways of thinking	G1	India is rich in historic buildings and monuments	T3
India is competently and honestly governed	G2	India has a vibrant city life and urban attractions	T4

India respects rights of its citizens and treats them with fairness	G3	India is safe for international tourists	T5
India behaves responsibly in international peace and security;	G4	V Immigrations & Investment	
India is proactive in environmental protection	G5	Indians welcome people from outside for work for a substantial period.	I1
India behaves responsibly to help reduce world poverty;	G6	Quality of life in India is very high	I2
Secularism is actually practiced in India	G7	It offers quality education programs	I3
III Culture		India delivers excellent returns on investment	I4
India excels at sports	C1		
India is an interesting/exciting place for contemporary culture such as music, films, art and literature.	C2		
Indian religions are accommodating	C3		

Sustainable Global Business in Emerging Economies- Multinationals from Asia-Pacific

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Abstract

Multinationals are struggling to balance their viability from a market economy and competition perspective with their social viability from an environment sustainability perspective. Under the market economy driven profit maximization model, western multinationals extending their business to developing countries, face challenges of preserving ecosystem and social system health including natural wealth and bio-diversity. If instead of preserving living systems ability for self-renewal multinationals try to circumvent the problem by delinking consumers from producers and consumers from polluters in their attempt to globalize operations across continents, this attempt is labeled as ‘environmental apartheid’ calling for opposition to global operation of such multinationals. According to a model developed in this paper, long term sustainable business depends on a wider stakeholder influence of MNC vision/mission by reflecting changing social and ecological morality in recognition of intergenerational and interspecies equity, going beyond concepts of their mutual interdependencies. Use of this model to evaluate MNCs from emerging economies in the Asia-Pacific region reveals that firms dealing transparently with a wider stakeholder base are better positioned on a long term sustainable business path than those that merely react to environmental legislation and or unilaterally perform CSR activities, limitedly involving the local community.

1.0 Introduction:

Multinationals are struggling to balance their viability from a market economy and competition perspective with their social viability from an environment sustainability perspective. Under the market economy driven profit maximization model, western multinationals extending their business to developing countries, face challenges of preserving ecosystem and social system health including natural wealth and bio-diversity. If instead of preserving living systems ability for self-renewal multinationals try to circumvent the problem by delinking consumers from producers and consumers from polluters in their attempt to globalize operations across continents, this attempt is labelled as ‘environmental apartheid’ calling for oppositional to global operation of such multinationals. Whether it is Exxon-Mobil or Union Carbide or more recently BP, environmental stigmas have seen MNCs lose intrinsic value besides their image and business competitiveness. This paper tries to develop a model for successful sustainable global business, identify medium to long-term benefits of such business models for MNCs and then discuss the progress of some Asian/ Indian MNCs using this model. In conclusion, the paper attempts to predict the long-term benefits achievable for MNCs from progression along this path.

2.0 What traditional business is or is not?

Traditionally business pays no attention to non-human nature and therefore is absent from Strategic Management, Stakeholder theories and limitedly in Business Ethics- there is no reference to biophysical world in Management theory i.e. no reference to physical world including fresh water, fertile soil, food chain,

biochemistry and nutrient cycle. Business, by focusing on competitive advantage, leverages on technology for profit and efficiency achieving human development. Is this development sustainable?

3.0 What is Sustainable Development?

According to the Brundtland Commission, development that meets the needs of the present without compromising the ability of future generations to meet their own needs- a normative abstraction widely accepted, is sustainable development. Thus, sustainable development is more complex inclusive human development than accepted in business thus far, embracing economic, social and ecological interdependence. In the argument is included a critical aspect of intergenerational, intra-generational and interspecies equity. Thus the challenges of sustainable global business are in maintaining traditional profit and efficiency priorities of business while operating within an essential sustainable development frame.

To meet the above challenges of business priority, sustainable business development needs the inclusion of a unique set of stakeholders in governing business, which includes:

- Citizens
- Policy makers
- Health experts and
- Environmental experts

Overall, sustainable development of business must recognize fundamental socio-economic and environmental truths like

- World is relatively full than empty
- Regenerative and absorptive capacity of the natural environment is limited
- Wealth distribution from the poor to the rich and from the future to the present is not just irreversible but detrimental and unsustainable in the long run.

One other concept considered a sub-set of sustainability is Corporate Social Responsibility (CSR). It is a means used to measure and quantify sustainability in terms of global reporting initiative, ISO 14000, often referred to as social reporting, citizenship report or triple bottom line reporting (Goetz, 2010; Trabucchie and Lee, 2007)

3.1 Challenges of including sustainability in business:

Sustainable business needs to include some of the above priorities that may be in opposition to the conventional focus of business- maximization of profits and returns to the owners. Traditional models of global business which is called 'market induced globalization' allows through its breakup of production, consumption and waste disposal in different parts of the developed and developing world, a mystification of the producer-consumer-polluter link (Rist, 1999). As a result, migration of wastes from pollution of north/developed countries to south/developing countries and wealth, knowledge from south to north is interpreted as 'environmental apartheid' under neo-liberal globalization (Shiva, 2001). With risk of 'environmental apartheid', how responsive is business to sustainability issues may critically depend on how permanent and forceful is the change.

As identified by John Naisbitt, business and organizations have responded to megatrends in the past, whether they be rise of information society or hierarchical organizations giving way to networked ones (Lubin and Esty, 2010). These megatrends capture incipient societal and economic shifts. The common thread across such megatrends is that they present inescapable strategic imperatives for business leaders. How sustainability is the latest megatrend is captured in the following discussion of Lubin and Esty (2010):

Why do we think sustainability qualifies as an emerging megatrend? Over the past 10 years, environmental issues have steadily encroached on businesses' capacity to create value for customers, shareholders, and other stakeholders. Globalized workforces and supply chains have created environmental pressures and attendant business liabilities. The rise of new world powers, notably China and India, has intensified competition for natural resources (especially oil) and added a geopolitical dimension to sustainability. "Externalities" such as carbon dioxide emissions and water use are fast becoming material—meaning that investors consider them central to a firm's performance and stakeholders expect companies to share information about them. These forces are magnified by escalating public and governmental concern about climate change, industrial pollution, food safety, and natural resource depletion, among other issues. Consumers in many countries are seeking out sustainable products and services or leaning on companies to improve the sustainability of traditional ones. Governments are interceding with unprecedented levels of new regulation—from the recent SEC ruling that climate risk is material to investors to the EPA's mandate that greenhouse gases be regulated as a pollutant. Further fueling this megatrend, thousands of companies are placing strategic bets on innovation in energy efficiency, renewable power, resource productivity, and pollution control. What this all adds up to is that managers can no longer afford to ignore sustainability as a central factor in their companies' long-term competitiveness.

These megatrends took firm hold of business only when they became an integral part of society and individuals, for example, IT became an integral part of business when it entered into the personal life of workers and customers alike through desktop computing. Changes come through innovations in strategy and entirely new sources of value in business models. Experiences from earlier megatrends indicate businesses succeeding in a sustainable way need to incorporate innovations in their strategy in the evolutionary stages. Some of these may be

Stage 1: Do old things in new ways.

Firms focus on outperforming competitors on regulatory compliance and environment-related cost and risk management. In doing so, they develop proof cases for the value of eco-efficiency. At its inception 30 years ago, 3M's Pollution Prevention Pays (PPP) was just this kind of initiative. As of 2005, PPP had reduced 3M pollutants by more than 2.6 billion pounds and saved the company more than \$1 billion.

Stage 2: Do new things in new ways

Firms engage in widespread redesign of products, processes, and whole systems to optimize natural resource efficiencies and risk management across their value chains. DuPont's "zerowaste" commitment, for instance, increased the company's prioritization of eco-efficiency across their operations.

Stage 3: Transform core business.

As the vision expands further, sustainability innovations become the source of new revenues and growth. Dow's sweeping 2015 Sustainability Goals, designed to drive innovation across its many lines of business, yielded new products or technology breakthroughs in areas from solar roof shingles to hybrid batteries.

In line with the idea that Environmental Burden (EB) depends primarily on Technology (T) given that Population (P) and Affluence (A) are beyond corporate control and matters of national policy (Gladwin et al., 1995), investment in clean technology by corporations that touched about USD 9 billion in 2008 was expected to rise to USD 200 billion in future with G20 countries earmarking USD 400 billion of its USD 2 trillion stimulus fund for clean technology and sustainability.

Given that resources earmarked for sustainable business, it is important to identify if 'incentives' as opposed to 'dies-incentives' are more effective in motivating sustainable business. For a 'command and control' government and environmental agency, predominant approach to sustainability has been the route of coercion or disincentives for non-compliance; incentives reward change but disincentives punish failure to change (Tools of Change, 2009). Since governments and individuals comply with a law for fear of punishment under disincentives, there is constant need of government vigil for violators (Iannuzzi, 2002). While incentives may not change mindsets in the beginning and only behaviour, peer pressure and success from these changes,

customer preference and business gains can over time induce a mindset of sustainable business for all time in future.

Including sustainability into business will spread accountability beyond immediate business to net in wider stakeholders as Kanter (2010) illustrates

Selling a simple cup of coffee, for example, already requires much more knowledge than how to brew and serve it. Where was the coffee grown, under what labor conditions, and with what pesticides? Is the cup made from recycled paper, and how many trees were cut down and how much water was used to manufacture it? Does the plastic lid leak toxins, and does it snap shut well enough to prevent burns from spills?

Obsolete systems of sequential processes, in which each group performed just one step, with no responsibility for what happened before or after, have given way to more integrated, simultaneous planning and management, with every group, including suppliers and distributors, bearing a share of responsibility for the end product and not just for a specialty. Circles of influence, business fortresses are replacing chains of command by collaborative business ecosystems. A vital difference of this stakeholder model from the traditional agency model includes pre-empting stakeholder demands from the perspective of sustainable business, which, as mentioned before, needs building different forms of sustainability criteria into strategy formulation of business and highlighted in the three stages before.

4.0 Stakeholder approach to sustainability:

Unlike the shareholder model of business, the wealth distribution priorities of stakeholder model are different, particularly if there is a fixed pie of profits (Parmar et al., 2010). In the stakeholder model the focus is on process and procedural justice; on just distribution of resources and new sources of value creation; a higher acceptability of a process of all this that is fair. Unlike as claimed by some it does not lead to higher managerial opportunism (Jensen, 2000; Sternberg, 2000) although some claim stakeholder theory requires change in current law for this (Hendry, 2001). Maren and Wicks (1999) show that business judgement rules allows use of stakeholder theory without running afoul of law. It is also not a social policy enforced by the state but a system of voluntary exchanges of individuals (Phillips et al, 2003).

Stakeholder theory is a comprehensive moral document (Orts and Studler, 2002) but while John Rawls (2003) claims that it can answer a full array of moral questions, Philips and colleagues (2003) claim that stakeholder theory cannot answer many of the moral questions related to business. This may well refer to some of the moral questions arising out of the environmental sustainability of business included in such business ethics questions of 'what is the purpose of existence of the firm?' and 'to whom does management have an obligation?' (Parmar et al., 2010)

5.0 Sustainability Model:

Based on the discussion so far, a model for sustainable business is developed (see figure-1).

6.0 Methodology:

For this study, four firms located in emerging economies are chosen based on their annual report and sustainability report available online. The sampling is a convenience sampling in this case. These firms are in

diverse business from power generation to banking and have international presence qualifying as Multinational Corporations (MNC). A content analysis methodology adopted to identify and segregate the activities of these firms, primarily into those that are firm internal initiatives addressing CSR, sustainable business issues and those that involve the wider community but aimed at serving the same objective of sustainability of business. The concept of 'sustainability' used here pertains to preservation of natural environment in the course of business, preservation of intergenerational and interspecies equity as highlighted in the model and broadly recognizing interdependencies of society, ecology and economic activities of MNCs.

The firms are:

- China Light and Power (CLP): Operates in power generation with operations in emerging economies like China and India besides Australia- its origins.
- INDORAMA: It is a company of Indian origin and registered in Indonesia in the business of PET (plastic bottle) resins and products. It has operations in different parts of the world.
- PTT Thailand: A leading Thai MNC operating in energy business with oil and gas assets and operations in different countries.
- HSBC China: It is a banking entity, regional subsidiary of the global banking entity HSBC Plc.

7.0 What firms are doing:

7.1 China Light and Power (CLP):

CLP delivers value through its triple bottom line reporting using its sustainability report along with its annual report. It adopted a climate strategy framework, as part of which is climate vision-2050 reducing CO2 emission, non-carbon generation and renewable energy in power generation of at least 5% by 2010. Under its community partnership, CLP wants to involve more than 4500 students of HK, china and India in its Young Power Program together with tree plantation involving local communities besides model power generation facilities in HK, China and India for communities to see.

Online education on home energy consumption with carbon footprint calculation is available at TRUenergy website in Australia with options of purchasing green electricity and carbon offsets. Suppliers are involved and educated to encourage green purchasing and supply where viable. CLP continued to promote energy efficiency through the provision of advisory services to residential and commercial customers and supporting public education in the Pearl Delta Belt and Guangdong province helping 150 users including hotels, factories, office buildings, residents.

In developing countries like China and India, construction sites are still the highest risk areas and CLP face particular challenges at Jhajjar in India and Jiangbian in China. They cannot completely eliminate risks but strive hard to raise safety standards substantially above the local prevailing norms. Jiangbian has been recognised as a model site in Sichuan and Jhajjar has just achieved 3 million man-hours without a lost time injury. However, CLP are well aware that significant risks remain due to working at height and with rock bursts.

CLP provided funds, infrastructure and even human resources as volunteers from its employees and their families to set up two primary schools in the earthquake hit Sichuan area of China providing education to 570 local students in 2008. As part of its organization structure to implement sustainability, CLP's Sustainability Committee is a Board level function, which oversees CLP's position and practices on sustainability issues that affect shareholders and other key stakeholders. Appointed by the CLP Holdings Board of Directors, the

Committee comprises of Executive Directors and Independent Non-executive Directors of the Board, Group Director – Carbon Ventures, and Director– Group Environmental Affairs. The Committee reflects the Board’s increased focus on managing the social, environmental and ethical risks and opportunities that CLP faces. Its key function is to ensure that these risks and opportunities are properly identified, and steps taken to address them. Recommendations from the Committee are available for the Board’s consideration in setting the overall direction of the company.

In attempting to link its sustainability effort to its values and strategy the following statement of the top management is significant

Our values, abilities and strategy must adapt to, ideally anticipate, changes in technology, markets and societies’ means, needs and expectations – changes which appear to be occurring with increasing frequency. In recent years, we have developed a formal Value Framework which sets out the values which govern ourselves, our business and our relationship with our stakeholders. Our abilities have increased and become more attuned to the importance of excellence in the management of the environmental implications of our business – in recent years, we have acquired experience and expertise in a wide range of clean energy technology, including nuclear, hydro, wind and solar energy. Our strategy specifically addresses the issue of global climate change through our ‘Climate Vision 2050’ issued in December 2007, which commits CLP to massive reductions in the carbon intensity of our generating portfolio from 2007 through to the middle of this century.

7.2 INDORAMA

This is a company focused on its people, products and customers together with a social responsibility that enhances environment around and corporate governance focused on transparency, accountability and ethics. While Indorama attributes its business risk to cyclical nature of PET business, supplier problems, increasing cost and market problems besides operational risks, it nevertheless recognizes imposition of eco-taxes and fees besides product stewardship that are being introduced in USA. Consumer concern for solid wastes and its recyclability has seen reduction in demand for PET resins. Indorama has to face both central and local regulations of business whose non-compliance may result in fines and penalties.

Indorama Ventures PCL (IVL) believes in striking a balance between economic and social goals by executing high standards of Corporate Governance and always strives to implement the Corporate Governance principles set by the Stock Exchange of Thailand. The Company firmly believes in transparency, accountability and ethical conduct in pursuit of its mission and acts in accordance with its framework for sound corporate governance to enhance Company’s competitiveness and best serve the interests of its many stakeholders – and business. IVL has in place a written Corporate Governance Policy and the Policy follows the guidelines set out by SET. The Board and management are strongly committed to the implementation and practice of the Corporate Governance principles and this reflects allegiance to doing what is fair, right and legal. Indorama has been awarded a “blue” rating by the Ministry of Environment Performance Rating Program for consistent good compliance from 2002-09; the textile products tested for harmful substances by the international association for research and testing in textile ecology. They were awarded the prestigious OEKO-Tex standard 100 for several consecutive years. PlantBottle packaging is a PET plastic package made with up to 30% of its material derived from plant material. As a significant step towards recyclable bottles, the PET resin for the PlantBottle is made from molasses, which is a by-product in refining sugar from sugar cane. It is estimated that the production of this PlantBottle could reduce the amount of petroleum product use annually by 2045 KL.

However, the priority here is in maintaining the legal requirements of governance relating to board member appointment, remuneration, dividend payment and internal information. IVL and its subsidiaries cares about safety of its society, environment, and quality of life of people associated with all its operations and strives to comply with applicable laws and regulations. IVL and its subsidiaries try to participate in all activities that support and care for environment and society and promote the cultures in which the companies operate. IVL and its subsidiaries treat and dispose of waste in a manner that will have least impact on society, environment and people. No specific activities aimed at achieving these outcomes or organizational structure and system to implement such efforts are however discussed in IVL annual report. While most tree planting and health check up activities involved employees and IVL community, some involved other community stakeholders as well.

Among the community activities IVL participates in are:

- Scholarships for primary education of children
- Sponsor sports team
- Support for a public health centre
- Green program for planting trees
- Support and organize cultural activities and events
- Participating in various local festivals, such as National Children's Day, Songkran, Loy Krathong and Makhabucha Day.

IVL focus is also to reduce and reuse natural resources

A Boat Race conducted on Oct 5th, 2009 at Bangkham River, Koksalod Village located at the backside of Indorama Polymers, PCL, Lopburi. This is a traditional function for conservation of water source at Bangkham River. Activity training on HIV AIDS by Thailand Business Coalition was conducted at Lopburi (IRP) on Sept 28th, 2009. Indorama Polyester Industries PCL-Nakhonpathom's employees co-operated to donate blood with Department of Transfusion Medicine, the Faculty of Medicine Siriraj Hospital, Mahidol University on September 21st, 2009.

In other activities around the world where Indorama operated:

*At OGPET Lithuania the following activities are conducted

- Meeting with Klaipeda Environment organization Žvejonė like Green Peace organization
- Annual presentation of Environmental Monitoring for society (villagers, city administration, Environment Department).
- Also conducted was the Fire prevention training with Klaipėda Fire and Rescue Department
- Annual Football Charity Cup at FEZ

*At Alphapet, USA, the following activities took place:

- Relay For Life- American Cancer Society
- Charity Golf Tournament at The Pilot Club of Decatur
- Annual Membership Industrial Emergency Association
- Scholarship Funding Decatur General Foundation
- Hindu Cultural Centre of North Alabama
- Avon Breast Cancer Foundation
- Student Leadership Scholarship DECATUR

*In 2009 the following external projects were executed at Indorama Polymers/Holdings Rotterdam B.V:

- Donated redundant computers to a charity organization in the Netherlands
- Participated in the program "feel the chemistry". This program initiated by the VNCI (Association of Chemical Industry). The objective is to let children, from primary school, visit chemical plants and see what

chemistry is all about. Approximately 35 school kids visited our site in June. Presentation about Indorama and their products was given. The children were invited to execute chemical proofs by making hair gel and shampoo.

- Indorama participates in the Process College Mainport Rotterdam. Promoting the schools for process operator and maintenance technician is one of the major tasks. The need for more students following a technical education is a priority. By inviting students from secondary schools to Indorama site, giving presentations, explaining about the job should help students to make a decision about their next step in education. During the week of the process industry in January, various groups of students visited the plant site.
- A number of trainees from the Process College are offered an internship within the company. For some of them it resulted in employment with Indorama.

*Indorama Petrochem Plant in Rayong undertook the following activities during the year

- Coordinated with IEAT and Ban Chang District local community leaders during Jun-Dec 09 on smell impact reduction plan to nearby communities.
- Regular visit to local communities every month during Jan-Dec 09.
- Organized “School Safety Project” activities at Prachummit Bumrung School (basic fire fighting training for school children and teachers) on 4/9/09.
- Donating items, luncheon, and organizing sports activities for orphans at Huay Pong Youth Care Center, Rayong, on 26/12/09.
- Joined MPR (Map Ta Phut Public Relations Club) activity of “Happy Healthy Youth Camp with MPR” during 28-29/5/09 at PTT Herb Garden, Rayong.
- Supported gifts and presents to young children during 2009 National Children Day.
- Donated to support 2009 Rayong Red Cross Fair organized by Rayong Province.
- Donated to support Songkran Festival organized by Prachummit community and Chak Look Ya community.
- Donated to support 2009 Chinese temple charity at Payoon Chinese Temple

It may be worthwhile to try and link these sustainability and CSR activities of Indorama to its stated mission, objectives and strategy to find the impact of one on the other.

Vision:

To be one of the leading global producers with key focus on people and processes thus making INDORAMA one of the most admired companies in the world.

Mission:

Continuously improve quality of product and services through people involvement and world-class processes to attain customer delight thus becoming a preferred supplier and institutionalize people learning as a key factor for business growth

Values:

1. Social Responsibility: We believe in being responsible and caring for society; maintaining as well as enhancing the environment around us.

2. Corporate Governance: We believe in transparency, accountability and ethics. We aim to achieve highest degree of governance in accordance with best practices.

7.3 PTT Thailand

PTT is determined to be a good Thai business entity with a vision of being a Thai Premier Multinational Energy Company, using local strength for competing in the international arena. The company is committed to a mission that stresses responsibility to all stakeholders – the nation, society, communities, shareholders, business

partners, customers, and employees. The company has in place a clear guideline for sustainable development by keeping a good balance between Corporate Social Responsibility (CSR), Corporate Governance (CG), and High Performance Organization (HPO) in order to lay a strong foundation for the long-term development of the organization.

In addition to taking part in sustainable development networks, which has strengthened the policy, principles, and knowledge within the company, PTT applies guidelines and standards for managing quality, safety, occupational health, the environment, and society. To exert control over air pollution and alleviate impacts on the environment and communities around PTT's business operations, PTT stressed air pollution through managing pollution reduction at sources and controlling pollutant levels at operating sites of oil storage and distribution. The key is to ensure that the pollutant levels are within legal standards.

As a national energy company, PTT has recognized climate change issues. Therefore, the company has investigated its impact and consistently monitored public policies and control measures. A carbon footprint for PTT is established since 2006, through activity analyses, source identification, and calculation of Green House Gas (GHG) emission. Process steam recycling reduced 650,000 MMBtu of gas consumption, equivalent to 38,152.9 tons of carbon dioxide emission. PTT recognizes its responsibility for global climate change by promoting natural gas as a replacement for fuel oil; preferred transport of products by pipeline or by rail, which resulted in lower Green House Gas emission than transport by truck; a switch from 38-watt (T8) fluorescent light bulbs to 28-watt (T5) ones at all operating sites; and restoration of natural balance by promoting stewardship activities and rehabilitation of natural resources in a sustainable way – including a complete reforestation project and the implementation of forest stewardship projects. The land use for reforestation absorbs about 4 million tons/year of carbon dioxide.

In addition, PTT conducted R&D of biofuels; biomass-to-liquids synthesis; waste-to-energy; leveraging hydrogen derived from natural gas in fuel cells (through cogeneration); nuclear energy; solar energy; and wind energy. The company also investigates ethanol production from grassy plants, reducing ethanol production costs; joint R&D of diesel from vegetable oil (the so-called bio-hydrogenated diesel (BHD)) through assorted raw materials, including jatropha and algae; and the construction of a pilot biodiesel plant.

To ensure that PTT's sourcing of water supply does not create significant impacts on natural water bodies while continually sourcing additional water supply for its activities, it buys water from the Provincial Water Authority and East Water Plc., but continually reuses water in its processes and also reduced water consumption. This reduction has been 17,500 cubic meters per year.

Much of PTT's business operation is in areas outside protected or biodiversity areas. One gas transmission pipeline route, however, lies in the forest area of Amphoe Thong PhaPhum, Kanchanaburi. About 44 km of the total 50 km of the route is in an area that contains deserted mines and ore transport roads, and the other 6 km is in a deciduous forest. PTT joined the Biodiversity Research and Training Program (BRT), an independent organization attached to the Ministry of Science and Technology, in conducting biodiversity research under the West Thong PhaPhum Project in forests around TambonHuaiKhayeng, Amphoe Thong PhaPhum, Kanchanaburi. This endeavor, an area based research development under Thailand's first multidisciplinary research project management, focused on linking knowledge from assorted fields to form a new body of knowledge. It is expected that the research findings from this endeavor, numbering 61 and covering plant species, animal species, valuable biological resources, and culture and folk wisdom, will prove practical knowledge, particularly at the local community level in various forms. This includes local product manufacturing, ecotourism, and the joint creation of local curricula and learning processes among academicians and the community to bolster their long-term stewardship of natural resources.

Apart from these, PTT and BRT launched a project on biological resource management from the shore to the peak around Khanom Beach and Khao Nan of Nakhon Si Thammarat, to conduct holistic ecological research from the shore to the mountain peak for the first time in Thailand, and to investigate the interdependence of local communities and local biological resources. This research fell into two subprojects, namely (1) the biological resource management for Khanom shore, focusing on community engagement in studying local

wisdom, their marine-bound livelihood, and utilization of marine resources, and (2) the Khao Nan research project, Nakhon Si Thammarat mountain range, focusing on biodiversity and the cloud forest ecology, which is rare in Thailand and a major source of streams.

7.4 HSBC China:

HSBC China has CSR as an essential part of its Corporate Sustainability Strategy with responsibility to contribute to the society and community in which it operates. In 2009, environment protection and education remained the focus of HSBC China's CSR priority. This includes efforts like the Eco-Schools Climate initiative and the Green Roof Project where HSBC staff as 'climate champions' attended a training programme on climate change and another 400 volunteered to participate in the Eco-Schools project. HSBC China follows four corporate sustainability objectives including:

- Commercially viable projects that impact environment and society positively.
- Promoting carbon neutrality and reducing environmental footprints by reducing use of energy and water as also waste and carbon dioxide emission.
- Community investment for sustainable social development.
- Minimizing business risk particularly reputational risk.

A Corporate Sustainability Committee set up under the Group Board of Directors is responsible for HSBC's sustainability strategy. In regions like Asia-Pacific, Latin America, N.America and Middle-East Corporate Sustainability Committees implement the Group sustainability strategy. Mainland china and 19 other countries come in the Asia-Pacific region.

As the first bank to become carbon neutral in 2005, HSBC tries to reduce carbon emission in its activities, purchase 'green electricity' wherever possible and tries to offset carbon emission. As part of its 'carbon footprint management', it tries to reduce consumption and waste of both energy and water. This includes installing video conferencing at its HQ and regions to reduce need to travel, printing on both sides of paper and recycling of used paper including newspaper and magazines. These efforts in China are estimated to have saved 541 tonnes of CO₂ emission in 2009 itself. Replacement of all incandescent bulbs with energy saving bulbs is estimated to have saved 650,000 KWHr per year equivalent to reducing carbon emission of 429 tonnes per year. Besides considerable savings in energy is achieved through purchase and use of energy from renewable sources. HSBC China invests in projects with some environmental and social risks like forestland and fresh water infrastructures.

8.0 Discussion:

As per the model developed from literature, sustainable business crucially depends on market viability as also ecological viability. Sustainable business impacts in redefining the future organization from that of its present which carries with it the burden of its past as well. To find a balance between market and ecological focus, organizations need to not only acknowledge interdependencies of ecological, social and economic sustainability but given environment's exhaustible resources, limited carrying and regenerative capacity need to be cognizant of inter and intra-generational equity as also inter-species equity. While existing mission and vision of MNCs define their strategies from which flow actionable organization roles, these may only take care of ecological, societal and economic interdependencies. However it is the futuristic morality of society, ecology and economics that defines the long-term direction of MNCs by influencing their mission/ vision for the future via their many and diverse stakeholders. The framework argues that the long-term sustainability of business critically depends on organization action that goes beyond implementing present strategies on sustainability to influence future societal, ecological and economic morality and its influence on future mission/vision of the organization through a broad based stakeholder representation, not just shareholders as in representatives of owner's interest in an agency model.

CLP maintains transparency of activities through sustainability reporting and a climate strategy framework as part of climate vision-2050 for long-term objective and target setting. It also has societal commitment through

student involvement in its 'Young Power Program' and model generation plants such that future generations are aware of not only the corporation's operational plans but also moral stand over the long term. This helps define not only the corporation's morality but also societal morality by achieving intergenerational equity.

Supplier involvement and green purchasing together with advisory services to residential /commercial customers online on energy usage helps in progressively shifting from 'hierarchy of commands' to 'circle of influence' involving different stakeholders leading to long term sustainability of business. Concerns of risk from working in developing countries like China and India positively influence morality of MNCs like CLP through its social consciousness.

Structurally CLP has provisioned through its 'Sustainability Committee' to incorporate its Board's vision of sustainable business and environment. Its activities discussed before help in creating the actionable strategy born out of the vision with its advisory role maintaining communication and transparency with different stakeholders.

While focusing on transparency, accountability, Indorama's focus seems to be less on the moral side of societal and ecological sustainability and more on the operational side of legal imposition of environment taxes as captured in 'doing what is fair, right and legal'. Accordingly, Indorama targets government awards as recognition focusing more on the disincentives of non-compliance to rules and policy than on voluntarily and proactively influencing environment policy. There is no mention of specific structural aspects aimed at implementing sustainable business strategy. Most of the activities of Indorama have societal impact of the CSR category that need not necessarily address sustainability aspects of business. These include primary education, health centers, and HIV AIDS awareness. Process training for students at Indorama's Rotterdam facility equips them to seek employment in Indorama but desirable levels of stress on sustainability of PET business may be lacking when the same need be stressed through the PlantPETorPlantBottle technology using molasses from sugar replacing extensive use of petroleum products for PET and promising recyclability of PET bottles. Indorama's focus on disincentives for failure to comply, that necessitates government vigilance (see discussion earlier) is likely to prioritize compliance by value chain/ supply chain partners under a 'vertical hierarchy' of authority and not so much under a voluntary 'circle of influence' stakeholder approach. With inadequate stress on societal and ecological morality, Indorama may be operating as a business under an 'agency' model and not 'stakeholder' model with managers acting as agents of owners trying to maximize profits for them at cost of long-term sustainability. The mission and vision of Indorama while stressing on people and processes does not explicitly capture sustainability priorities.

PTT, the oil and gas MNC from Thailand claims to focus on sustainability guidelines with stress on CSR and high performance. Its efforts to meet legal limits of air pollution control, monitoring emission, use of natural gas, saving on light energy use, recycling of water and reduced transportation related pollution while highlighting organizational role in implementing a sustainable business strategy and even PTT's corporate moral stand does not focus on societal and ecological morality. Increased societal involvement in PTT's outreach programs like reforestation effort, R&D to generate bio-hydrogen fuel from plant base like Jatropha and algae may help strengthen societal and ecological morality besides economic. PTT's biodiversity research project adds to societal knowledge and involves diverse stakeholders' increasing focus on sustainable business besides organization role of PTT. Its project on biological resource management not only defines PTT's willingness to invest resources as part of sustainable business strategy but can over time shift morality of society and corporation who through their expanded stakeholder role can influence long term vision/ mission of MNCs like PTT.

HSBC, the global bank with operations in China has CSR as part of sustainability strategy. HSBC China's 'Eco-School' and 'Green Roof' projects highlight its willingness to invest valuable resources into ecological projects and involve the society in its sustainability effort. Structurally senior management at Group level Board oversees sustainability of business and has a Corporate Sustainability Committee implementing group sustainability strategy. Continuously improving sustainability focus in business comes from stakeholder impact on corporate vision and mission- arising out of shifting corporate, societal and ecological morality. At corporate HSBC China level, morality is captured in the focus on carbon neutrality from reduced travelling, use of energy saving light, renewable energy whereas societal and ecological morality can be understood from community linked projects like forestation and fresh water infrastructure.

9.0 Conclusion:

CLP has a long-term vision of climate and ecology. It can also have societal morality influenced by programs like Young Power Program where the youth become conscious of inter-generational equity issues. Including suppliers, customers in ecological sustainability widens the base of stakeholders such that their changing morality can influence future mission/vision of CLP. Structural arrangement exists for implementing strategy and making changes in the same in line with changing mission/vision.

Indorama's organizational role in implementing sustainability strategy focuses on safeguarding legal requirements that need to be reactive to rules and policy needs than proactive, thereby acknowledging ecological, societal and economic interdependencies but failing to identify morality issues arising out of intergenerational equity as in case of CLP. In the absence of a wider stakeholder base, technological sustainability examples of PlantBottle or non-petroleum PET resins may fail to highlight intergenerational or interspecies equity issues that influence future vision/mission of Indorama.

PTT like Indorama focuses on CSR issues of pollution control, lower energy use, recycling of water but also creates a wide and diverse stakeholder base through reforestation, biodiversity research projects that generates and disseminates new knowledge to a wide base locally and internationally. This may result in the wide stakeholder base influencing future vision/mission of PTT because of shifting morality with regards society and ecology similar to CLP.

HSBC China, a service firm (bank) undertakes CSR efforts to implement sustainable strategies but also involves the larger community through its Eco-School and Green Roof projects. These efforts expand stakeholder base, whose morality if influenced can effect change in the future mission/vision of HSBC china. Like CLP, young generations are made conscious of intergenerational equity and existing structural arrangements support sustainable business from the very top that also monitors any shift in organization mission/vision.

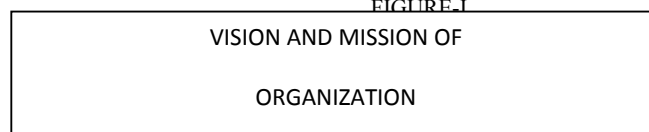
In using the given framework to understand sustainable business efforts of MNCs from emerging economies, the possibility of a wide stakeholder base of these MNCs influencing their vision/mission for the future plays a critical role. The four MNCs discussed in this paper seem to be in different stages of evolution from present or currently sustainable business to future sustainability of their business. While firms like Indorama seem to be in the early stages of sustainable business, the others are in a more advanced stage. This is explained by the fact that while organizational effort of MNCs to implement sustainable strategies may only acknowledge issues of societal, economic and ecological interdependencies, for stakeholders to influence future mission/ vision of MNCs and thereby their long-term sustainable strategies, an understanding of shift in morality at societal, economic and ecological levels is required. This is captured through the involvement of a wider stakeholder base of MNC that can foresee issues of intergenerational and interspecies equity. The paper also identifies that for this to happen MNCs need to not only undertake CSR practices but also involve their local society, bring transparency of their intentions to this society and in turn incorporate the views of the larger society as stakeholders in their vision/mission. It also identifies that those firms that have long-term sustainable business, also have structural arrangements to incorporate the changing vision/mission and strategy into the organization role. The limitations of this study lie in using secondary information on only four firms from emerging economies to draw conclusions. The scope of the study has to be widened to include MNCs from diverse industries and geographical locations.

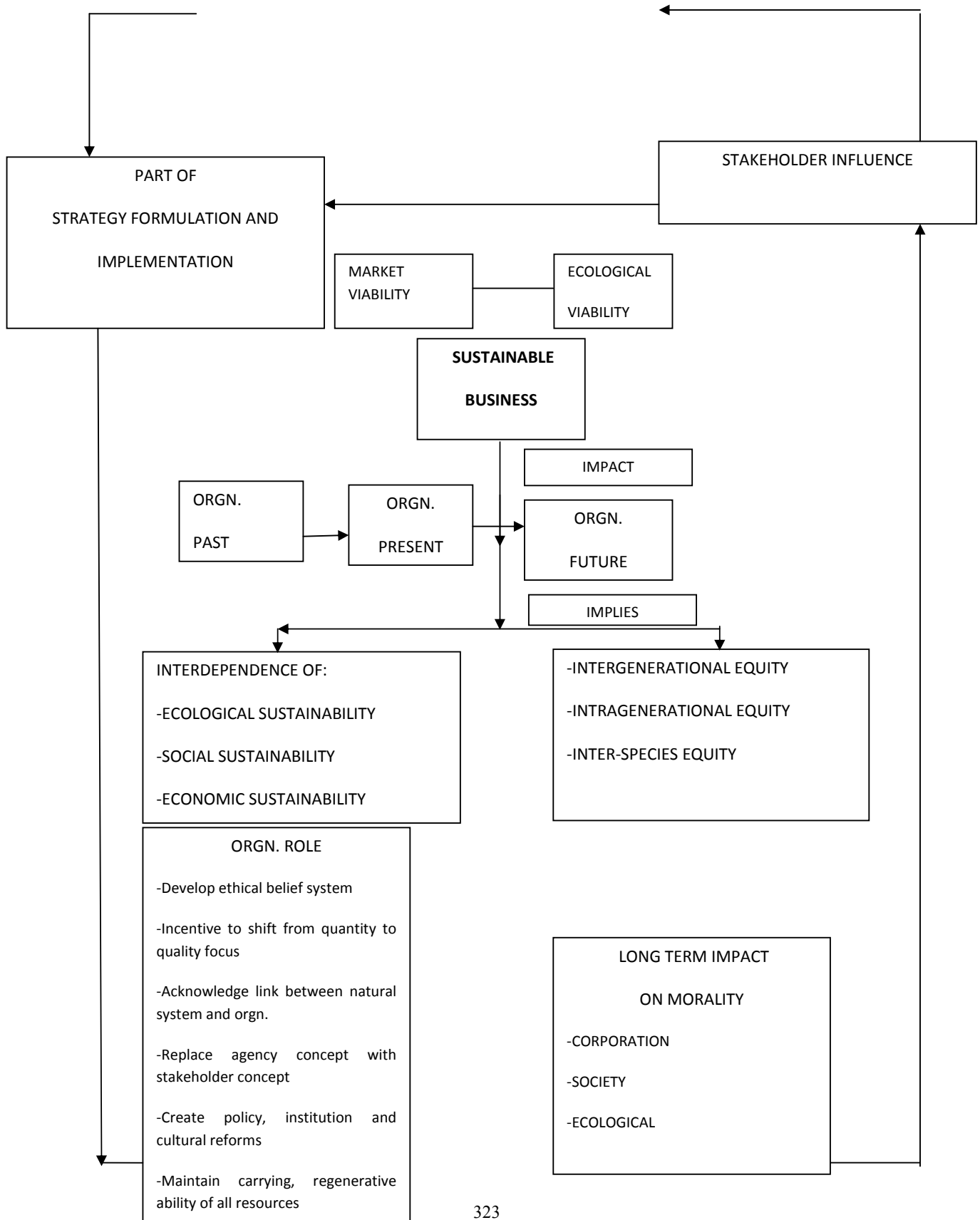
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FIGURE 1





Gravity Analysis of Pakistan's Exports: 1962-2008

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ABSTRACT

Pakistan has a large number of trading partners but still bulk of its exports are concentrated in few countries including USA, UK, Germany, Japan, Hong Kong, Dubai and Saudi Arabia which account for nearly half of its exports. In this paper the composition of Pakistan's exports of three major sectors i.e. Agriculture, manufacturing and minerals & oil sectors have been presented. Oil and manufacturing sector is contributing most towards trade deficit of Pakistan. An extended Gravity model of trade has been used to test the impact of economy sizes (of countries), their relative distance from Pakistan on its bilateral trade with them. Using a panel data analysis, the results show that in general the model has good explanatory power. Almost all the coefficients of the basic Gravity equation are statistically significant and have expected signs. The most seemingly interesting result is in terms of common border but this result is comprehensible in terms of Pakistan. Among OECD member countries Pakistan's exports are more with those members with whom it shares common official language viz. Australia, Canada, New Zealand, UK and USA.

Keywords: Pakistan; Exports; Gravity Analysis; OECD; Panel data.

I. Introduction

International trade is crucial to maintain and augment the pace of economic growth for a country like Pakistan which is bestowed with huge amount of natural resources. Exports are significant to boost any economy and even more important in the context of Pakistan due to its early openness in the international market as compared to other economies in the region. Pakistan is famous for the exports of rice, cotton, fiber, marble, textile, leather goods, sports goods, surgical instruments, electrical appliances, wheat, sea food and vegetables. Its exports reach all over the world but almost 70% of its exports go to United States, United Kingdom, Japan, United Arab Emirates, Afghanistan and China. The export earnings from raw cotton, textile goods, rice, leather and surgical products are very less because these items get awfully little price in international market. Moreover, natural hazards can drastically reduce export earnings of these commodities. On the contrary expenses on import of machinery, industrial raw material, petrol and electronic goods are more because of ever increasing prices of these items in the international market¹. To compound problems for Pakistan it has to import several agricultural products despite being an agricultural economy itself thus significantly steeping its import bill. These supply and demand side constraints (exports and imports) are the major causes of the slow pace of Pakistan's economic growth. In order to overcome these constraints some urgent steps are crucial to be taken such as good macroeconomic management, development of high-value added export industries, "export promotion" policies, investment on research and development and increase in the non-agricultural sector total factor productivity to sustain its cost advantage

(Mahmood, 2004). Hence, there is lack of empirical evidence to support demand and supply side constraints for the economic growth of Pakistan through export's growth. It's quite relevant and beneficial now to describe the export composition of Pakistan and to explore the determinants of Pakistan's exports and their distribution across countries. In this paper an extended Gravity equation of trade has been used to accomplish this objective. In order to incorporate the qualitative factors as control variables four highly important dummy variables have been introduced in the standard Gravity equation. More recently, partial theoretical foundations for the Gravity equation have been provided by (Anderson, 1979), (Helpman and Krugman, 1985), (Deardorff , 1997), but there is an extreme lack of the implications of Gravity equation for the economy of Pakistan. This paper is an attempt to fill this gap.

II. Trade Composition

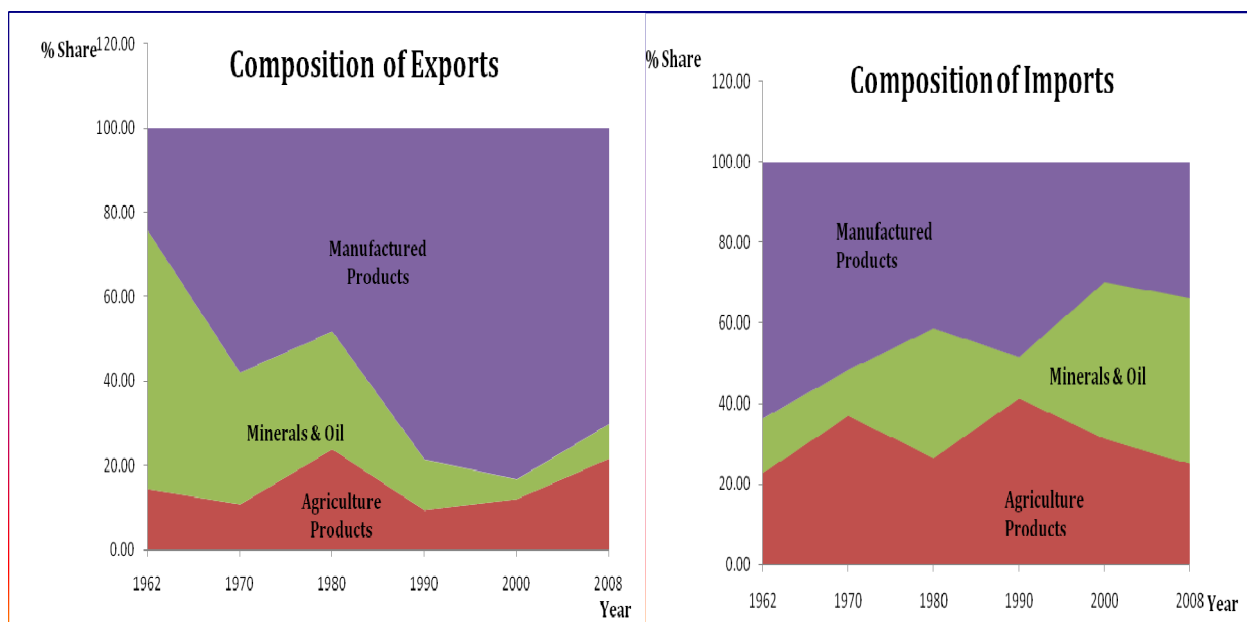
On the basis of the 1 digit-level of Standard International Trade Classification Revision one (SITC Rev.1) the composition of Pakistan's export and import is structured on three main sectors:

TABLE 1: TRADE COMPOSITION: 1962-2008

SITC Rev.1 1-digit	
Code	Description
0	Food and Live animals
1	Beverages and tobacco
2	Crude materials, inedible, except fuels
3	Mineral fuels, lubricants and related materials
4	Animal and vegetable oils and fats
5	Chemicals
6	Manufact goods classified chiefly by material
7	Machinery and transport equipment
8	Miscellaneous manufactured articles
9	Commod. & transacts. Not class. Accord. To kind
NOTE	code 0, 1, 4 & 5 = Agriculture Sector code 6 - 7 = Manufacture Sector Code 2 & 3 = Minerals & oil

Source: Source: United Nations Commodity Trade Statistics

Export composition of Pakistan has changed significantly over last five decades. The noteworthy changes were observed in the percentage shares of manufacturing (increasing on average) and in minerals & oil sectors (decreasing on average). Agricultural products showed almost an unpredictable trend over the whole study period (Fig.1).



From the perspective of imports composition, Pakistan's economy experienced almost halved in the imports of manufacturing products over five decades starting from 64% in 1962 to 34% in 2008. The minerals & oil sectors showed uneven trend. The same sort of trend was observed in agriculture sector starting from 22% during sixties and a sharp rise in later decades i.e. 41% in nineties and finally 25% in 2000s (Fig.2).

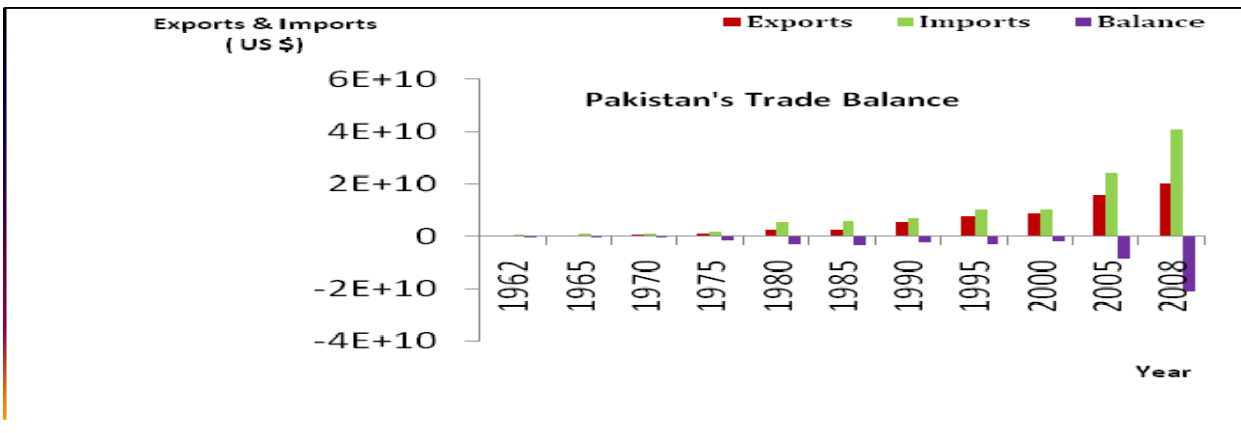


FIG.1: EXPORTS COMPOSITION OF 3 SECTORS OF PAKISTAN

FIG.2: IMPORTS COMPOSITION OF 3 SECTORS OF PAKISTAN

Throughout the history of Pakistan balance of trade has not usually been in favor of Pakistanⁱⁱ (Fig.3). However, from Fig.1 and Fig. 2 it's evident that overall out of the three major sectors trade surplusⁱⁱⁱ is very much sustainable in manufacturing sector from last four decades, unstable in agriculture sector and the major sector contributing towards trade deficit is oil and manufacturing sector.

I. Model Specification

Gravity Equation of trade is used by many economists since its invention by the first Nobel Prize winner in Economics (Tinbergen, 1962). He proposed that trade between any two geographic entities is very similar to Newton's Gravitation Law except that instead of the masses of the two objects in Gravity Equation of trade we use the GDPs of two countries and instead of predicting the force of Gravitation; we estimate the volume of trade between the concerned geographic entities. The Gravity Equation of trade is given by equation (1).

$$Trade = B \frac{GDP_i GDP_j}{D_{ij}^n} \quad (1)$$

Where trade is the volume of trade (can be measured by either imports, exports or their average) between two countries, GDP_i and GDP_j are the gross domestic products of the trading countries i and j respectively and Dⁿ is the distance between them. We use exponent n for distance because we are not sure of the precise relationship between distance and trade. The term B, explains the effects of all factors (other than size and distance) that can influence the amount of trade between two countries e.g. tariffs, sharing a common currency etc. The bilateral trade between any two geographic entities is positively related to the size of their economies and negatively related to the trade cost (proxy of distance) between them (Head, 2000). Countries with larger economies trade more, this is because they

produce more as a consequence they tend to export more and they tend to import more as their demand for commodities tend to be higher. The geographic distance is an impediment in trade between different trading economies because of factors such as transport expense, shipment time, synchronization & communication expense, transaction expense and cultural dissimilarity etc (Feenstra, 2003). Owing to the multiplicative nature of the Gravity equation natural logs can be taken to obtain a linear relationship between logged trade flows and the logged economy sizes and distances. Hence, the linear form of standard Gravity equation will be as given equation (2),

$$\log Trade = \log GDP_i + \log GDP_j - \log D_{ij} + e_{ij} \quad (2)$$

Gravity equations are very efficient at explaining trade with just the size of the economies and their distances. However they are unable to explain a huge amount of variation in trade. In this connection (Aitkin, 1973) introduced a dummy variable (DV) in Gravity equation of trade. When dummy variables are used with a logged dependent variable, the coefficient of the DV has a percentage interpretation. The augmented Gravity Equation used in this paper is given in equation (3),

$$\begin{aligned} \log X_{ijt} = & \alpha + \beta_1 \log(GDP_{it}) + \beta_2 \log(GDP_{jt}) + \\ & \beta_3 \log(D_{ij}) + \beta_4 \log(CB) + \beta_5 \log(CL) + \\ & \beta_6 \log(CC) + \beta_7 \log(CR) + e_{ijt} \end{aligned} \quad (3)$$

The variables are defined as,

X _{ijt}	The bilateral export flows between country i and j in time t.	CL	Common official language. This dummy variable takes value of 1 if the two countries share the common language and 0 otherwise.
GDP _{it}	Gross Domestic Product of Country i in time t (Supply of goods).	CC	Common Colonizer. This dummy variable takes value of 1 if the two countries have been a British colony at some time during history and 0 otherwise.
GDP _{jt}	Gross Domestic Product of Country j in time t (Demand of goods).	CR	Common Religion. This dummy variable takes value of 1 if the two countries share the common religion and 0 otherwise.
D _{ij}	Distance between country i and j.	E _{ijt}	The normally distributed error term. Where E(e _{ij}) = 0.

CB Common border. This dummy variable takes value of 1 if the two countries share the common border and 0 otherwise.

To estimate equation (3) STATA software has been used by applying panel^{iv} Time Series Cross Sectional (TSCS) regression approach on complete data set as well as on OECD & non OECD countries.

II. Data Sources

In the current study the data set comprises on 173 trade partner^v countries of Pakistan. The primary sources of data for this paper are the United Nations Commodity Trade Statistics Database (UN Comtrade database)^{vi} and the Institute for Research on the International Economy Database (CEPII)^{vii}. The time period used in this study is from 1962 to 2008 (47 years). Total export (US dollar) is calculated by adding exports and re-exports for 47 years. The Export data is obtained from online database UN-Comtrade. The 1 digit-level of Standard International Trade Classification Revision one (SITC Rev.1) has been used to estimate Gravity equation of trade for Pakistan's exports at aggregate level. The data on GDP (current million US dollar) are collected from the UN Comtrade and World Bank^{viii} databases. The weighted distances (kilometer) data have been collected from CEPII database. Finally, the information about Dummy Variables (common border, common colonial history, common language and common religion) is taken from CIA^{ix} – the word Fact book.

III. Results and Discussion

Due to log-linear structure of the Gravity Equation of trade, the coefficients of the Gravity Equation are in terms of elasticities or ratios of percentage changes (Bergstrand, 1985). The structure of economic data used in this study for estimation is panel data. A panel data may have group effects, time effects or the both, which are analyzed in this paper by constant coefficients models and One-Way Fixed Effect Models. In constant coefficients model, both intercepts and slopes are assumed to be constant. In this model we can pool all of the data and run an ordinary least squares regression model having robust standard errors^x. This model is sometimes called the pooled TSCS (Time Series Cross Sectional) regression model. There are several strategies for estimating Fixed Effect Models (Balestra, 1995). In this paper we have used two types of One-Way Fixed Effect Model^{xi} i.e. Least Square Dummy Variable (LSDV) Model and Within Effect Model. The LSDV models have constant slopes but intercepts differ according to the cross-sectional (group) unit i.e. country in our case. Although there are no significant temporal effects, there are significant differences among countries in this type of model. The LSDV regression is ordinary least squares (OLS) with dummy variables. A Within Group Effect Model does not need dummy variables, but it uses deviations from group means. Within Effect Model check time variant variables effect such as countries in our case and it transforms variables using group means to avoid dummies (i.e. dummies dropped as they are time invariant variables).

Pooled TSCS Regression (Complete Data Set)

In Table.2 Pooled TSCS Regression results of complete data have been presented. In general, the model has good explanatory power with coefficient of determination (R^2) 0.61 which indicates that 61% of the variations in the exports are explained by the explanatory variables used in the model. All the coefficients of the basic Gravity equation variables are highly statistically significant at 1% level with expected signs. The obtained coefficients of GDPs could be interpreted as income elasticity^{xii} of Pakistan's exports (Lgdpi: supply side) and income elasticity of partner countries imports (Lgdpij: demand side).

TABLE.2: POOLED TSCS REGRESSION
(COMPLETE DATA SET)

Dependent Variable: Log X		
In depended Variables	Coefficients	Estimated Coefficient
Constant	α	13.471 (24.91)**
Lgdpi	β_1	0.328 (11.84)**
Lgdpij	β_2	0.891 (78.06)**
Ld	β_3	-1.279 (25.27)**
1: if common border	β_4	-0.408
1: if common off-language	β_5	(2.47)* 0.578
1: if common colony	β_6	(9.04)** 0.599
1: if common religion	β_7	(8.61)** 0.580
	R^2	(8.79)** 0.61

Robust t statistics in parentheses * significant at 5%, ** significant at 1%

From the supply side, the pooled TSCS regression shows that the log estimate of gross domestic product (gdpi) of the exporting country is 0.328; indicates a 1% rise in income will cause a 0.328% rise in supply of the good, it means if elasticity is less than one; larger countries have less trade as a share of its GDP. Likewise from the demand side, the coefficient for GDPj shows that as income of country j increases, exports of country i to country j increase (Mathyas, 1998). The log estimate of GDPj is 0.891, for 1% increase in income there will be 0.89% increase (almost proportional increase) in the demand of the goods by trade partners of Pakistan, hence larger the partner country, the more it imports from Pakistan.

The home country GDP coefficient is smaller than the partner country GDP coefficient in pooled TSCS regression. This shows large economies tend to spend large amounts of their incomes on imports because they have large incomes. At the same time they also tend to attract large shares of other countries' spending because they produce a wide range of products (Feenstra, 2001). The distance variable is significant with negative sign i.e. the larger the distance of a country from Pakistan the lower will be the exports of Pakistan towards that country, but here the log estimate of distance is greater than what we usually expect. It is -1.279 which means if the distance between Pakistan and any other country increase by 1% the exports decrease by 1.28% (more than proportional decrease) indicating distance variable is highly elastic. The coefficient for the Common land border dummy in pooled TSCS is -0.408 which is highly significant with negative sign. The negative sign is quite unusual but in case of Pakistan it is quite comprehensible. The main causes of Pakistan's low trade (as indicated by negative sign of common border coefficient) with most of its shared border countries can be explained considering its historical relationship with common border countries. There are long-standing territorial and religious differences between Pakistan and India that have existed since 1947. Afghanistan is a least developed country. Similarly a variety of agricultural and non-agricultural commodities are traded illegally at Pak-Iran borders (Sharif and Bashir, 2000). Lately, China became 4th biggest trade partner of Pakistan in 2009 and the main cause behind it is the China-Pakistan FTA which achieved

good results for both countries^{xiii}. Hence, out of four common border countries Pakistan does extensive trade only with one country that is China. The common language dummy variable has a positive coefficient 0.578, significant at the 1 percent level in pooled TSCS indicating exports are about 57% larger between Pakistan and other partner countries using the same language, *ceteris paribus*. This is true as most of Pakistan's exports are with USA and UK. The estimated coefficient of common colony and common religion are also very significant and positive demonstrating Pakistan usually like to trade with countries that belong to British empire and it trades more with Muslim countries. In Table. 3 the One-Way Fixed Effect Models (LSDV model and Within Effect Model) are estimated accounting complete dataset. Here again basic Gravity equation variables are statistically significant at 1% level. Whereas all dummies have expected signs but they are no more significant under LSDV Model and they dropped under Within Effect Model because all dummies are time invariant variables.

TABLE.3: ONE-WAY FIXED EFFECT MODELS
(COMPLETE DATA SET)

Dependent Variable: Log X			
		LSDVModel	Within Effect Model
In depended Variables	Coefficients	Estimated Coefficient	
Constant	α	11.382 (6.58)**	1.391 (5.74)**
Lgdpi	β_1	0.603 (14.17)**	0.782 (13.80)**
Lgdpj	β_2	0.695 (18.60)**	0.518 (9.79)**
Ld	β_3	-1.179 (5.98)**	(dropped)
1: if common border	β_4	0.322 (0.52)	(dropped)
1: if common off-language	β_5	0.441 (1.71)	(dropped)
1: if common colony	β_6	0.471 (1.87)	(dropped)
1: if common religion	β_7	0.454 (1.74)	(dropped)
	R^2	na	0.41

Robust z and t statistics in parentheses
* significant at 5%; ** significant at 1%

Pooled TSCS Regression: OECD & non-OECD Countries

The historical trade direction of Pakistan indicates that it trades more^{xiv} with those countries that are the members of OECD countries i.e. USA, UK and Japan. Hence it is a good idea to figure out the impact of OECD and non-OECD countries on Pakistan's exports. Table 4 provides the results of re-estimating the Gravity equation only for OECD and non-OECD countries instead of complete data set using pooled TSCS regression method. The pooled TSCS results for OECD and non-OECD countries are almost similar except GDP coefficients in case of OECD countries i.e. there is wide difference in the estimated coefficient values of GDP_i and GDP_j. Pakistan has almost zero (0.09) GDP_i effect as an exporter which means Pakistan exports to OECD countries just as much as it exports to any small country being a large country. Whereas, the GDP_j of OECD countries is very high (1.056), indicating a 1% rise in income of OECD countries will cause 1.05 % rise in their imports demand from Pakistan.

TABLE.4: POOLED TSCS REGRESSION
(OECD & NON-OECD COUNTRIES)

Dependent Variable: Log X			
		OECD Countries	Non-OECD Countries
In depended Variables	Coefficients	Estimated Coefficient	
Constant	α	14.172 (10.01)**	12.629 (20.82)**
Lgdpi	β_1	0.090 (2.15)*	0.497 (14.26)**
Lgdpij	β_2	1.056 (45.93)**	0.736 (47.04)**
Ld	β_3	-1.249 (7.85)**	-1.256 (23.67)**
1: if common border	β_4	(dropped)	0.162 (1.00)
1: if common off-language	β_5	0.895 (8.69)**	0.246 (3.08)**
1: if common colony	β_6	0.0101 (1.20)	0.879 (12.00)**
1: if common religion	β_7	-0.454 (2.16)*	0.679 (9.44)**
	R2	0.75	0.54

Robust t statistics in parentheses * significant at 5%; ** significant at 1%

The distance parameter is the same for both set of countries and it's highly significant. The coefficient of common border towards non-OECD countries is positive though it's not significant but there is a future need to investigate this result. The common border dummy has been dropped in case of OECD countries because there is no OECD country that shares border with Pakistan; same is with common colony dummy in case of OECD countries. The official language dummy is very high and highly significant at 1% level indicating Pakistan trade more with those OECD members that share common official language with Pakistan e.g. Australia, Canada, New Zealand, UK and USA. The common religion dummy for OECD countries shows negative sign though only Turkey shares common religion with Pakistan out of all OECD member countries and on top of that Turkey has become OECD member quite recently when Turkey is dropped from the list of OECD countries to check its effect on results, It has been found that the common religion dummy dropped as well. All variables of Gravity equation and dummies are highly significant in case of non-OECD countries except common border that shows expected sign but it's not significant. Moreover, the common colonizer dummy is highly significant for non-OECD countries. Table 5 and 6 presents One-

way Fixed Effect Models (LSDV Model and Within Effect Model) for OECD and non OECD countries. All the gravity equation variables are statistically significant. The dummy of common religion with OECD countries is no more significant in LSDV model estimation. Whereas only common colony and common religion dummies among non-OECD countries remain significant in LSDV model as shown in Table. 6.

TABLE.5: ONE-WAY FIXED EFFECT MODEL
(OECD COUNTRIES)

Dependent Variable: Log X			
		LSDV Model	Within Effect Model
In depended Variables	Coefficients	Estimated Coefficient	
Constant	α	13.014 (2.20)*	3.341 (11.68)**
Lgdpi	β_1	0.400 (3.06)**	0.604 (3.65)**
Lgdpij	β_2	0.783 (6.36)**	0.590 (3.77)**
Ld	β_3	-1.146 (1.68)	(dropped)
1: if common border	β_4	(dropped)	(dropped)
1: if common off-language	β_5	1.198 (2.68)**	(dropped)
1: if common colony	β_6	0.0101 (1.20)	(dropped)
1: if common religion	β_7	-0.248 (0.25)	(dropped)
	R^2	na	0.63

Robust z and t statistics in parentheses * significant at 5%; ** significant at 1%

TABLE.6: ONE-WAY FIXED EFFECT MODEL
(NON-OECD COUNTRIES)

Dependent Variable: Log X			
		LSDV Model	Within Effect Model
In depended Variables	Coefficients	Estimated Coefficient	
Constant	α	10.018 (5.79)**	0.782 (2.52)*
Lgdpi	β_1	0.721 (14.34)**	0.817 (13.32)**
Lgdpij	β_2	0.609 (13.98)**	0.516 (9.01)**
Ld	β_3	-1.123 (5.76)**	(dropped)
1: if common border	β_4	0.850 (1.42)	(dropped)
1: if common off-language	β_5	0.009 (0.03)	(dropped)
1: if common colony	β_6	0.990 (3.77)**	(dropped)
1: if common religion	β_7	0.662 (2.45)*	(dropped)
	R^2	na	0.38

Robust z and t statistics in parentheses * significant at 5%; ** significant at 1%

IV. Conclusion

The main purpose of this paper is to describe trade composition of Pakistan, to analyze the determinants of Pakistan's bilateral trade and to explicate distribution of Pakistan's trade across its trade partners using 1-Digit Level SITC Rev.1 Classification covering 47 years (1962-2008). The composition of Pakistan's trade indicate trade deficit during the entire period of analysis. However, the major contributor towards trade deficit in recent years is Minerals & Oil sector of Pakistan. For determining bilateral trade and its distribution across countries an augmented Gravity equation of trade is used; we run Panel TSCS regressions on entire countries data, OECD and non-OECD countries. The Gravity equation works well and yields satisfactory results complying with the theoretical background of the model. The basic variables of Gravity equation are significant most of the time. Apparently most unexpected results are from the estimated coefficients of the common border.

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Endnotes

ⁱ This information has been drawn using United Nations Commodity Trade Statistics Database

ⁱⁱ Trade Balance = Exports – Imports.

ⁱⁱⁱ The trade surplus has been calculated by subtracting imports of manufacturing sector from exports of manufacturing sector and so on.

^{iv} Pooled analysis combines time series for several cross-sections.

^v The list of 173 countries used in data set is listed as Afghanistan, Albania, Algeria, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, British Virgin Islands, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cayman Islands, Central African Republic, Chad, Chile, China, People's Republic of, China: Hong Kong SAR, China: Macao SAR, Colombia, Comoros, Congo, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Democratic People's Republic of Korea, Democratic Republic of the Congo, Denmark, Djibouti, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea,

Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Greenland, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran Islamic Republic of, Iraq, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Latvia, Lebanon, Lesotho, Liberia, Libyan Arab Jamahiriya, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritania, Mauritius, Mexico, Mongolia, Morocco, Mozambique, Myanmar, Nauru, Nepal, Netherlands, Netherlands Antilles, New Caledonia, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Rwanda, Samoa, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Somalia, South Africa, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tajikistan, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom, United Republic of Tanzania, United States of America, Uruguay, Uzbekistan, Vanuatu, Venezuela, Viet Nam, Yemen, Zambia and Zimbabwe.

^{vi} <http://comtrade.un.org/>

^{vii} www.cepii.fr/anglaisgraph/bdd/bdd.htm)

^{viii} <http://www.worldbank.org>

^{ix} <https://www.cia.gov/library/.../the-world-fact-book/>

^x The Robust Standard Errors control for heteroskedasticity in the data. The main purpose of robust regression is to provide stable results with significant estimates.

^{xi} A one-way fixed group model examines group differences in intercepts. The one-way Fixed Effect Models are estimated by having robust standard errors.

^{xii} Income elasticity of demand is a measurement of responsiveness of demand for a good when there is a change in income, like wise income elasticity of supply is a measurement of responsiveness of supply of a good when there is a change in income.

^{xiii} <http://pk.china-embassy.org/eng>

^{xiv} Information about historical trend of Pakistan's trade has been obtained using Economic Survey of Pakistan (various editions).

Emerging Economies & Internationalization of Firms

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Abstract

A crucial aspect of strategic competitive advantage is the interest in the emerging markets as the trend of the past and future decades. Nowadays, the internationalization process models clearly specify the way to be involved in exporting products and establishing the firms in the domestic market prior to developing international strategies. The term 'born global firms' is according to many researches useful tool how to change the thinking of the firm owners and to proceed in the internationalization process as the result of emerging economies. The aim of this article is to define the ways of the successful internationalization process and to highlight the relationship of internationalization and entrepreneurial activity of SMEs in Slovakia. All begins in choosing the perfect partner and target country. Indeed, the different cultures, changing economies and personal involvement, among others the contradictory visions of the managers are the serious barriers of the internationalization.

Introduction

Internationalization takes a place in the area of the world economy mainly as effect of international economic interdependence - hence its dependence between individual parts and ultimately between national economies. Economic activity of one country with the outside world is reflected in the status and activities of other economies and it itself is influenced by what happens beyond its borders. It is clear that internationalized, interdependent and globalization processes are closely linked and mutually reinforced. On the one hand globalization and international economic interdependency are the effects of the internationalization, on the other hand a prerequisite. Companies whether with "local" or "regional" activities must continuously monitor the situation on the market by adapting their activities to the environment. The subject of the scientific contribution is the issue of business internationalization.

The article aims to highlight the relationship of internationalization and entrepreneurial activity of SMEs, to examine factors of internationalization which knowledge is inevitably to manage subjects successfully in the business environment of the EU. Some internationalization models are described to view the ways of spreading international activities to the global world. Emerging economies as the trend of the globalization force even small enterprises to act global, not excluding Slovak firms.

In the article at first we would like to describe the theoretical background of internationalization with focus on Small and Medium Enterprises (SMEs), distinguish principles and expressions and strategies used in internationalization. In our research we examine specifics of internationalization of SMEs in Slovakia, their motives, barriers and process of internationalization. In the end we would like to mention the cultural differences that are very important to comprehend in internationalization process.

Internationalization

Internationalization of SMEs

In a globalizing economy, regions and firms are competing on an international level. The contribution of the internationalization process is unquestionable - economic development of nations, development of national industries, improvement of productivity and creating employment. Small and medium sized enterprises (SMEs) play an important role in this process. Nowadays, internationalization affects all firms large and small which are confronted with international competition.

This internationalization can take many forms, such as import, export, foreign direct investment (FDI) and international collaboration. An important motive for going abroad is the access to know-how or technology. According to recent studies internationalization is often accompanied by improved performance and competitiveness of SMEs. (Flanders DC Study)

Nowadays, small firms find it difficult to overcome the barriers of internationalization, although they have been reduced in the past two decades. Moreover, internationalization is indirectly linked with increasing risk and uncertainty, and not all entrepreneurs are willing to take this risk. On the other hand, the entrepreneurs cope often with limited information about conditions in foreign markets. To overcome these obstacles, small firms often rely on the international experience of their network and progressive communication.

There is still huge difference between small and large firms in the strategic concept. SMEs and their limited sources cause difficulties in strategic decisions. While large firms can choose to internalize certain activities, SMEs often have insufficient resources to do so.

The decision to access foreign market is then a rational decision motivated by external factors. The decision can often be a result of the internal factors such as the vision of the strategic leader or organizational dynamics. Thus the SMEs start to be involved in international operations. „The process of increasing involvement in international operations“ is one of the most useful definitions of internationalization of SME's provided by Gibb. (Gibb and Scott, 1985)

Gibb identifies *the key aspects of SME's internationalization as follows:*

1. They move from being completely domestically oriented firms to having an awareness of international influences. At this stage no more than a simple tracing of events or a defensive response to overseas competition may be relevant,
2. The movement from being a purely domestic firm to undertake some upstream or downstream international activity (either beginning to source from abroad or selling to a foreign market would be included in this, the development of informal international linkages or collaborative ventures),
3. The decision to contact, maintain or expand the existing level of international activities in the case of the firm which is already operating at international level.

Born Global Firms

To become a “born global” firm, a firm can benefit from an accelerated process of accessing competitive advantages across national borders. Quick and early internationalizing of firm value chain activities can provide firms with business models that allow them to be as efficient, effective and competitive as possible right from the start. In this context and in the international terminology there are several expressions to distinguish (TABLE 1).

TABLE 1: TERMINOLOGY OF GLOBAL FIRMS

Born globals	SMEs that started exporting within five years, to at least five countries, including one outside the EU
Born internationals	SMEs that started exporting within five years, to fewer than five countries
Traditional internationalizers	SMEs that started exporting after more than five years, to less than five countries
Born-again globals	SMEs that started exporting after more than five years, to at least five countries, including one outside the EU

Any country considered “developing” is not necessarily an emerging market. Some stand out as having advanced more quickly and made many of the necessary structural changes to ensure economic growth. For the Born Global entrepreneur, these countries potentially offer the greatest opportunity for this type of firm. Broadly, the factors that make these countries attractive are their large populations, large resource bases, large markets and the fact that all of them are regionally powerful with strong geopolitical significance. These countries are actively seeking participation globally, both politically and economically, and acquiring the latest technologies in order to advance their global competitiveness. Not every country can be considered as Born Global. In this case several tips and steps how to become a world leader has been established.

A Study by London Business School (London Business Studies) offers a few- step process for businesses wishing to reach the world level:

- Enterprise should establish a *new fashion technology* very judiciously. Simple copying what others are doing is not enough. The aim is to come up with new ideas on how to beat the competition. Success usually makes the adaptation of the best ideas from the external environment to specific local conditions.
- A crucial role in bringing about change is the highest representative of the company. The highest representative of the company must be able to motivate people in his neighborhood so that the ideas are understood and implemented well.
- *Financial criteria* are misleading regarding the strategic "health" of the company. Warning signals of fundamental problems (arising within three or four years) are non-financial indicators such as customer satisfaction, staff morale and quality.
- *Setting ambitious goals*. It is not enough only to strive for survival. The company will not survive if it does not follow what other businesses do and does not try to be better from them.
- Most companies put *emphasis on performance* - reducing costs, increasing the utilization rate of resources... Ambitious companies try to combine efficiency with effectiveness – by improving skills and abilities necessary to improve the competitive position.
- The core is *strategic innovation*. The only sustainable competitive advantage today is the company's ability to achieve continuous improvement. This means promoting innovation and creative thinking at all levels, especially at middle management level.
- Achieving world class level requires *improvement of skills*. It is necessary to establish long-term, medium- and short- term goals, to find the skills for achieving the goals and then to create a strategy leading to their adoption or developing.
- Good management is the process of finding a *balance and permanent solutions* to a dilemma: achieving effectiveness and efficiency, differentiation and low cost, long-term financial goals and vision, consistency and flexibility.

In order to achieve world class level, an analysis of internationalization potential is needed. This analysis captures the business factors that affect its external activities. Its aim is to determine what the business opportunities are and what strengths the company has to operate on foreign markets.

This internationalization potential consists of following factors:

- *Internationalization business know-how* - includes knowledge of foreign activities and experience with foreign activities. This includes mainly the essential knowledge concerning international issues, for example: contracting, financing foreign activities, issues of transport, customs clearance...
- *Business resources* - includes all the factors which are available for business activities. This may be the physical resources (hardware, personnel and financial resources) and intangible resources which the most essential is know-how (technical, technological, managerial, marketing and internationalization, already mentioned).
- *Business potential* - can be defined by various functional areas such as scientific research, manufacturing, marketing, financial, personnel and others. The company must have a competitive advantage not only to the currently processed markets, but also to potential markets. In general, we can define the following advantages: product, technology, experience, management, raw materials and other resources (capital, money), advantages derived from the domestic market, placing business, capacity utilization.

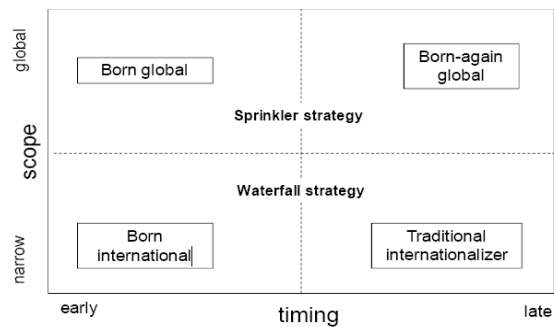
This set of mentioned advantages is not final. For the enterprise, it is important to know which features are relevant to a special area.

Firms that are born global are set up to exploit international market opportunities in almost any sector. These firms destroy the classical forms of entering the international market and they adopt a global approach to the business from the beginning. Born global firms are becoming the driving power of radical innovations in the new economy. They create new markets for new products. Using the business resources and potential may help to become a born global firm.

Internationalization Strategies

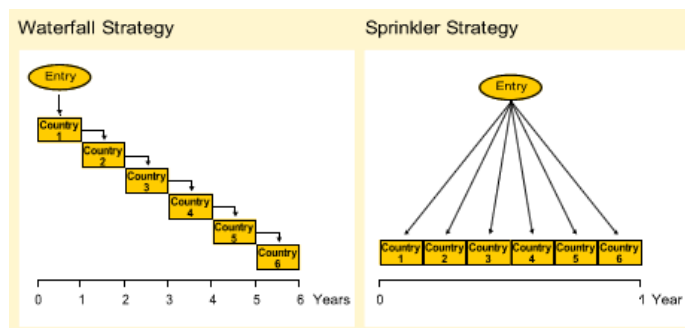
SMEs can also opt for early or late internationalization in their life cycle and use a waterfall or sprinkler strategy. As a result, four types of internationalization strategies can be identified: new firms that start exporting soon after inception (international new ventures) and incumbent firms that start exporting after a substantial number of years of purely domestic growth (late internationalizers), both opting for either simultaneous entry in multiple markets (sprinkler strategy) or entering a single market and consecutively spreading activities over different markets in time (waterfall strategy). Combining scope and timing of internationalization, the typology of internationalization strategies is proposed and presented in FIG. 1. (Kalish and Mahajan and Muller, 1995)

FIG. 1: TYPOLOGY OF INTERNATIONALIZATION STRATEGIES



- *Waterfall model* – model slowly cascading from one country to the next. This model is suitable for entry into countries with different administrative and market structures and different consumption patterns. The advantages of this strategy include better processing market and a stronger focus on the requirements and specificities of individual countries. The disadvantages include the long duration of the procedure and the risk of errors through transforming experience for subsequent processing market.
- *Sprinkler model* - based on the existence of targeting multiple countries at once. It is suitable for products with short life cycles and higher costs for research and development. Important determinant is small and low cost barriers to market entry. Benefits are rapid market penetration of more countries acquiring international image, the potential use of standardization. The disadvantage is often lower intensity processing based on the limited resources at the beginning of a rule, only a weak position in individual markets and often insufficient consideration of market peculiarities.
- *Combined model* - based on existence of similar target groups in the respective markets countries. It takes into account technological and socio-cultural factors, as well as diversification of market structures across countries. Its determinants are different barriers to entry and the various costs of entry.

FIG. 2: TWO MAIN TYPES OF INTERNATIONALIZATION STRATEGIES



Especially for starting SMEs, a global approach is often not an option. SMEs are more likely to gradually move from a successful domestic launch towards entering more advanced countries and in a later stage to less developed economies. Using a sprinkler strategy, firms can maximize revenues by exploiting economies of scale in R&D and manufacturing. Moreover, a sprinkler strategy may pre-empt competitive moves in some countries, thus maximizing sales and market share. Entering markets before competitors do may result in substantial first mover advantages. From the interpretation of the comparative statics and dynamics of the model, Kalish et al. (1995) found the following market conditions to favor waterfall strategies: (Kalish and Mahajan and Muller, 1995)

- Very long life cycle of the product
- Small foreign markets
- Slow growth in the foreign markets
- Low innovativeness in the foreign market
- High fixed cost of entry into the foreign market
- Weak or no competitors in the foreign markets
- Co-operative behavior among competitors

Moreover, possible benefits of delayed internationalization are improved learning by doing resulting in higher productivity and a stronger competitive position. There is substantial evidence that only the more productive firms export and survive in export markets, i.e. those firms that have reached a certain productivity level necessary to compete in international markets (Bernard, Jensen and Schott, 1999).

From the considerations above it follows that choosing a sprinkler or a waterfall strategy involves a strong tradeoff between sales maximization and risk minimization. Although a sprinkler strategy may be more appropriate in many cases, managers might favor a waterfall strategy as a way to limit the risk of failure.

Method

In the article the theoretical background of internationalization was described according to the summarized facts and analyzed theory. The focus is on the models used in decision-making processes in SMEs. In our research we examine specifics of internationalization of SMEs in Slovakia, their motives, barriers and process of internationalization. Some internationalization models are analyzed to view the ways of spreading international activities of domestic enterprises to the global world.

To solve a defined problem a method of analysis of the theory was implemented in the plane of current theory and current approaches to the internationalization. Several “modern” expressions were explained in order to understand the situation in the markets. Synthesis method allows summarizing current knowledge of the internationally active companies. Several surveys concerning the issue of internationalization of Slovak SMEs were studied and with help of researches we gathered useful information about Slovak perception of the global world.

International journals, domestic researches, professional articles have helped to complete and fulfill the aim of this article, as following surveys, researches, reports and agencies:

- Enterprise Europe Network
- Hofstede G. Culture’s Consequences
- NADSME: National Agency for Development of Small and Medium Enterprises
- SARIO: The Slovak Investment and Trade Development Agency
- Several reports on business environment in Slovakia

Results and Discussion

In this part we would like to describe internationalization of SMEs in Slovakia. We primarily focus on three areas:

- Specifics of internationalization of SMEs in Slovakia
- Internationalization process
- Intercultural management

Specifics of internationalization of SMEs in Slovakia

The importance of the involvement of Slovak companies to foreign trade relations is undeniable. In addition to economic profit, internationalization may also bring social profit to strengthen its position on the domestic market and thus increase to consolidate or increase their competitive advantage.

Internationalization of firms by entry to the foreign market is a process which precedes responsible preparation in the form of a range of activities and activities associated with the determination of this entry. Increased demands on the internationalization process resulting from the geographical distance of foreign market, language barriers, cultural and social differences, or from not knowing the market.

In Slovakia, exporting is considered a traditional way of internationalization however in recent decades, internationalization has become much more differentiated business activities: foreign partnership, foreign investment and cross clustering represent viable ways to facilitate the exchange of knowledge and technology and to strengthen the internationalization strategies.

According to the recent research about internationalism of small and medium-sized enterprises (Enterprise Europe Network) the most common form of internationalization is the relationship consists of aid from abroad, which represented 30% of SMEs. The second is the predominant form of internationalization export represented 18% of SMEs. The other three percent rated SMEs are relations of cooperation, primarily with foreign SMEs and another 3% have set up subordinate company or branch abroad.

Motives of internationalization are variable, firms are looking for access to know-how or new technology, for new capital, for new approach of work, for additional production capacity, for ways how to lower high production costs on the domestic market, to access to new and larger markets for goods / services, to have less strict laws and regulations as on the domestic market. To obtain the "know-how" and / or new technology is the most common motive to go abroad.

Generally small countries with small domestic markets are more internationalized. Size of the domestic market is very strong factor for internationalization. SMEs with specialized production or high volume production in a small country then soon realize that the needs of the domestic market for its business do not comply. Tendency to increase specialization global mean snagging more SMEs in international trade. Medium-sized enterprises are more interested in international activities than small and micro enterprises. Only 17% of micro-exports, while the medium-sized enterprises export 51%.

A study by Enterprise Europe Network reported prominent findings that there is a direct relationship between internationalization and increasing performance of SMEs - international activities drive growth, enhance competitiveness and promote long-term sustainability of companies. The study highlighted two key points, to increase economic prosperity through international activities of SMEs and public support for playing a vital role in promoting greater internationalization.

Several Slovak firms pointed out the internal or external barriers of internationalization. The most common internal barrier to appear "high cost of internationalization" (setting up a business abroad - 24%). Nevertheless, over a third of firms indicated that knows no internal barriers. Some point to lack of internal management planning in relation to the internationalization process. External barriers also occur too often. The most common external barrier to the internationalization of the "existing legislation and regulation" cited by 29% of SMEs with subsidiaries abroad.

There is a strong need for policies with a holistic approach aimed at individual SMEs. EU countries generally have a wide range of policy measures to support the internationalization of SMEs, especially in exports and foreign direct investment. Include the basic information services to the company specifically targeted (personalized advice to support exports).

TABLE 2: MATRIX OF STRATEGY RECOMMENDATION BY SOLBERG

Level of international experiences	Level of market globalization		
	Local Market	Globalizing Market	Global Market
Adult Company	Enter into new industry	Prepare yourself for globalization	Strengthen your global position
Adolescent Company	Strengthen your position in export market	Consider expansion on international market	Look for global alliances
Immature Company	Stay at home	Look for market gaps on international markets	Get ready for merger

Application of the Solberg Matrix (TABLE 2) to Slovak SMEs can be concluded that in terms of experiencing the international level companies can be classified as immature or adolescent. Solberg matrix indicates that companies in Slovakia will have to (in order of their development and existence) internationalize its business, actively penetrate international markets, or cooperate with others in the international environment

Internationalization Process

The SMEs in Slovakia have two ways how to deal with the process of internationalization:

- to monitor all aspects of internationalization and modify steadily its strategy and behavior,
- actively join in internationalization process.

The first approach has a character of passive confirmation to internationalization’s trends. This way is chosen mostly by small firms in Slovakia which want to produce for local markets or firms that do not have enough money, qualified staff or essential know-how to enter international markets. The second approach assumes active joining in internationalization process. This strategy does not see internationalization as a threat of its entrepreneurial activities but perceives it as an opportunity. This approach is as a rule connected with a change from a national to a multinational company. Competitiveness of small and medium sized enterprises in Slovakia is an effect of a number of economic, social and even cultural factors. The SMEs potential is a resultant both of the behavior of entrepreneurs themselves and the state, as well as the so-called external conditions.

There are several problems (Lesáková, 2001) that Slovak firms have to cope with, among them external factors such as:

- instability of the legal system and ineffective enforcement of the law,
- high financial burdens imposed by the state like taxes and social security contributions,
- lack of capital and as a consequence - limited investment possibilities,
- expensive loans, complicated credit procedures,
- red tape burdens.

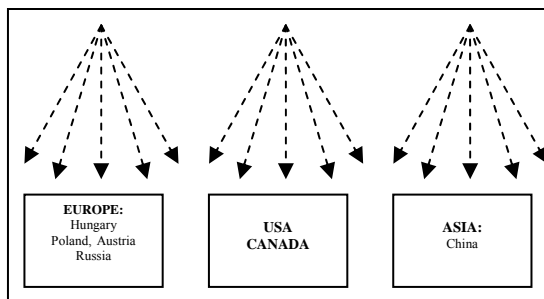


FIG.3: SPRINKLER MODEL ADAPTED TO SLOVAKIA

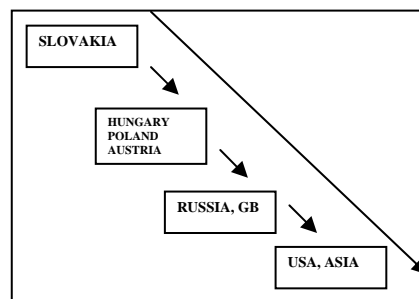


FIG.4: WATERFALL MODEL ADAPTED TO SLOVAKIA

The Slovak SMEs are more likely to move step by step from the domestic country (where they have strong position) to the foreign markets with the aspect of the geographical distance. Differentiated business activities as foreign partnership, foreign investment and cross clustering may help to strengthen the internationalization strategies across the borders. From this point of view the waterfall strategy (FIG. 4) is the most common way for Slovak enterprises how to reach the international level. Essential success factor of SMEs to penetrate foreign markets is the right timing for entering this market. Among additional key success factors of internationalization of Slovak SMEs were some others included: improving management skills, systematic and purposeful planning, strategic use of appropriate intermediaries and foreign partners, improving technical capabilities and skills, increasing the company's ability to quickly identify changes and to respond to them. From the perspective of internationally active company managerial skills and international orientation are crucial influences. And all the mentioned factors need to be improved in order to move Slovak firms from the domestic markets to the international.

Multicultural management

The growing internationalization of business brings important question of coping with intercultural differences. First it is necessary to clarifying the terms "multicultural" and "intercultural". In practice, but also in literature it is often consider as a synonyms, mutual substitution.

According to the Oxford Dictionary, the word "multicultural" refers to the creation and existence of several of cultural or ethnic groups within a society and the word "intercultural" refers to taking place between cultures, or derived from different cultures. The term "intercultural" has become particularly more fashionable in scientific circles over the last years.

Multicultural approach is not only about creating attitudes towards members of other nations but especially in the use of knowledge, acceptance and tolerance of other cultures to degrade barriers to increasing the economic efficiency costs of people

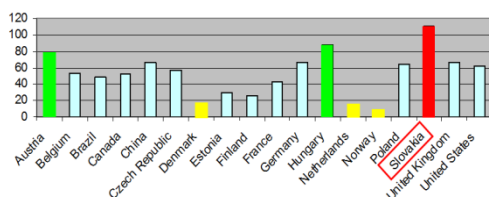
Number of international researches (the best-known is G. Hofstede's research), shows the existence of significant cultural differences across countries. Knowledge and respect of cultural differences will also have a significant impact on the success of managerial work mainly in companies operating in the international environment and international work teams. From this perspective, understanding allows them to avoid some narrow places and problems arising from cultural ignorance and cultural blindness.

Geert Hofstede's research gives us insights into other cultures and their specifics in five dimensions:

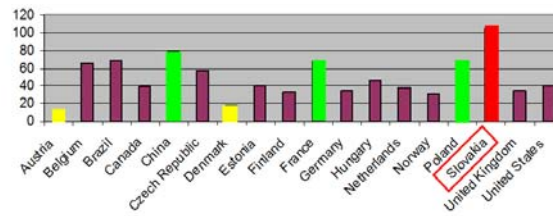
- Power Distance
- Individualism
- Masculinity
- Uncertainty Avoidance
- Long-Term Orientation

Slovak culture has some specifics that need to be mention. According to Hofstede studies and observation we need to point out, that especially in two dimension (masculinity, power distance) Slovakia has very strong results in comparison to other selected countries (GRAPH 1, GRAPH 2).

GRAPH 1: HIGH MASCULINITY



GRAPH 2: HIGH POWER DISTANCE



These results should me not only interested to Slovak firms; understanding of culture specifics should reduce level of frustration, anxiety, and concern in any case.

Cultural influences are reflected in many ways, in choice of organizational cultures, in degree of emphasis on the individual management functions, in leadership style, in communication, in method of decision, in ways of motivating people in order to achieve common goals.

In Slovakia, the number of international teams has expanded proportionally with foreign investors (Začková, in Trend). Foreign investors used to almost always bring not only their managers, but also standards of corporate culture, which they proved in the parent company or other foreign locations.

Standards management styles are relatively well-defined formal framework, this solid content structures is often lacking. Workers in foreign company that establishes itself on the Slovak market, usually fairly quickly accepted as the style of dress formality or internal communication. But it lacks content. People do not understand the structures presented a rather pretend that they are all clear. Some foreign firms prefer sterile relationships, in working practices is missing the creation of open relations, taking into account the features of people, including emotions and ways of survival situations typical for them.

Therefore specialists and consultants in intercultural management recommend to managers of multinational companies, first to invest in mutual understanding of individuals, work teams across the company. This is the only way to avoid communication problems. They recommend preparation of international partnership. There are many possibilities of preparation like informal meetings, joint work on the mini-project, visiting the parent company abroad, social events or training activities where both sides need to speak openly about their expectations, differences, similarities and boundaries of tolerance. Claims for understanding, acceptance of tradition, rituals and values must be on both sides.

Conclusion

As confirmed by the results of the empirical research, the companies (before entering the new target market) analyze the market and the decision about entering the market is made on the basis of pre-defined criteria. The most important selection criteria are the economic status and situation in the country. The respondents reported as other criteria the geographical distance and effective conditions for market operation. The fact that geographic distance is an important factor in choosing a market is supported by the reality that geographically close countries are major commercial importers of Slovakia (Germany, Czech Republic, Austria). Among major trading partners in terms of export volume, are countries like Ukraine and Russia, countries geographically close but economically less stable with heavier convenience of operation conditions in these markets. According to the survey results, these factors (economic stability, favorable conditions for market operation) were perceived as very important, may be the reason why Slovak business activities have not yet been directed to these territories. Interesting fact is that socio-cultural proximity of the respondents is not considered as significant factor when deciding which market to enter. This may mean that Slovak companies operating in foreign markets are relatively well marketing and personnel equipped, with facilities capable enough to analyze the external environmental conditions (external market), which also include socio-cultural cognition of the country's conditions.

Several options about operating in a foreign market are defined. Decision-making process of firms, therefore, also includes deciding on the form of exposure to foreign market. Clearly the most common form of business activity in foreign markets, according to findings is systematic export activity. Other Slovak firms prefer to operate in foreign market in the form of irregular, sporadic exports.

The researches have shown that motives of internationalization are varying. The most common motive to go abroad is to obtain specific know-how and new technology. Different factors could be searching for new capital, for new approach of work, for ways how to lower high production costs on the domestic market, to access to new and larger markets for goods / services, to have less strict laws and regulations as on the domestic market.

To sum up, Slovak companies have gradually started to open international markets in a globalized economic world and irregular export started to change to purposeful action in a foreign market through export business methods. Internationalization is much more than exporting and importing. Activities such as cross-border cooperation, communication and networking are still important. This tendency is seen as a basic structural feature and is therefore expected to be strong in the long run. Substantial amount of SMEs use the internationalization in order to gain access to know-how, technology or work. Internet and new means for rapid and easy communication and cooperation have become key factors in facilitating complex partnerships.

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The contribution of local governments to create business advantage. The case of Puerto Vallarta, Jalisco.

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Abstract

The purpose of this essay is to show that despite the institutional weaknesses that characterize local governments in Latin America, in the area of promoting economic development do exist interesting experiences with a reasonable level of success, such as those discussed referring to a Mexican state of Jalisco. Also stresses that they face structural problems that prevent cutting to full advantage.

The approach of the study farm in certain indicators for the area of local economic promotion which have been defined in a scheme called local public policy from the Local Agenda. The study takes a comparative approach. The greatest value of the test is based on a scheme proposed little studied to assess local public policies, and that despite their novelty, and has important sources of information on their indicators.

1. Introduction.

With a very rich history in the process of institutional reform of the public system, Mexico is now undergoing a consolidation phase of its decentralization policy, through which they seek to strengthen the powers of local government bodies.

With this strategy, beginning with a group of constitutional reforms in 1982 which gives greater powers to the municipality, the governing body of more direct connections with citizens, laid the groundwork to reverse a process of concentration of national public life, which wine brewing since the triumph of the revolution that the country suffered in the second decade of last century.

As is known, the centralization of political life in Mexico was mainly due to the claim of the new governments of the Revolution to assert and consolidate its power over local chiefdoms created under the boxes of political control and military generals who settled in local plazas exercised the triumph of the revolution. In that vein, national political history in the postrevolutionary period, at least in its early decades, can be characterized as a process of concentration of political power at the expense of local power-spaces with very different degrees of legitimacy; often went beyond the formal powers that the Constitution gave the central government.

In this context, such reforms of 1982 marked a process of redistribution of public powers, against the public life of previous decades, sought to recognize the dynamism and initiatives of local political and economic actors. This atmosphere also helped, of course, a renewed wave of stagnant political system, wave led by prominent democratic figures, both from within the ruling party and outside it.

Without doubt, one of the most egregious levels of this new atmosphere of dynamism of local areas has to do with the actions of local governments in promoting economic. These actions, however, remain inadequate, and in this essay analyzes the main reasons. In that vein, the next section reviews very briefly the legal-political structure of the country and relate their instruments of public planning to study in the third section, the Economic Development proposals set out in development plans of municipalities selected media the state of Jalisco. Finally, the fourth section reviews the federal strategy for coordination of public programs, the call from the Local Agenda, noting, for the municipality of Puerto Vallarta, how this mechanism aims to increase the effectiveness of economic promotion programs offered by different levels of government.

2. Legal structure policy, planning tools and relevant axes.

There is a wide discussion about the benefits of both centralized systems like the Federalists, although the literature and contemporary institutional political practices show a general trend whereby national governments are competent defense responsibilities, trade and, more generally, foreign affairs, regulation of migration processes and industrial development as well as communications and transport. For its part, the interim government under them-often on a shared basis, among other responsibilities, the agriculture, forestry, regional infrastructure, and environmental protection, and finally to local areas they are responsible for police and fire, sanitation and transport and utilities infrastructure, among others (Cabrera, 2004: 347).

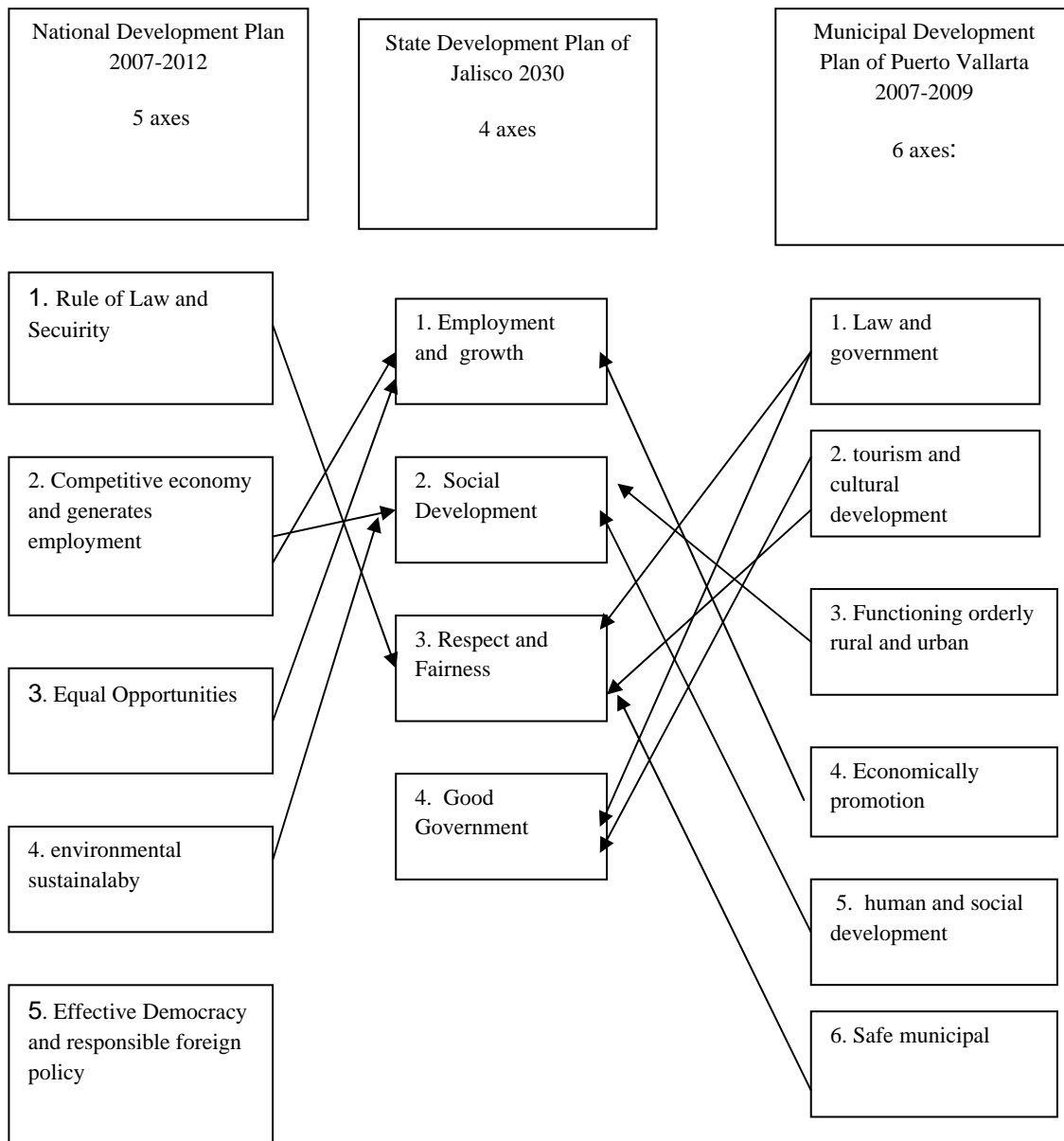
In this general trend is part of Mexico, whose constitution defines the country's political legal structure as a representative republic, democratic, consisting of free and sovereign States in all matters concerning their internal government, but united in a federation, for what will states, the Constitution says they "adopt for their internal system, the republican form of government, representative, popular, based on territorial division and its political and administrative organization the Free City." Finally, the second section of Article 115 of the Constitution confers on them legal status and powers of municipalities to manage their assets according to law.

In this context, a growing number of municipalities in Mexico, just under 2,500 in total, have been expanding their range of actions beyond those traditionally undertaken, relating to public services (water supply, street lighting, clean ...) and engaging in activities to promote economic and social development mainly in the recent past had been the responsibility of other levels of government. They have also developed environmental sustainability policies and actions to improve the efficiency and effectiveness of its governance policies and strengthen transparency.

The fact that since the eighties there an institutional process of development planning and involving the three levels of government (called National Democratic Planning System) provides the definition of public priorities and aligning them between the three levels of government. Such a system provides the definition of a Development Plan for each of the three levels of government, same as, in theory, enable the coordination of policy actions. Needless to say, however, that planning exercises in Mexico have seen a maturation process with ups and downs and have not been exempt from detours and disruptions, and even of today's small towns continue to operate without its plan due to limitations financial resources and qualified personnel. Notwithstanding the foregoing, it should be noted that the law makes it obligatory public programs that adhere to the provisions of the development plans of their respective levels of government that, to varying degrees, has helped reduce the spread and inconsistencies the actions of the various levels of government.

Figure 1 presents the alignment of priorities, or backbones-established policy in the planning of the three branches of government in Mexico for the period 2007-2009 (or 2012, whichever is applicable), and where the municipal level is taken as concerning our study municipality, Puerto Vallarta, one of the five boroughs means considered in this essay. The federal government and the state last in office for 6 years while only three municipalities, which is why the current management of the municipalities of study corresponds only to the first half of the management of the other two branches of government.

FIGURE 1. ALIGNMENT OF PLANNING IN THE THREE BRANCHES OF GOVERNMENT. PUERTO VALLARTA.



As shown in the graph, the axes are relevant to this study, the national plan, the competitive economy of Employment, State Plan, the Employment and Corporate Governance, and the municipal plan, the Economic Development. In short, the axis federal (national) states:

Achieving greater competitiveness and generate more and better jobs is central to sustainable human development. This requires macroeconomic stability, increase investment rates, an efficient structure of property rights and a clear delineation of state involvement in the economy.

For its part, the state axis arises:

Making Jalisco families achieve a greater purchasing power through the state's economic development, creation and strengthening value chains, generating more higher-paying jobs and opportunities for growth for all.

Finally, the municipal axis is proposed:

Support Economic Development of the Industry, trade and services, encourage domestic and foreign tourism in the municipality and strengthen the agricultural potential of the municipality. The truth is that while federal level each of the broad lines of the National Plan are systematically divided into programs that address the different ministries that make up the Federal Executive statewide this year is less systematic and level of implementation varies each of the 31 states that divide the country. As is the lowest order of government, municipal, here the level of systematization and implementation of the plan through specific programs is even more scattered and uneven, and uneven are the dimensions and capacities of the municipalities themselves. Suffice it to say that while the municipalities of the largest municipalities, mainly but not only the capital cities of states have significant budgets and qualified personnel in key areas, smaller municipalities, mostly rural with very limited capacities, have budgets do not allow minimally meet the basic needs of its population. See Table 1, the large spread between the towns of Mexico.

TABLE 1. POPULATION AND MUNICIPALITIES IN MEXICO BY RANGES.

Ranges of population	total population, 2000	%	Municipalities in the range of population	%
0-14,999	8'286,687	8.50	1,407	57.55
15,000-49,999	18'748,413	19.23	684	27.98
50,000-99,999	12'729,139	13.06	187	7.65
100,000-499,999	29'424,500	30.18	135	5.52
500,000-999,999	13'465,410	14.12	21	0.86
1,000,000 y más	14'527,286	14.90	11	0.45

Source: Arroyo, 2007: 106, taken from Censo General de Población y Vivienda, 2000.

In any case, the amplitude of the objectives of each of the broad lines of the various development plans, its scope needs a variety of instruments and, most desirably, a reasonable level of coordination in the actions of the three levels of government . Already said there are legal instruments for that purpose, however, its functionality and effectiveness vary greatly in each state experience, and even within each state coordination can also be uneven.

3. Jalisco Municipalities and media promotion of their economic development plans.

The state of Jalisco, one of the 31 policies that divides Mexico, is among the lowest states of marginalization and their population size and GDP exceeded only by the State of Mexico and the capital country, although in per capita terms, there are other states, additional to those that are above Jalisco. that the country has a megalopolis in the central region consists of 8 metropolitan areas of different size, where more than 23 million people, there are also six cities of more than one million people with just over 11 million people, 18 cities average between 500 thousand and a million inhabitants and 37 cities conurbations not mean, of between 100 thousand and 500 thousand inhabitants. With a population of 110 million inhabitants, therefore, Mexico is a predominantly urban, but with a rural sector of some importance.

As nationally, also inside the state has a strong centralization of economic life, to the extent that the majority of its population is concentrated in the capital city, Guadalajara and its suburbs, which covers 6 municipalities. Nonetheless, among the 125 municipalities of the state has a small number of them that are considered urban average, same as have about 100 000 inhabitants or more and, therefore, offer an interesting

example and representative of what The medium-sized municipalities can offer to society in terms of economic promotion.

Table 2 shows the basic data of these municipalities in terms of population levels of marginalization and suffering, as is known, the marginality index measures the level of deprivation of basic services to a population, especially-but not exclusively, on health, housing and literacy. As seen in him the degree of deprivation in these municipalities is extremely worrying, but within them there are areas with very high poverty rates because they all have a heterogeneous spatial structure.

TABLE 2. BASIC SOCIAL INDICATORS. SELECTED MUNICIPALITIES OF JALISCO.

Municipality	2005 Total Population*	% Population entitled to health services	% Population 15 years and more illiterate	Average grade of schooling% occupied private dwellings that have	% occupied private dwellings that have piped water to the public network	% Occupied private dwellings that have drainage	% Occupied private dwellings that have power	Degree of marginalization
Tepatitlán de Morelos	128,924	51.43	8.28	6.89	90.36	94.86	96.72	Very low
Lagos Moreno	142,633	43.9	9.69	6.98	87.02	85.87	95.66	low
Puerto Vallarta	240,019	59.11	3.6	8.82	91.05	93.44	94	Very low
Zapotlán Grande El	99,966	57.87	5.79	8.9	95.69	96.67	96.74	Very low
Ocotlán	91,818	61.26	6.06	7.94	88.71	96.40	97.59	Very low

Note: Data for 2008 estimated by COEP.

Source: Based on data from the Marginalization Index, 2005 and II CONAPO Census of Population and Housing, 2005 INEGI Source: Second Report of the Government of the State of Jalisco, 2009.

The brief characterization of the municipalities of study showing the picture can understand the need for targeted public actions to its economic development since the end of the day, the creation and preservation of jobs associated with it results in the lowering of rates marginalization and therefore, in raising social welfare.

Already said that Mexico's law in the three branches of government requires the start of each design management plan of government, and in this sense, Table 3 specifies which of the municipalities covered by this study which type of plan action for economic advancement. The table includes in its second column a figure that refers to the "Book from Local" on which we will later.

As is the town of Tepatitlán, economic promotion measures are under Axis Economic Development, and Lagos for the route in question is called Lagos de Moreno competitive, globalized and Equity, on the other hand, if Puerto Vallarta these actions are covered by two of its axes, the Tourism and Cultural Development and the Municipal Economic Development. Finally, to Ocotlán the most relevant actions are included in both the center Employment Promotion and prevent migration and in that of encouraging public investment.

TABLE 3. ECONOMIC DEVELOPMENT AREAS CONSIDERED

<i>Municipio</i>	<i>A. L.</i>	<i>Tepatitlán</i>	<i>Lagos</i>	<i>Vallarta</i>	<i>Ocotlán</i>
Area					
Promoting MSMEs	2.1, 2.8				&
Training and technical assistance	2.4, 2.1		&	&	
Production infrastructure and services	2.6	&	&	&	&
Strategic business information	2.1, 2.2, 2.8		&	&	&
Information and channels of interaction in the labor market	2.4, 2.7	&			
Attracting investment schemes	2.1, 2.6	&	&	&	&
Administrative Simplification	1.1, 1.10				
External sector growth	2.1, 2.8		&		
Promotion of business and / or local products	2.8	&	&		&
Promotion of tourism	2.5	&		&	&
Agricultural support	2.7	&	&	&	&

For Tepatitlán relevant strategies proposed for the reference axis are as follows: 4.1 To support the economic development of the Industry, Commerce and Services, 4.2 Encourage domestic and foreign tourism; 4.3 Strengthen the Agricultural Potential, 4.4 Source Generation Employment for citizenship and 4.5 Safeguarding Fair Wage.

The Lagos Plan includes programs with varying degrees of relevance for the economic advancement on three broad themes, namely: the Productivity and Competitiveness in the Field of Population and Labour Market and eventually into the Infrastructure and Services Municipal Basic. The first axis relevant programs are: Program 1 (page 1) Technological Development, with 5 strategies; P.2 Enterprise Development and Strengthening, with 4 strategies; P. 3 Calls a Business Business Missions with 3 strategies, and finally, P. 4 Improvement of Agricultural Policies in the municipality with 15 strategies. In the workplace relevant programs are: P.1 Training and Placement of Unemployed Labour, with 4 strategies. Finally, the relevant program of municipal infrastructure and services field is the Mobility and Transportation Routes.

Of the two relevant axes of Puerto Vallarta and plan due to its known tourist vocation, you're totally focused on this sector, and it highlights the following strategies: Negotiating for tourism development, strengthening

organizational capacity and Valuation of assets. For his part, said other axis, more generally, includes among other lines of work: promoting the competitiveness of economic activities, best business practices and promote innovation.

With respect to Ocotlan, each of the five areas that make up your Plan (two of which have a marked relevance to our topic and are listed above) are broken down in the same sections each. The first one is called the Economic Development and it's where you get the relevant information.

As shown in Table 3, the efforts of municipalities in Jalisco media to support and promote micro, small and medium enterprises, and whose experience can reasonably be generalized to other such municipalities in the country, is reduced, which is explained in large part because national policy exists for such an ad hoc way, the SME Fund, due to which local governments prefer to use this support to undertake their own initiatives. Such is indeed the case study of our town, Puerto Vallarta, on whose plan does not contemplate actions of this nature.

Municipal actions concerning technical assistance and training are especially limited, reflecting the relatively high technical level that they need for institutional capacity that have municipalities. It also seems that there is no interest by local governments to undertake this task because the SME and operates the Global Fund activities in this field. Notwithstanding the foregoing, Puerto Vallarta is one of only two municipalities which does provide for this initiative.

The creation of infrastructure for production and service itself is a widespread practice among municipalities means, but its presence is explained largely because investment spending in general, transverse effects in other public policies, and that gives greater weight the political sensitivity of the population, and therefore the demand for such actions. In general, municipalities in Mexico means allocated to investment spending just under 30 percent of its total budget, and the bulk of the costs of investment in its territory from state initiatives. As shown in the respective line, Puerto Vallarta also includes activities in this area.

The development of an area of strategic information for business is a public service in the municipalities still nascent media, and it seems that so far only been developed systematically municipalities with a very clear economic vocation, as happens in Puerto Vallarta tourism area. Undoubtedly, the recent efforts of strategic planning (with very mixed success) requires the relevant legislation, are contributing to these issues to be considered further by local governments.

Local management in the workplace, such as the establishment of institutional spaces for more efficient and fluid information in labor markets, as shown in the table are not very handy, and certainly are not in Puerto Vallarta. Again, this can be explained because there are actions in the matter of some success in other levels of government. On this, see the relevant item in Table 5.

As shown in the table of analysis, virtually all considered municipal development plans provide for promotion of investment, local or foreign, a fact which accounts for local government recognition of the important role they play in the field. Suffice it to say that the Mexican Institute for Competitiveness has been established that there are ten major variables affecting the attraction of investment, and of these 5 are variables in which municipalities have an impact. Showing high levels Puerto Vallarta in this sector, mostly but not exclusively in the field of tourism, due in part to this promotion.

The issue of administrative simplification is another displayed little analysis plans, and not in the Puerto Vallarta, if it occurs in all the generic reference to improve government performance. Here there are a systematic federal government mainly on administrative deregulation, which has been undertaken through a program that includes affiliation to it, if you are interested, the municipal governments. The program in question is called Rapid Business Opening.

What actions have called External Sector Growth concerns that whole set of initiatives aimed at the promotion abroad of local production (in both goods and services) and unlike other similar items, such as investment promotion and promotion and business and / or local products, targeted actions here refer exclusively to international markets. As seen in this plane the actions of municipal governments are almost nonexistent, and there is none in the planning of Puerto Vallarta, even though the index of economic openness in the country is the highest in the continent. This means that actions in this area are mostly undertaken in the other two levels of government, and especially at the federal level.

In the promotion of business and / or local products, as seen, most of the municipalities considering taking action in this area, with the important exception of Puerto Vallarta. The truth is that in this field, the local public actions are increasing, and often, they are coordinated with those developed at other levels of government. As with other policies, here also in the corresponding area there is a window that undertakes both activities promoted by local government and serves as an intermediate instance of programs of other levels of government.

The last two planes, Tourism Promotion and Support to the Agricultural Sector, have been for some time, areas where local governments play a very visible effort. In particular, as is understandable, the first actions are more systematic in municipalities such as Puerto Vallarta, have a vocation known in the industry, but gradually the media in the country towns have been recognizing the benefits of strengthening this sector . Moreover, agriculture has been an area of special interest because in this sector is a significant percentage of the population of those municipalities.

4. As a conclusion, the Agenda from the Local and municipal economic promotion in Jalisco.

The previous section discussed which areas of economic promotion undertaken by the municipalities of study, as reported in their respective Municipal Development Plan, and Table 3 presents this information in a more agile as it looks, this table includes a first column for the call from the Local Agenda.

The above Agenda is a federal government strategy whereby it seeks to strengthen the response capacity of local governments to specific problems that they themselves selected. As a noun, it establishes a coordination between the three levels of government through which they reached agreement on what issues in particular are facing. In that vein the first column states which area of the Agenda is for the policy action contemplated in the municipal plan.

For its part, Table 4 presents the economic theme of the Agenda and the breakdown of it in specific areas, as seen it also need some federal programs to address identified each of the areas in which decomposes the economic field, programs that are envisioned in the strategies defined in the framework of the Agenda.

The very fact that municipalities have full autonomy to define their policies, and means that in practice this happens, they are free to take action in a coordinated, independent, complementary and even counter to the proposals in the other two levels of government. The test shows that this freedom is expressed in effect on the definition of economic promotion measures do not always coincide and that some of the actions they are absent because there are already fairly consolidated programs in the other two branches of government. In particular, one of the best examples is the so-called federal government's Small Business Fund, whose coverage and diversification has led municipalities to take up such a program instead of offering shares in this field.

This does not mean, however, that coordination between the three levels of government is not efficient and that there can be significant improvements in it. Although from the Local Agenda offers the soundest strategy coordination, their jobs are still young (it dates from 2004) and the municipalities they enjoy full freedom to join or not to her.

In any case, the paucity of local public resources, the ban on immediate reelection of the incumbent president (which prevents giving continuity to policy), the generally low professional level of municipal officials, and inadequate capacity-derived of the above, to define and implement appropriate measures for economic promotion, make this an area of local public policies in Mexico are totally inadequate development. From another point of view, however, this presents an important window of opportunity for municipal public affairs and diversity policies under development plans realize the interest in advancing the field.

Finally, even if you said the law gives a mandatory plans, to the extent that the programming of expenditure should outline how it corresponds with the relevant development plan prevails in practice-wide latitude to define and budget year that allows us to understand that there is no full consistency between the plan and formulated specific policies that are exercised in each budget year.

TABLE 4. THE ECONOMIC FIELD OF AGENDA FROM THE LOCAL AND FEDERAL PROGRAMS FOR IT.

2.1 Innovative economic alternatives	National Support Fund for Solidarity companies, Productive Options Program, etc
2.2 Promoter productive vocations	Care Program Agricultural Workers, etc.
2.3 Responsibility for promoting the supply of basic commodities	Rural Supply Program, Program Tortilla Microrregiones Program: Supply and Collection, etc.
2.4 Promoter of local job training program for the Support of Training	Employment Support Program, etc.
2.5 Promoting tourism	Magical Towns Programme, etc
2.6 communicate internally and externally	Roads Program, Roads and Bridges, etc
2.7 Promoter of the agricultural sector	Human Development Program Opportunities, etc.
2.8 Promoter of industry, commerce and services	Support Programme for Competitiveness for industries, etc.

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Two decades of transformation in Central and Eastern European countries

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Abstract

The transition of the CEEC (Central European countries) in last decade was first marked by high growth, large foreign direct investment and improvement of the quality of life of the population. The economic crises, however, have shown much vulnerability of the countries in the region. These vulnerabilities are partly the consequence of the socialist system heritage. Some researchers, however, had expressed the opinion, that the economic model following the Washington consensus caused also the deep economic problems during the crises.

The present paper shows the basic economic differences among the countries in the region. Although the countries have the common socialist heritage, now some of them are the members of European Union, while others have only some bilateral agreement with EU. Paper also discusses the alternative economic viewpoints on the transition in the light of the recent economic crises and tries to outline the major tendencies for future.

Introduction

Extensive literature exists on transformation in Central and Eastern Europe since the time it begun in early 1990s. Initial papers had stressed more some specific issues either thematically or regionally. Most of the papers written on the topic analyzed privatization as a crucial transformation step important both from political and economic perspectives. Two decades of transformation in countries of Central Europe (CEECs) have had an enormous impact on socio-economic development in these countries. Naturally, the results differ substantially. Some countries have been able to harmonize political will with interest of main political and economic actors; some others have been less successful. Nevertheless, the general view of reforms and transformation is positive.

The basic principles of transformation were stated by Washington consensus (Loréal 2010) that was the set of recommendation developed by Williamson specifically for the needs of Latin American economies. The principles included: fiscal policy discipline, redirection of the public spending, tax reform, determination of the interest rates by market, competitive exchange rates, trade liberalization, liberalization of inward foreign direct investment, privatization of state enterprises, deregulation – abolition of regulations that impede market entry or restrict competition, legal security for property rights. The practical application of these recommendations enabled to transform relatively quickly the CEECs, however they also brought unexpected negative phenomena.

This paper aims to look at transformation process in CEECs from two perspectives: (1) it tries to cover briefly main transformation issues in the region in the period 1990-2000, and (2) it aims to provide insight into more recent transformation events emerging during the period 2001-2010.

Part 1: The first decade of reforms

The CEE countries have mostly emerged after the former Soviet bloc was dissolved, except of the countries that that were established after the disintegration of Western Balkan, where Yugoslavia had somewhat specific position pursuing the more independent policy before 1990. During the period of Communism, the situation in the region differed because of the historical reasons, in spite of prevailing politic and economic doctrine derived from Marxism-Leninism. While the Visegrad countries (Slovakia, Czech Republic, Hungary, Poland) and the Baltic States were the democracies and the market economies before the World War II; most of the Balkan countries were semi-feudal while the Eastern European countries, such as Russia, Belarus and Ukraine were under the Communist dictatorship. Cultural traditions entrepreneurial capacities, institutional structures, and

geographic position, were also to some extent different. Thus, the pace of the reforms and their outcomes differed through the region.

The basic transformation of CEE countries was realized during the first decade of the transformation that is in Nineties. The structural adjustment of the economies have brought substantial hardships for the population, the decline of GDP, high level of the inflation, but in spite of high social cost it was successful. This first decade had been characterized, in “radical reform countries”, by a focus on speed and critical mass of changes. “Gradual reform countries” had tried to balance different groups of actors, stabilize conditions and gradually and partially privatize their state assets.

Political parties that were responsible for economic changes were composed from people that understood very well that the prolongation of the communist economic practices would lead to further reduction of the competitiveness of the national economies, to overall poverty and the decline. On the other hand, these parties were composed from the former opposition, that have during the communism era only limited possibilities to develop the new economic and political system because of the persecution. This led of course to many decisions that were not very fortunate and had to be corrected later. Nevertheless the crucial reforms had been done which has had a substantial impact on the further reform processes.

The most crucial problems during the first phase of the transformation were: (1) different views how to privatize; (2) how to guarantee irreversibility of economic (and political) reforms; (3) how to guarantee transparency of the process, equal access to most citizens and how to avoid criminal and corruptive behavior in the process.

Reforming countries, socialistic ones before 1989, had very concentrated ownership structure with a dominant role of the state. State or public ownership represented in most countries more than 90 percent of business assets. More details are in Table 1 below.

TABLE 1: INITIAL LEVELS OF STATE SECTOR IN SELECTED CEECS

Country	Year	Share of state sector (in %)
Bulgaria	1970	99.7
Cuba	1988	95.9
Czechoslovakia	1988	99.3
East Germany	1988	96.4
Hungary	1988	92.9
Poland	1988	81.2
Romania	1980	95.5

Source: Kornai, J. (1992)

Since the beginning of reforms, positive effects of privatization have been expected. It was expected that new owners, resulting higher competitiveness, restructuring and de-monopolization as well as improved access to new markets would invest new capital to privatized firms. It was believed that new owners would develop more efficient corporate governance. In the short term these expectation were not always achieved, although in the longer term the evaluation of the situation is more positive. The local privatizers were often the people with insufficient knowledge and social responsibility, but closely linked to political parties, which enabled them the easy access to credits in the banks that were public and only later privatized. The property of these incompetent owners had to be later restructured and taxpayers often repaid the losses from bad bank credits.

Corporate governance and institutions become crucial problem on the way towards market-based economic system. The following problems were typical for CEECs: (1) weak regulatory institutions; (2) weak financial market institutions; (3) inexperienced banking sector, and (4) weak corporate culture.

Part 2: The second decade of reforms

Whereas the first decade of reforms presented window of opportunities for many post-socialist countries, during the second decade it was possible to identify those countries, which are less or more successful in their

reform effort. In addition, certain countries decided to formulate their own specific ways adequate to their political strength and economic power (Russia or Ukraine) or different political preferences (Belarus). Therefore, in this part we focus more on the central European core of reformers.

Policies and institutions

The second decade the basic legislation necessary for functioning market economy has been implemented. The second decade of the reforms was mostly targeted on stabilization and “fine-tuning” of the progress made during the first decade. Moreover, the CEEC countries became the candidate for EU membership and therefore they were obliged to implement set of legislative measures/institutions required by *acquis communautaire*, such as:

- measures for attracting foreign direct investments (FDI);
- policies supporting development of medium and highly innovative industries (MHII);
- further liberalization and privatization of national economies;
- support to formation of technological centers;
- still in operation were the policies supporting small and medium-sized enterprises (SMEs) and regional development (sometimes with elements eliminating regional disparities).

Events and processes

Various events and processes mark the second decade of reforms. Similar to the first decade, also in this second decade no uniformity in adoption of policies, institutions and measures had existed. Different political set ups, various industrial structures or even substantial different institutional arrangements, all that have created some specific national approaches to emerging problems and existing difficulties. One important event in this period was the EU membership of some of the CEECs. From the outset, there has been tough competition among transitive countries regarding which ones will become the first new members. As announced by the EU bodies, the intention at that time was to have several rounds of enlargement based on the preparedness of individual countries. This scenario later became reality. After the first enlargement, new EU members have become a model what barriers and opportunities EU membership will bring to other candidates. It was generally accepted, by most political countries within CEECs (except some post-communist or nationalist parties), that EU conditions for membership will serve as an institutional anchor for the future institutional building.

The second decade of reforms – consequences

The larger part of the second reform decade was successful for the CEEC countries. These countries attracted substantial FDI, generated new companies and they have also benefitted from substantial knowledge transfers and after 2004 from the EU membership. The global economic crisis (Spirkova, Zajacova 2010) that had affected these countries mostly in 2008, stopped the successful growth of these countries and their economic performance has profoundly deteriorated.

All reform steps have been translated into substantial differences in economic performance of individual countries. As expected, transformation has led to wide disparities among population in terms of income, wealth, or job opportunities. This represented a phenomenon not known in transitive countries before 1989. Such changes had had a negative consequence for citizens, as they had not been prepared for such abrupt changes. Social cohesion has been eroded by polarization of the society, traditional intra-societal values - such as confidence in institutions, elected representatives etc. – has been weakened as well. Improvement of corporate governance represents an important element in corporate restructuring. Our research (Brzica and Olsson, 2001) found relatively highly concentrated ownership as shown in the Table 1.

TABLE 1: VOTING POWER OF THE LARGEST AND SECOND LARGEST OWNER (AVERAGE AND MEDIAN, % ON VOTING RIGHTS) AND AN ESTIMATE OF CONCENTRATION FROM 2004 SURVEY IN SLOVAKIA

Country	Year	Biggest owner of voting rights			Second biggest owner of voting rights		
		No. of firms	Median	Average	No. of firms	Median	Average
CR	2001	57	52.6	61.1	43	25.3	26.1
SR	1999 – 2000	34	39.4	43.8	29	18.8	19.1
	2004 (*)	31	-	64.6	23	-	18.5
Estonia	1999 – 2000	21	52.6	53.2	18	12.6	14.5
Slovenia	2000	136	22.3	27.4	136	12.1	13.4
Hungary	2000	64	43.5	44.7	64	18.0	18.6

Note: (*) = In this survey, only ownership concentration was analyzed.

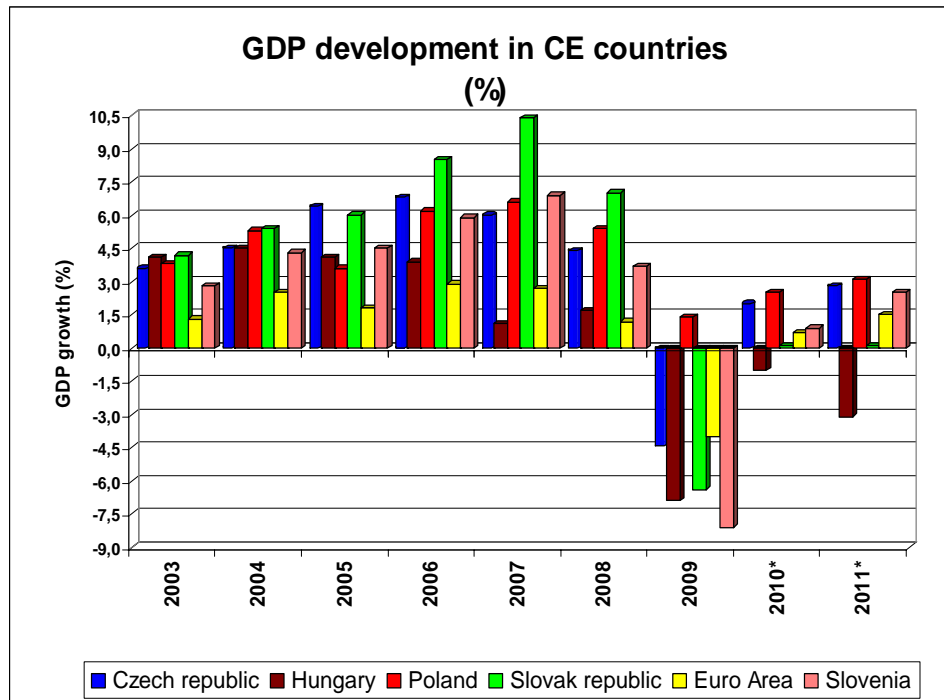
Source: Brzica, D., Olsson, M. ACE Project Corporate Governance and Disclosure in the Accession Process and survey of Slovak firms within VEGA project.

Seemingly easy ownership transformation in theory has been in fact difficult in reality. Tough competition over property and sources has brought many unethical and even criminal activities along with desired processes of privatization. Looking at results one can see that in general practically all CEECs have overcome similar initial problems and start process of catching-up of the old EU countries.

Territorial perspective Visegrad countries and Slovenia

Poland, Hungary, Czech Republic, Slovakia and Slovenia are the transition countries of Central and Eastern Europe with the highest GDP per capita, the smallest state share and the highest share of foreign investors both in the industrial and the banking sectors. They also have the highest degree of financial intermediation. Slovakia and Slovenia already joined the Euro zone. The banking sectors in these countries are mostly foreign owned except for Slovenia. Four out of five countries in the region has formed the group of V4 countries. Visegrad Group (hereafter referred to as V4)¹ is the unofficial name for the countries Czech Republic, Hungary, Poland and the Slovak Republic, which entered into close cooperation. Originally, there were only three Visegrad countries but since the split of Czechoslovakia there are four countries. After 1989, in V4 countries starts the rapid economic growth. Initially, the most successful country in the region V4 was Hungary, although its economic growth was financed largely by massive inflows of foreign investment and foreign debt of the country (public and private) has grown steadily. The V4 countries underwent the major structural reform. The share of the public expenditures declined in majority of these countries except for Hungary where the value of this indicator represented about 50%, maybe highest among the among the post-communist EU countries (see Figure 1).

FIG 1: GDP DEVELOPMENT IN CEECS



Source: Eurostat, Statistical Office of the Republic Slovenia

The Slovak Republic and Poland belonged to the ten fastest growing economies of the world in 2007 together with Latvia, Lithuania, and Russia. An important role in post-communist transformation of V4 countries as well as in the whole region was played by the foreign direct investment (FDI). Their inflow since the beginning of the transformation process gradually increased until 2003. At the beginning of the transformation, Hungary was most attractive to foreign investors. Later the FDI were growing substantially in other countries of the V4 region. The most significant inflow of FDI was directed mainly to the automotive industry, which represented a significant improvement in position of the V4 countries in 2006.

The impact of the crisis on V4 region was strong, but in comparison with some other CEECs much milder. The reason was the relatively good macroeconomic fundamentals characterized by not too large financial imbalances and their stable funding (although more problematic situation is in Hungary).

The Slovak Republic is the smallest and most open economy among V4 countries, which also means that it is quite vulnerable to crisis. The economy is open and due to the higher share of cyclical industries, it is in times of crisis thus more vulnerable. One of the key reasons of the slow restructuring of the Slovak economy in 2000 was very low FDI, which lagged behind neighboring countries. Economic reforms at the early 21st century made the country more attractive for the FDI. The year 2000 brought the substantial change. The FDI grew and were directed to the privatization projects in banking, utilities and industries, such as automotive and electrical, which enable also to reduce the unemployment level. The multinational companies raised their production in Slovakia with the substantial impact on the growth of export and GDP. The Slovak Republic also became very export dependent, which cause the economic troubles after the importing countries reduced the demand for Slovak production because of their economic problems. Nevertheless, the FDI helped to reindustrialize the country after its deindustrialization in 1990s and helped to develop the real economics producing the internationally competitive products. So even though the GDP decline represented 4.7 % in 2009, the growth of demand in Germany and France enabled to restart the growth in the 2Q 2010, when GDP grew by 4.3%. The good fiscal position before the crisis enabled the Slovak government to adopt two anti-crisis packages with 62

social taxation measures including several initiatives to help small and medium-sized enterprises (SMEs) and scrapping scheme, applied in coordination with eleven other EU countries

Before the crisis, the Czech Republic benefited from the improved fiscal performance, low inflation and interest rates, liquid and conservative banking sector. During the crisis, the economic position of Germany had deteriorated, and as the result of that, the Czech Republic has experienced substantial drop of the export to this main export partner. Foreign direct investment more than halved, but rising inflows of EU funds filled the gap. The Czech banking sector has anticipated the global financial turmoil relatively well. The Czech National Bank starts to ease the monetary policy in August 2008 in order to cushion the GDP decline. The crisis led to a sharp widening of the overall deficit in 2009, a rapid accumulation of debt, and an increase in interest rate spreads. It is the reason why the Czech government now plans to increase the indirect taxes, such as VAT, and to reorganize the public institutions in order to lower the public expenses.

The situation in Hungary was more complicated. The country needed the fiscal consolidation before the crisis and did not have sufficient capacity to prepare adequate anti-crisis measures. The economic growth slowed down gradually, while Hungary moved into stagnation in 2007, while the other European economies were still booming. Reduced economic growth affected the decline in household consumption and government spending as a result of administrative changes and fiscal measures implemented in 2006. Although such measures enabled to reduce slightly the unemployment level to 7.4%, the inflation rose to 7.9%. The price of goods and services grew substantially because of VAT increase from September 2006. The unsustainable management of public finances (with the partial impact of the global financial crisis) forced Hungary to seek the assistance of the IMF in autumn 2008. The impact of global recession on Hungary in 2009 was a slump in real GDP of 6.3%, the deepest among the V4 countries, confirming the trend of slowing economy from the previous year.

In the early 2000s, declining international interest rates had encouraged borrowing in foreign currencies where exchange rates were favorable. Nearly 90% of Hungarian mortgages are denominated in Swiss francs since 2006 and the total mass of loans in Swiss francs from Switzerland is estimated at 500 bn. EUR. Some 45% of the total market for home loans and 40% of all consumer loans of Hungary are expressed in Swiss francs rather than in the domestic forint, which has become a trap when interest rates on Swiss Francs and capital flight has caused the drop of the Hungarian forint. Such mortgages were originated also in Baltic states, Romania and Bulgaria, and to a lesser extent in Poland. In all of these countries, they are source of repayment troubles.

Poland and Albania were the only countries that had the positive GDP growth in whole Europe in 2009. Poland is unambiguously the CEE region's strongest economy (RSM International 2010) In the five years before 2008, Poland experienced rapid growth of more than 5% on average. This enabled in 2007 to reduce its budget deficit below two percent. Moreover, the Polish economy is more closed compared to CEE countries and so its economic results are less dependent on the global trade. The country's large domestic market with diversified economy is the guarantee of Poland's economic strength. Poland is not the member of the Euro zone and its currency Polish zloty is not pegged to Euro. Therefore, Poland could use the monetary policy as a tool to influence the economic activity. The depreciation of Polish zloty enabled to adjust Polish economy to external shocks very quickly by raising its competitiveness. Poland was also successful in utilization of the foreign and domestic investments, in spite of the underutilization of the production capacities. At the same time, the access to credit for unproductive investments was tightened. Fiscal support of the household enabled to maintain the private consumption. In addition, the Polish banks were not involved in the large extent in the high-risk speculation.

- With the outbreak of the crisis in 2009, the Slovenian government adopted several packages of short-term anti-crisis measures to cushion the shock experienced by the economy. These measures enabled the preservation of numerous jobs and prevented the growth of poverty, but in the long term, neither the economy nor the country can survive in this way. The latest crisis has exposed numerous weak points in existing systems, so the recovery of Slovenia requires radical structural changes. The changes have been already listed in the document Slovenian Exit Strategy 2010-2013 (Statistical Office of the Republic Slovenia 2010)

Slovenia and the Slovak Republic, both members of the Euro zone were insulated from turbulence in foreign exchange markets. However, this also denied them the possibility to devalue the currency, and to run the fiscal deficit, that are strong tool of the adjustment for stimulating the growth.

Baltic States

The three Baltic States, Latvia, Lithuania and Estonia have suffered a dramatic reversal of fortune in recent years. Latvia, the Europe's fastest growing economy in the mid-2000s, is posting 10-12% yearly growth rates. Estonia and Lithuania grew in the high single digits during the pre-crisis period. Latvia, Lithuania and Estonia declined to devalue their currencies in the face of the recession, which would help these countries to make the faster adjustment to crisis and raise the competitiveness. Instead, they cut wages and spending in austerity packages to achieve the same end. Latvia also had to take a 7.5 bn EUR bailout, lent by the International Monetary Fund and the European Commission. Estonia managed to keep its budget deficit low, in spite of the economic problems, with the goal of entry to euro zone next year. In Latvia, public wage bills have been cut by 23.7 %, pensions by 10 % and increase in the value added tax (VAT) rate was from 18 to 21 %. Latvian government had to accept these conditions in order to get the second part of the IMF package. In Estonia and Lithuania, a 20% cut in public wages and a reduction in social benefits was enforced. Large current account deficits combined with excessive credit growth and mounting housing bubbles had led to an economic crash. Estonia and Latvia were already registering negative GDP growth in 2008, and endured output falls of 14.0 and 18.0% respectively in 2009. (RSM International, 2010) The Lithuanian economy contracted by 18.5% in 2009, the steepest GDP decline of any European country and one of the biggest in the world. It is surprising how the Baltic States managed the crisis without major population upheavals. The austerity measures that were implemented in Baltic states were considered to be the economic disaster (Dunkley 2010). However at this moment such policies paid off and brought improvements in Baltic States' competitiveness that led to a strong rebound in industrial production and exports. Moreover, in spite of the serious economic difficulties Estonia managed to meet the stringent Maastricht criteria, and become the seventeenth member of the Euro zone from 1 January 2011.

South Eastern Europe (SEE)

South Eastern Europe includes two EU member states Romania and Bulgaria and one EU candidate country - Croatia. The other countries of the Western Balkans are Serbia, Macedonia, Montenegro, Bosnia and Herzegovina, Kosovo, and Albania. They have signed individual Stabilization and Association Agreements with the EU. This may lead to their membership in the European Union if legal and institutional reforms would be successfully implemented.

Romania and Bulgaria was dependent on foreign capital inflows to finance household consumption. Both countries were facing severe difficulties as capital flows dried up. Household debt became a drag on the economy in 2008. The issue was especially troublesome for Romania, where a large share of loans was taken in foreign currencies, exposing households to heavy risks of currency fluctuation increasing the real value of repayments.

All the Western Balkans countries were hit profoundly by the crisis. The impact of the crisis is well visible on the following Table, where the GDP from selected CEECs are compared with West Balkan countries. It is interesting to note that the impact of crisis was weaker on later group of the countries (Table 2).

TABLE 2: GDP GROWTH FOR SELECTED CEECS INCLUDING WESTERN BALKAN

	2009	2010
European Union	-4.2	1.8
<i>Estonia</i>	-14.7	2.4
Hungary	-6.0	0.8
<i>Latvia</i>	-17.9	1.8
<i>Lithuania</i>	-15.2	0.4
Slovenia	-7.5	1.0
<i>Bulgaria</i>	-4.8	0,3
Romania	-7.0	1.9
	<i>In 7 new EU member states output fall greater than in most WB</i>	<i>In 4 new EU member states output growth still not positive (contrary to WB)</i>
Western Balkans		
Albania	4.3	3.1
Bosnia & H.	-4.4	0.7
Croatia	-5.9	1.4
Macedonia	-1.2	1,3
Montenegro	-4.3	1.8
Serbia	-3.1	1.7

Source: Duvalic2010, and [The World Factbook](#) (2011)

As can be seen from the Table 1 the impact of the crisis on the Western Balkan (WB) countries was in general milder than on new European Union member states. Duvalic (Duvalic 2010) explains this situation by the following:

- Most WB countries are less integrated with the EU than the new EU member states, FDI are low;
- There are similarities of WB with new EU countries: Foreign banks in WB hold 78-98% of banking assets, lending policies of easy credit led to the credit boom, many loans were in foreign currency (60% in both Croatia and Serbia), the credit crunch in 2009 brought increasing credit defaults in 2009;
- Financial markets in WB are less integrated with EU, which also means a lower exposure to the effects of the global crisis. The increasing regional integration among WB countries has made the effects of the global crisis less severe.

Conclusions

The reforms in CEECs have been very complex and their results initially very uncertain. Unlike traditional views our conclusions stress high variety of transformative modes despite that some policies and measures adopted by one or few countries since the early 1990s have been later copied by some other governments. Some results can be mentioned as typical for CEECs, others were typical for some of those countries:

- Initially dispersed ownership has been gradually transformed into a more concentrated one.
- Highly concentrated ownership in the Slovak companies (Olsson and Alashayeva, 2001; Brzica, 2002) - the situation in the Slovak Republic was similar to that of the Czech Republic.
- Rapid change of large part of state ownership evidenced.
- Privatization of SOEs in early and mid-1990s represented a prerequisite of restructuring.
- Privatization together with FDI has lead to corporate restructuring and better governance.

The second decade of the reforms brought the impressive economic growth in the majority of CEE countries. The countries has benefited from the reforms based on Washington consensus and some of them from their entry to European Union. In the last decade the CEE countries relied on specific growth model based on (Deuber 2010):

- Low savings;
- High consumption smoothing based on potential positive economic effects from EU membership;
- High dependency on external funding (external savings);
- High foreign participation and EU anchor (openness towards the Western Europe).

The openness of the CEE economies, large share of the cyclical sectors, and their export orientation to old EU countries revealed the vulnerability of such model. It has shown that the possibilities of using such model in the future are limited and some more complex growth strategies will have to be developed. Moreover, new forms of the economic adjustment during the crisis have to be developed for those countries that are already members of the Euro zone. This is, however, rather more complex problem that is being solved at present on the EU level

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End Notes

¹ Cooperation is named after the North Hungarian town Visegrad, where the Declaration on cooperation was signed in 1991.

Understanding Trade in “Personal” and “Impersonal” Services

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Abstract

Consider the following statements that express growing concern or opportunity depending on which side of the argument one finds himself or herself:

- “there is no job in America that is America’s God-given right any more”(Carly Fiorina, former CEO of H-P).
- “everything you can send down a wire is up for grabs”(Nandan Nilekani, former CEO of India-based Infosys) .

The purpose of this paper is to examine, critically, the fear expressed by some very mainstream economists in the U.S—most notably, Alan Blinder (2006)—over very large potential negative impact on U.S. jobs resulting from imports of *impersonally-delivered* services from countries like India. Blinder estimates that as many as 40 million U.S jobs could be at risk of being offshored over the next two decades. Others like Jensen and Kletzer (2005) have argued that the U.S is a net exporter of services and likely to gain relatively high-wage, high-skill jobs through increased exports of services while importing low-wage, labor-intensive services from countries like India. The paper examines these issues with special reference to the pattern of trade *in personally-delivered and impersonally-delivered* services between U.S and India.

Introduction

Trade in services has been at the center of policy debates, at least since 1995, over the terms of the General Agreement on Trade in Services (GATS), and more recently over potential job losses in the developed world due to offshoring, which is the focus of this paper. However, the offshoring debate is fraught with confusing array of conceptual, definitional and measurement issues. The purpose of this paper is to shed light on these issues drawing upon Bhagwati, Panagaria and Srinivasan (2004), Blinder (2005), Lipsey (2006), Jensen and Kletzer (2005), and Moncarz, Wolf and Wright (2008) among others and provide better understanding on the impact of services offshoring.

We begin with the definition of certain key terms for purposes of this paper. *Offshoring* refers to shifting business activities or processes to a foreign country. When they are shifted to a foreign affiliate of the same company, it is called *captive offshoring*; and when they are shifted to a third party abroad, it is known as *offshore outsourcing*. The term *Outsourcing* refers to shifting operations or processes previously performed within the company to an unaffiliated third party at home or abroad. When offshoring is done to meet the company’s production needs or customer demand in the home country, it would have the effect of increasing imports. However, if offshoring represents business expansions abroad without any change in business activities at home, it would have no effect on imports into the home country while it could reduce current or future exports. (NAPA 2006)

We owe to Alan Blinder (2005) the terms “*personal*” or *personally-delivered services* and “*impersonal*” or *impersonally-delivered services*. Personal services (e.g., a waiter in a restaurant) involve a strong element of personal, face-to-face contact, which is either essential or highly desirable. By contrast, impersonal services are those that can be delivered electronically (e.g., online airline reservation) or through call centers located anywhere without degrading the quality of service. Most personal services are said to be either nontradable or tradable only to a limited extent. Impersonal services--that is, services that can be delivered electronically--have become highly tradable. Paradoxically, impersonal services have more in common with manufactured goods, at least in terms of tradability, than they do with personal services.

Measurement Issues in International Trade: Goods vs. Services

Robert Lipsey (2006) addressed many difficult and often intractable issues concerning measurement of cross border trade in services. Trade in goods has two measurements--one for compilation of trade statistics and the other for balance of payments (BOP). Trade statistics are compiled on the basis of geography according to the guide lines adopted by the United Nations Statistical Commission. That is, the basic principle for compilation of trade statistics involves crossing the border rather than change of ownership. On the other hand, the measurement of trade in goods for the balance of payments is based on ownership of goods between residents and non-residents of a country. For example, trade statistics include--because there is a change of location--and the BOP data exclude--because there is no change of ownership--goods purchased by travelers and brought home. Similarly, trade data include but BOP data exclude goods imported for projects by non-resident construction firms. Another source of serious measurement problem for services trade, according to Lipsey, is the growing use of low tax jurisdictions to place certain financial and intangible assets like patents and trademarks.

By contrast to trade in goods, trade in services has only one measurement--the BOP measure involving no information on quantity, origin, destination, invoice and the like. Moreover, trade in services often involves no crossing of international border by the service per se.

Bhagwati, Panagariya and Srinivasan (2004) suggest that the GATS categorizes four different ways in which services can be traded: 1). arm’s-length supply of services, with the supplier and buyer remaining in their respective locations (e.g., back office work performed electronically by an Indian firm located in Bangalore for a U.S. firm located in New York). Both individuals and firms can provide this service and it cannot easily and readily be subjected to customs inspections. 2). Services are provided by moving the service recipient to the location of the service provider (e.g., travel by foreign residents, education provided to foreign students and healthcare to foreign patients). 3). Service provider establishes a commercial presence in another country requiring an element of foreign direct investment (FDI). This often occurs in banking and insurance without involving full-scale FDI. 4). The service seller moves to a location of the service buyer involving temporary migration (e.g., consulting services and healthcare and educational services, which can also be provided by moving doctors and teachers to the location of patients and students, respectively). The authors suggest that the debate on offshore outsourcing should focus on the narrow definition of trade in services-- arm’s-length supply of services noted in (1) above.

Examining from, say, the U.S. perspective, potential impact on job losses from (1) is no different from the impact of any other import of good or service. However, the other categories are not so straight forward. For example, in category (2), the costs of foreign students’ education and living expenses (\$19.9 billion U.S. exports and \$5.6 billion imports in 2009) become a service export of the U.S., the host country, because they are treated as residents of the country they come from. Thus, as Lipsey (2006) notes, the definition of residents can turn what is essentially a domestic transaction into an international transaction. Service “exports” to foreign students’ home countries never leave the U.S.; and when those students become residents of U.S., as many of them do, no corresponding “re-import” is recorded in the BOP. Similar issues arise in category (4) involving temporary migration, which could transit into permanent migration. Category (3) presents its own measurement issues if FDI is more than a miniscule amount. Note that while many more impersonal services such as those in category (1) are likely to be offshored, many personal services--requiring service recipient or service provider to travel across borders-- such as those in (2) and (4) are likely to become tradable. Moreover, as information and communications

technology (ICT) improves (e.g., technologies used in providing “distance learning”), more and more personal services could fall into the impersonal services category. More important, even if the personal face-to-face service (e.g., a visit to doctor’s office) is not tradable in itself intermediate service inputs involving, say, medical records that can be electronically transmitted across borders are tradable.

The Size and Growth of World’s Services Trade

As Lipsey (2006) notes, it is difficult to ascertain, with high level of confidence, the size and growth of services trade because, unlike trade in goods, the number of countries measuring it and the number of categories covered have been increasing over time. According to the latest data reported by the World Trade Organization (WTO 2009), world’s service exports in 2008 (US\$2,765 billion) were 23 percent of the world’s exports of goods (US\$12,096 billion). Lipsey (2006), who examined similar data from the International Monetary Fund (IMF) over many different time periods, from 1972 to 2003, separately for 22 countries accounting for half of the world’s service exports and 30 countries accounting for two thirds of the world’s service exports concluded that “... there is fairly general agreement on a current ratio of service trade to goods trade of about one quarter” (Pg.4). What is more interesting, according to Lipsey’s research, is that there has not been any strong trend in the ratio of world service trade to goods trade over the last half century. However, this should not mask the fact that both growth in services trade and goods trade have outpaced growth in GDP in almost every country over the same period.

U.S. Trade in Services

As shown in Table 1, the ratio of services exports to the export of goods is much higher for the U.S than it is for the world. In 2010, exports of services--based on BOP definition--were \$561billion, 44 percent of goods exports; and imports of services were \$405billion, 21 percent of goods imports. Neither of the services to goods ratio is much different from what it was in 1992--42 percent of goods exports vs. 23 percent of goods imports. Assuming that price indexes for services and goods accurately reflect actual movement in their relative prices, this fact essentially holds even when one looks at the same ratios based on constant dollar data. Moreover, services exports and imports as a percent of goods exports and imports have not shown any trend either--24 percent in 1992; 21 percent in 2000; and 22 percent in 2010. The data also support the widely known fact that, *in the aggregate*, service exports and imports are much smaller than goods exports and imports relative to their respective outputs. Thus, in 2010, service exports and imports accounted for only 10 percent of service sector output with only slight increase since 1992--compared with a similar percent for the goods sector of 79 percent with a strong upward trend from 49 percent in 1992 and 65 percent in 2000. (BEA 2011)

In contrast to trade in goods, U.S. has been a net exporter of services and (\$156 billion in 2010). The favorable balance of trade in services U.S. enjoys extends to almost all major categories, especially travel, royalties and license fee and other private services including business, professional and technical services, financial services and education. There are only three sub categories--freight, insurance and computer and information services--in which U.S. had trade deficit (\$56 billion) which accounted for 12 percent of exports and 17 percent of imports of private services in 2009 (Table 4).

Services Trade by Affiliation

One of the issues in the analysis of trade data has to do with intra-multinational enterprise (MNE) trade. This is especially the case with the U.S. data because of the country’s dominant MNE presence abroad in terms of FDI and trade. Intra-MNE trade is quite different from arms-length trade because it goes to the heart of how an MNE leverages its global dispersion of tangible and intangible assets to create and sustain competitive advantage. Overall, in the Other Private Services category--the one that is at the center of many debates--comprising of Business, Professional and Technical Services (BPT), Financial Services, Insurance Services and others (which together

accounted for half of all private services exports as well as imports in 2009), about 40 percent of imports and a third of exports are transactions between MNE's and their affiliates abroad. Similar ratios for the BPT category in 2009 were much higher--50 percent of exports and 68 percent of imports--indicating perhaps greater MNE propensity for intra-MNE trade with respect to exchange of skills where ICT plays a greater role (BEA 2011). This is especially the case with R&D services.

Estimates of Job Losses

A Forrester Research study by McCarthy (2004) estimated that by 2015, some 3.3 million service sector jobs or about 300,000 per year will move offshore. A University of California at Berkeley study by Bardhan and Kroll (2004) estimated that about 11 percent of jobs in all U.S. occupations were *potentially* at risk of being offshored. Numerous estimates of this type were documented in a study by the National Academy of Public Administration (NAPA 2006) for the U.S. Congress and the Bureau of Economic Analysis. These estimates by themselves do not warrant an alarmist view of the service-sector offshoring.

However, Blinder (2005) suggests that the above estimates of job losses represent just tip of the iceberg. He estimates that "...the number of *current* (emphasis added) U.S. private service jobs that will be susceptible to offshoring in the electronic future is 2-3 times the total number of manufacturing jobs" (Pg. 18). Employment in manufacturing was 13 million in 2008. If one were to apply Blinder's "crude estimate" (his words) for 2004 to the more recent 2008 data, some 27 to 40 million service sector jobs will be at risk of being offshored; and somewhat *lower* in 2018--24 to 37 million-- because of the expected drop in manufacturing employment to 12.2 million (Table 3). Thus, some 18 to 28 percent of service sector jobs in 2018 would be at risk. According to Blinder, among the service sector jobs that would be at high risk are information services, professional and business services, college teaching, and some parts of healthcare. Sectors least vulnerable are leisure and hospitality services and government jobs in the public sector, the latter because politics won't allow these otherwise potentially offshorable services to be offshored.

Tradable vs. Nontradable Industries and Occupations

Jensen and Kletzer (2005) developed a new empirical approach to identify service industries and occupations that are at risk of being exposed to offshoring. Following the economic intuition, first suggested by Helpman and Krugman (1985), the authors postulate that services traded tend to be geographically concentrated, while services that are not traded tend to be more ubiquitously distributed. Using the 2000 Census data, the authors identify the level of geographic concentration (measured by the Gini coefficient) that enables them to classify an industry or occupation as tradable and nontradable.

As shown in Table 2, Jensen and Kletzer (2005) estimate that, in the aggregate, 39 percent of total employment is tradable and 61 percent is nontradable. Of the 39 percent tradable employment 59 percent is in private services and 32 percent in manufacturing. This is contrary to the traditional view of services as being largely nontradable.

By occupation, Jensen and Kletzer report that the groups with largest shares of tradable employment include computer and mathematical operations (100 percent); legal (96 percent); healthcare practitioners (86 percent); and life, physical and social sciences (83 percent). And the occupational groups with largest shares of nontradable employment include education and library (99 percent); healthcare support (97 percent); and food preparation/serving (96 percent).

Jensen and Kletzer also examined worker characteristics in tradable and nontradable industries and occupations. They found that workers in tradable service industries and occupations are higher skilled and have higher income than workers in the manufacturing sector and nontradable service activities. The authors found little evidence that tradable service industries or occupations have lower employment growth than nontradable industries and occupations. Negative employment growth at the low end of skill distribution is the exception. There is higher rate of job loss and hence greater job insecurity associated with tradable service activities. A Bureau of Labor Statistics study based on survey data conducted by Roncarz, Wolf and Wright (2008), came to similar conclusion with respect to skills of workers, income and job growth in 160 *offshorable occupations*.

Concluding Remarks

With well over three quarters of employment in the service-providing sectors and over a fifth of the trade in services, combined with a growing sense of economic insecurity, it is no surprise that fear of offshoring has taken center stage in the U.S. policy debates. The trouble with many of these debates is that they got themselves far ahead of basic understanding of the nature of services trade and even facts.

First, at the most basic level, potential impact of offshoring on the U.S. economy depends on how one defines offshoring. For example, should we consider intra-MNE cross border trade the same way as arms-length trade of the call-center type? The latter shifts relatively low-skilled low-wage jobs overseas and hence, driven by cost savings. On the other hand, trade between parents of the U.S. MNE's and their foreign affiliates increasingly involves high-end strategic activities such as product development and go to the heart of the way MNE leverages its global dispersion of tangible and intangible assets (Rao 2010). As such, if one looks at offshoring to foreign affiliates narrowly in terms of potential impact on home-country jobs, then one would be ignoring the many beneficial effects in terms of jobs created through subsequent exports, access to foreign markets and talent, which could more than offset the jobs "sent" to the affiliates. In short, such an argument based on a purely home-country perspective, would question the legitimacy of U.S. MNEs themselves.

Second, as Bhagwati, Panagaria and Srinivasan (2004) and Lipsey (2006) pointed out, because trade in services is more difficult to define and measure than trade in goods, its size and growth are subject to much wider margin of error. This is particularly the case with educational services, royalties and license fees, and financial services.

Third, estimates of service sector jobs at risk of being offshored generally do not go beyond direct employment impacts. Indirect positive employment effects resulting from well known complementary relationships between imports, exports and FDI would surely reduce the negative impacts from offshoring.

Fourth, while trade in services remains only a small fraction of the service sector's output (10 percent in 2010 with only a slight upward trend since 1992) Jensen and Kletzer (2005) estimate that about a quarter of *employment* in private services is tradable compared to about 12 percent in manufacturing. However, as the authors note, just because a job is in tradable service, does not mean it will move to a low-cost location. A tradable service is not necessarily an impersonal service. Nor does the distinction between personal and impersonal service jobs correspond to high-skilled and low-skilled work. To the extent U.S. comparative advantage is in tradable services that require higher skills than nontradable services, policy emphasis, so it is argued, should be on greater investments in education and training as well as removal of barriers to trade in services. However, even on this point experts differ. For example, research by Blinder and Kruger (2009) cited by Krugman (2011) suggests that high-wage jobs performed by highly educated workers are more "offshorable" than jobs performed by lower-paid, less-educated workers. This outcome is a result of the ICT revolution combined with competition from countries like India and China that are able to offer the services of highly educated workers at a fraction of the U.S. wage.

Finally, alarmist views in the U.S. policy debates about offshoring need to be placed in historical context. At the turn of the 20th century, well over 40 percent of the labor force was employed in agriculture (Bureau of the Census, 1975). Currently, agricultural employment is barely over 1 percent because of the dramatic increase in agricultural productivity over the past century. Manufacturing, followed by services, absorbed the movement of population out of agriculture on a rather large scale. A similar phenomenon has been occurring in the manufacturing

sector, especially since 1980, when the proportion of manufacturing employment began to drop from about 25 percent to its current level of under 10 percent. Here too dramatic increases in manufacturing productivity have played a significant role in moving the work force from manufacturing to the service sector. Of course, at the center of this vast structural change is technology. While we do not know what changes technology will bring in the next hundred years, we can be sure the change will be no less dramatic and services offshoring is likely to be a needle in the haystack.

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TABLE 1: GDP, EXPORTS AND IMPORTS, 1992-2010
(in current dollars)

	1992	2000	2010
GDP	\$ 6,342 billion	\$ 9,952 billion	\$ 14,660 billion
Exports			
Goods	448	784	1,276
Services	187	309	561
Service exports as % of goods exports	42%	39%	44%
Imports			
Goods	545	1,247	1,948
Services	123	229	405
Service imports as % of goods imports	23%	18%	21%
Exports+Imports			
Goods	993	2031	3224
Services	310	538	966
Service imports as % of goods trade	24%	21%	22%

Source: BEA (2011) ^a.

TABLE 2: SHARE OF TOTAL EMPLOYMENT, BY TRADABLE AND NON TRADABLE, BY MAJOR INDUSTRY

Industry	Tradable	Nontradable
Agriculture	1.36%	0%
Mining	0.39	0
Utilities	0.18	0.76
Construction	0	6.86
Manufacturing	12.42	1.97
Private Services	23.19	47.11
Public Administration	1.63	4.14
Total	39.17	60.84

Source: Jensen and Kletzer (2005).

TABLE 3: EMPLOYMENT BY MAJOR INDUSTRY SECTOR, 2008 AND PROJECTED 2018
(in thousands)

Industry Sector	Employment		Change	Average annual rate of change
	2008	2018	2008-2018	2008-2018
Total	150,932	166,206	15,274	0.01
Non-agriculture wage and salary	137,815	152,443	14,629	1.00
Goods-producing, excluding agriculture	21,363	21,390	27	0.00
Mining	717	613	-104	-1.60
Construction	7,215	8,552	1,337	1.70
Manufacturing	13,431	12,225	-1,206	-0.90
Service-providing	116,452	131,052	14,601	1.20
Utilities	560	500	-59	-1.10
Wholesale trade	5,964	6,220	256	0.40
Retail trade	15,356	16,010	654	0.40
Transportation and warehousing	4,505	4,950	445	0.90
Information	2,997	3,115	118	0.40
Financial Activities	8,146	8,703	557	0.70
Professional and Business activities	17,778	21,968	4,190	2.10
Educational Services	3,037	3,842	805	2.40
Health care and social assistance	15,819	19,816	3,997	2.30
Leisure and Hospitality	13,459	14,601	1,142	0.80
Other Services	6,333	7,142	809	1.20
Federal Government	2,764	2,859	95	0.30
State and local government	19,735	21,327	1,591	0.80
Agriculture, forestry, fishing and hunting	2,098	2,020	-78	-0.40
Non agriculture self-employed and unpaid family workers	9,313	9,943	631	0.70
Other*	2,069	1,706	93	0.50

* Secondary wage and salary jobs in agriculture and private household industries & Secondary jobs as a self-employed or unpaid family worker
Source: BLS (2009).

TABLE 4: PRIVATE SERVICES TRADE BY TYPE, 2009
(millions of dollars)

	Exports	Imports
Total Private Services	483,869	334,917
By Affiliation:		
Unaffiliated	346,880	249,589
Affiliated	136,989	85,328
By U.S. parents to/from their foreign affiliates	109,066	51,195
By U.S. affiliates to/from their foreign parent groups	27,923	34,134
By Type of Service:		
Travel	93,917	73,230
Passenger fares	26,424	25,980
Other transportation	35,406	41,586
Freight	17,247	29,341
Port services	18,159	12,245
Royalties and license fees	89,791	25,230
Industrial processes	35,630	16,464
Other	54,161	8,766
Other private services	238,332	168,892
Education	19,911	5,583
Financial services	55,446	16,454
Insurance services	14,651	55,233
Telecommunications	9,284	7,048
Business, professional, and technical services	116,629	81,995
Computer and information services	13,378	17,181
Computer and data processing services	8,575	16,263
Database and other information services	4,803	917
Management and consulting services	28,191	22,250
Research and development and testing services	18,234	15,753
Operational leasing	7,718	1,078
Other business, professional, and technical services	49,108	25,733
Accounting, auditing, and bookkeeping services	1,029	2,178
Advertising	3,970	2,339
Architectural, engineering, and other technical services	5,687	1,052
Construction	1,103	743
Industrial engineering	4,976	3,679
Installation, maintenance, and repair of equipment	11,187	6,168
Legal services	7,256	1,700
Medical services	2,623	879
Mining	2,923	703
Sports and performing arts	1,099	492
Trade-related services	4,234	1,118
Training services	1,565	867
Other	1,456	3,816
Other services	22,411	2,579
Film and television tape rentals	13,809	1,938
Other	8,602	640

Source: BEA (2011)^b.

Torn In Two: Competing Discourses Of Globalization and Localization In India's Informational City of Bangalore.

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ABSTRACT

Bangalore city saw unprecedented growth in the 1980s and 90s, in size, population and global importance. This derived chiefly from its positioning as a centre for Information Technology and associated industries. Even as the world watched this amazing growth in wonder, Bangalore's own response was typically dichotomous. On the one hand, there was a throwback to a mythicized past, a longing for the pensioner's paradise and garden city of old; there was also an aspiration for a neoteric future, a Singapore in Bangalore.

This paper studies the phenomenon of Bangalore's growth through a kaleidoscopic lens. It asks the question: How has this growth affected and manifested in Bangalore's Economy, Society, Politics, Planning and Spatial characteristics? It points that the corporate led development imperative has resulted in, and is partly sustained by, a concomitant growth of a working class, and assorted migrant and poor groups. So Bangalore's divided response to growth is in fact an inability of this erstwhile middle class city to accept the plebian democracy that threatens notions of restraint and order. The paper positions itself in the literary terrain of studies on Bangalore, deriving from three streams of literature : Bangalore –specific studies; scholarship on Bangalore as a typical Indian city; and Bangalore in a global context.

The consequence of growth is a fragmented and polarized society, partly a legacy of a divided history. In the economic sphere, there the corporate neo-liberal ideology stands in contrast to small local economies of trade and textiles that are still major employers; socially, there is a nouveau elite who prefer to invisibilize the migrant and poor; politics and policy are handmaidens to either group, both of whom influence policy through very different political alliances and processes.

The paper leaves us with an open question: What is Bangalore's way forward? It solicits your opinion regarding the city's future agenda.

I. INTRODUCTION

In the 1980s, the city of Bangalore was shaken from a slumberous existence into a startled realization of its new-found destiny as a metropolis and 'the city of the future'. In the five decades since Independence, this small unremarkable town metamorphosed into an internationally known boom town, overtook Mysore as the *urbs prima* of the Karnataka region, and outdistanced its neighbours in Chennai and Hyderabad. No other contemporary Indian city allows us to track the passage from small town to metropolitan status within a few decades as well as Bangalore does (Nair J. , 2005) (Heitzman, 1999). Largely unprepared for this hurtling destiny, Bangalore's response was characteristically dichotomous. On the one hand, there was a throwback to a nostalgic past, a longing for the good old days of a 'garden city' and 'pensioner's paradise'. A mythicized past, placid and restrained, offered an ideological refuge from the bewildering and dismaying onslaught of modernity. Juxtaposed with this was a futuristic vision of a global city that conformed to international standards, a veritable Singapore in the making (Nair J. , 2005). There was reason for this. Between the yearning for a Bangalore of a bygone era and the hankering for futurity lies a complex history of a city whose rite of passage to metropolitan status was marked by regional, national and global forces. Unlike presidency cities such as Mumbai, Chennai or Kolkata, Bangalore was denied the advantages of gradual growth; its transformation was crowded into a short span of just over a decade. Its meteoric rise to a globally integrated location of software and service sectors created, and masked, profound changes in the metropolitan socio-economic map, creating aggravating disparities and a highly fragmented and polarised urban society. Even as a narrow upper stratum of affluent urban elite realized the benefits of growth, new pockets of urban migrants and marginalised poor swelled its ranks. The trend for information technology expansion in Bangalore

began with specialised self-contained IT Parks that were 'islands' of first world amenities. However, beyond these pockets of world class facilities, and partly because of them, the digital divide widened between the beneficiaries of the IT boom and those it hardly touched. The case of Bangalore poses the dilemma of whether developing the city, and by extension a region, space or nation, as an IT hub is the only dream worthy of pursuit; or should this yield to a balanced development plan benefiting a wider constituency (Ghosh, 2006) (Nair J. , 2005) (Yahya, 1-21) (Dittrich, 2007, p. 46).

II. SIGNIFICANCE OF PAPER

Different aspects of the new metropolitan experience, of which Bangalore is an exemplar, have been written about. This paper draws upon three different streams of urban literature. The first relates to specific studies on the city of Bangalore. Venkatarayappa (1957) and Gist (1986) made early attempts at defining the ecological zones of the city. R.L.Singh's (1964) monograph on Bangalore traced the city's geographic and economic systems; more ambitiously Prakasa Rao & Tewari (1979) used the sample survey method to relate Bangalore's social and economic structure to its spatial characteristics (Nair J. , 2005). These studies converged into more recent literature on Bangalore's rise as a metropolis. Its internationally acknowledged status as a hub of IT ,ITES and BT industries, attracted the attention of a range of scholars interested in the logic and potential of such growth (Heitzman, 1999) (Nair J. , 2005) (HEITZMAN, 2006) (Harikrishnan & Mahendra, 2008) (Sastry, 2008) (Nilekani, 2008) (Yahya, 1-21).A third group of literature places Bangalore in the context of global changes and their impact on the urban firmament. Many metropolitan cities in India are undergoing change; much of the change is driven by the needs of the internal economy. However, increasingly since the late 1990s, change has also been the result of a response to global markets. Hence the case of Bangalore has wider applicability to other developing cities in emergent economies. (Nair, 2005) (Benjamin, 2000) (Dittrich, 2007) (Ghosh, 2006) (Kamath, 2006) (Menon, 2005) (Shaw & Satish, 2007, p. 149).These three groups of literature coalesce to inform this paper and provide it with a nesting place. While most corporate and policy discourse on Bangalore's rise is undilutedly positive, this paper tempers this optimistic perspective with a more sceptical point of view, focusing on the risks and negative effects of globalisation on the metropolitan social map.

III. SEGMENTED HISTORY : A DIVIDED LEGACY

The asymmetrical development of Bangalore begs the question whether the city might have inherited the development process from its past experiences of development. So it is worth reviewing the process and pattern of historical development of the city of Bangalore (Nair, 2005) (Sastry, 2008, p. 2).The history of Bangalore is a tale of two cities, a western part or *pete* that dates back to atleast five centuries; and the eastern part or 'Cantonment' that is no more than two centuries old. In 1949, the twin municipalities of Bangalore City and Cantonment were united into the Bangalore City Corporation. Bangalore was wrenched out of its existence as a divided town to become a big city in the 1970s. Yet the integration of these two distinct linguistic, political and economic cultures and their spatial identities remains an unfulfilled task (Nair J. , 2005, p. 26). By the early twentieth century the two cities had developed as two distinct nodes, with their own central markets, railways stations, hospitals, and wholesale and retail areas. A swathe of parkland, the Cubbon Park, separated City from Cantonment, keeping the two areas and their respective cultures apart well into the twentieth century. The public life of the city was thus divided, between east and west, and not only in a spatial sense. The cantonment was peopled by those for whom British rule had spelt not just political certainty but unbridled economic opportunity. The traffic between the two areas was regulated as strictly as ideas between them. On the eve of Independence, then, the city of Bangalore retained its divided character, with the two halves only weakly joined in the social, political or economic spheres. In the immediate post-Independence years, the task of strengthening these bonds was left more or less entirely to administrative compulsions, with significant consequences for the contemporary design and social life of the city. History thus determined that Bangalore developed with dual characteristics since its foundation. As the city developed, the inter-

mix of two cultures was overlaid with footloose IT professionals and migrant labour who swarmed into the city of opportunity (Sastry, 2008, pp. 2-3).

IV. A CONTESTED TERRAIN: THE BATTLEGROUND OF BANGALORE

Nonetheless, Bangalore's divide is not just a function of history; it is part of the urban present. Change in modern metropolitan cities has made them arenas of complicated and conflicting politico-economic processes both local and global. Planning and governance are shaped by the congruence and confrontation of interest groups with conflicting interests which compete over limited resources. These resources are not just physical; they encompass intangibles such as state power and legitimacy (Nair J. , 2005). In its latest, metropolitan phase, therefore, Bangalore typifies a ground on which broadly two contending forces stake their claim: on the one hand are the newly renovated citizens, who are amply aided by a technocratic vision of change offered by the leaders of the new economy; on the other are those for whom democracy has come to have a different meaning in the urban setting: slum dwellers, unemployed young men, women's groups. Thus, not all changes occurring in Bangalore can be attributed to global forces/agency. There are significant local forces/agency, processes from below that have changed the city. The resulting conflicts are reflected in vigorous rivalries for access to prime land, to the best private colleges and to employment opportunities in the modern service sector. Because of this merciless competition, many of the lower middle-class families are doomed to economic failure, which leads to tendencies of political radicalisation. This trend of social fragmentation catalyses urban conflicts that find expression in an increasing number of crimes and communal clashes and in violent conflicts between the supporters and opponents of the globalisation project. During the last decade several anti-globalisation campaigns were fought in Bangalore, for example the campaign of the local farmer unions against the US-based multinational companies Cargill and Monsanto, the demolition of the Kentucky Fried Chicken branch, or the massive clashes during the Miss World campaign in the late 1990s. At the top end of the city's socioeconomic pyramid is a tiny but heterogeneous and competing urban elite. This mainly conservative core-elite traditionally holds many of the key positions in the politico-economic arena. But the newly established service elite, tied to foreign investors in a close coalition of interests, is attempting to achieve more influence and power resulting in aggravated conflicts over the utilisation of resources and power. Meanwhile, the well-off sections of society have lost any interest in tackling the problem of the appalling civic conditions of the urban poor. (Dittrich, 2007, p. 55) (Sastry, 2008, pp. 9-10). The discussion of these questions proceeds by analyzing specific elements of the cityscape of Bangalore where the divide manifests itself: economy, society, policy and politics and the designing of urban space.

V. THE CITY THAT BECKONS...

Bangalore is the fifth largest metropolis in India and forty-third in the world with a population of almost six million spread across five hundred and ninety-five square kilometres. It is a multifaceted city: at once the political capital of Karnataka state; a leading educational centre with scientific and research institutes; a hub for India's space research and aviation technology; the home of large public sector industries; and more recently the preferred destination of private electronic, infotech and garment industries. As one of the fastest growing cities of the world, with a population growth of 3.25 percent annually, (its population doubled during 198-2004) it is poised to become a mega city with population ten million by 2021 and an area of 1,000 square kilometres by 2015. With less than 0.5 percent of the area of Karnataka, metropolitan Bangalore supports thirty per cent of the state's urban population. With over 125 multinationals, 1150 software exporters 1,20,000 IT professionals, and software exports estimated at US\$ 2.5 billion in 2003, its sobriquet of 'Silicon Valley of India' is well deserved. It is also an internationally recognized gateway to styles of globalized consumption (Heitzman, 1999) (Nair J. , 2005) (Narayana, 2008) (Smitha & Sangita, 2008) (Harikrishnan & Mahendra, 2008). Major milestones dotted Bangalore's journey to become the IT hub of Asia. The Software Technology Park scheme was announced in 1985 with special rules and concessions for hundred percent export-oriented units. The Bangalore ITPL was launched in 2000 at a cost of US \$ 480 million, a joint venture between the Government of Karnataka, the Tata Corporation and of Singapore consortium, built to

international standards as a self contained facility with captive power supply and satellite links. It supports high-tech industries such as software development, electronics, communications, research and development and financial services. The ITPL remains the benchmark for IT parks in India with its world class infrastructure and has the highest number of occupants among Indian IT parks. Next came the Electronic City, also developed as an enclave to provide space for IT multinational and domestic companies such as Texas Instruments, Hewlett Packard, IBM, Infosys and Wipro. As the demand for associated services swelled, the sphere of the IT/ITES industry grew to nearly 3000 firms, including medical transcription, back office operations, and call centers. Emerging as a hot new tech city, a preferred location for high-technology industries and a globally integrated centre of high-technology research and production Bangalore absorbed about FDI US\$ 5 billion and the highest per capita income of any Indian city. Its software and service industries still grow at around 30% annually amazing compared to world standards. Out of the total software and services exports, almost sixty six percent were to the Americas (USA, Canada and Latin America), twenty four to Europe, and nine percent to the Asia-Pacific market. The USA continues to be Bangalore's largest export destination. For supporters of a deregulated and liberalised global economy, the city represents a positive showcase of the new opportunities for newly industrialising countries to benefit from recent trends in economic globalisation (Heitzman, 1999) (Dittrich,2003) (Nasscom, 2004) (Shaw & Satish, 2007, p. 153) (Harikrishnan & Mahendra, 2008). (Sastry, 2008, p. 13) (Yahya, 1-21).

VI. THE CHANGING SOCIO-ECONOMIC LANDSCAPE.

The growth phases that Bangalore passed through left their imprint on the, economic social and spatial landscape of the city.

■ **The New Economy.**

The transformation of Bangalore began in the sphere of economy and employment. It corresponded to changes in the significance of the state as the prime mobilizer and distributor of resources; as the increasing command of the market eclipsed the developmentalist state and its apparatus. Until the 1980s, private investment did not dim the presence of the state as the prime mover of industrial production in the city; only 2619 of over 3, 80,000 workers were employed in the hardware and software in 1991. Within a decade, this was to change drastically as IT/ITES accounted for 60,000 jobs distributed over 1400 firms by the late 1990s. Today, over 1,300 companies employ 170,000 people. Thus the phenomenal growth of the city initiated by governmental agencies and the public sector to was spurred on by a booming IT sector. This has implication for future trends. The large public sector industries and the private textile and garment production units still have an important impact on the city's economy. The formal sector with the largest impact on employment is still textiles; followed by the public sector giants and the institutions of central and state governments. Together with all their subcontracting units these two pillars of the formal economy are employing approximately 250,000 people. Though business and employment opportunities across sectors remain in the foreseeable future, it is doubtful that they will generate employment or subcontracting arrangements that will keep up with the rate of population increase in the Bangalore metropolitan region. The public sector heavy industries are undergoing reorganisation processes that have resulted in substantial staff cuts. The downsizing programme under implementation by the state government has cut hundreds of office jobs. The size and visibility of the public sector has been overshadowed by the private sector, with the ICT-sector by far the most dynamic part of the city's economy. The growth of the economy will depend on the dynamism of private sector enterprises with high-value outputs, minimal environmental impact, and the ability to generate direct employment as well as indirect growth of services. (Nair J. , 2005) (Dittrich, 2007, pp. 46-9).

■ **Growth of Middle Classes.**

The spectacular boom in software brought increasing visibility to Indian information technology professionals. The societal impact of this was significant in its relationship to popular demand-making. Even as employment prospects in all other sectors were shrinking, the granite, steel and tinted glass offices in Bangalore posed a stark contrast to ill-maintained factories facing falling orders and tighter credit. Youth from middle-class families, encouraged by anxious parents, saw the software sector as the only destination with good prospects in an otherwise dismal scenario.

Social circuits abounded with stories of high starting salaries and children who have been very successful abroad (Benjamin, 2000, p. 36). A promising new urban middle-class of the computer elite emerged in the city. This group, comprising about ten to fifteen percent of the urban population, profited from the new Bangalore, increasingly adopted westernised lifestyles and consumption habits and were now in the position to influence the city's political and development agenda.

▪ **Corporate Visions of Singapore.**

Urban efficiency was the mantra of the nouveau elite, who saw Bangalore in a race not just with Hyderabad and Chennai but with Manila and Kuala Lumpur to sustain the city's competitive advantage and investment flows (Harikrishnan & Mahendra, 2008) (Shaw & Satish, 2007, p. 160). When the new Congress Government was sworn to power in 1999, these aspirations received forceful articulation. The then Chief Minister declared his intention of turning Bangalore into another Singapore. This was a fresh attempt at moving to centre stage the economic and technological aspects of planning which may be at odds with social, community, and ecological uses of city land. At the Bangalore Summit, the corporates were in command; the elected corporators attended but remained spectators than genuine participants in the exercise (Nair J. , 2000) (Menon, 2005) (Kamath, 2006). For all its enthusiasm, this obsession of technocrats, media, and policymakers is an inadequate response to the very real problems of metropolitan planning. Rather than building up a meaningful planning mechanism that takes account of the diversity of city economies and respects the multiplicity of claims to the city, it takes refuge in an imaginative bankruptcy that finds it difficult to separate the global and the local, and simplistically borrows ideals from other cultures. For a while now, Bangalore has been talked of as an enclave, a hi-tech island that must conform to internationally acceptable standards. The government has eagerly sought opportunities to welcome private investment, domestic and foreign. Being a part of the world city network brings in many advantages for cities in developing countries and the largest Indian cities have started competing with each other to gain a foothold into this network (Taylor et al, 2002).

VII. THE 'OTHER' BANGALORE: WHOSE GROWTH IS IT ANYWAY?

Bangalore is the showpiece of the success of the new economy, defining the city as 'the site of a new and confident definition of urban space by capitalism' (Nair J. , 2005). Yet the shining city masks an unhealthy process of unplanned growth and development, and associated infrastructure and service deficiencies. Its integration into the highly competitive framework of inter-city linkages produced profound processes of urban restructuring creating new disparities and a highly fragmented and polarised urban society. While a relatively tiny stratum of affluent society benefits from the transformation, the living conditions of the majority of the urban population are subject to deterioration. The livelihoods of the most vulnerable groups are most exposed to risks and adverse future developments. The internationalisation of Bangalore has had mainly negative impacts on the urban poor. The transition from small town to metropolis is fitfully managed; the reforms undertaken since the 1990s, though resulting in a high economic growth, have also given rise to critical social and environmental concerns. These include unequal employment and income distribution, emergence of new forms of vulnerabilities, weakening state regulation, deteriorating governance, the paradoxical presence of poverty, imbalanced demographics and intra-city disparities (Nair, 2005) (Sood, 2007). Despite the concerns of the corporate sector, and the coverage in the media, substandard roads and traffic congestion are only one part of the infrastructure crisis facing the city. A study conducted by Solomon Benjamin reveals a startling picture of lopsided infrastructural development. Infrastructural investment in poor, working class slums in central, west and south Bangalore differs by a factor of 1: 40 when compared to Whitefield, an area with a concentration of software companies and large-residential layouts. With off-site investments such as dedicated expressways, the ratio becomes 1: 60. Benjamin says: "A key problem we witness today in globally connected cities such as Bangalore is that of unequal access to public investments for infrastructure and services. The vast majority of small firms and trades, despite providing almost 80 percent of the jobs, remain in 'shadow areas where residential and work environments lack even basic infrastructure and services. In contrast, the hi-tech areas have access to publicly provided and subsidized high-grade infrastructure, services and land. (Menon,

2005). Slums have a clandestine presence in planning documents, their dubious legal status sometimes inviting 'clearance' as an official response.

VIII. SMALL VERSUS BIG: A FRAGMENTED ECONOMY.

There are two distinct economies in Bangalore, the corporate global and the small local economy. The former comprises the enclaved high-income neighbourhoods, the corporate business centres of MG Road, and the exclusive urban design mega-projects. The latter comprises a much more diffused set of services and small-scale manufacturing- centred local economies providing a bulk of employment generation. The local economies provide most of the population particularly poor groups with their livelihoods. They mostly develop outside the master planned areas, with diverse and complex economies and land tenure forms within which poor groups find accommodation and work. Their links with government are through local government, the City Corporation and its councillors and lower level bureaucracy. The corporate economies include the information technology industries for which Bangalore is well-known. Most of their links with government are with state and national parastatal agencies that control most of Bangalore's development functions and have access to most government funding. But there is little local representation in these agencies. The institutions and processes of governance in these two economic settings are quite different; so are their political and economic affiliations. Notwithstanding, there is an important relationship between the two. The corporate economy provides sustenance for the local economies in terms of employment. Conversely, the informal economies subsidise the corporate ones because of low wages and missing protective labour legislation and are thus preserve the position of the corporate economies in the highly competitive world market environment. Most local economies are located in two main areas: the two city centres (housing the wholesale and retail markets) and the mid- and peripheral zones. These areas, serving as the city's employment nodes, are almost always non-master planned, which allows them to be of mixed use. The mid- and peripheral zones concentrate 70 percent of the industries, almost all in smaller privately created industrial estates or in mixed use residential areas. The peripheral areas, with basic levels of infrastructure and services, also serve as bedroom communities with residents travelling to the main city for employment. There is a startling scale and diversity of employment generation. The economies are constituted by small and tiny enterprises, distinctive in the range of products manufactured or traded. Enterprises cluster to share functional links. In contrast, higher end corporate economies locate in and around MG Road, Bangalore's corporate downtown, or within master planned enclaved neighbourhoods located mostly in the south and, more recently, in east Bangalore (Benjamin, 2000, pp. 38-40). As Dittrich comments "The selective internationalisation of Bangalore produces 'winners' and 'losers' of urban society. (Dittrich, 2007, p. 56).

IX. POLITICS, POLICY AND PLANNING

▪ The Politics of Infrastructure.

Understanding the divide in Bangalore requires an understanding of the governance processes through which different groups compete for public investments and support. The contestation of the groups is a highly politicized process. In considering the role of the state and political actors, it is important to note that (a) the role and priorities of the state have changed over the years keeping pace with Bangalore's transition (b) the state itself is not a unitary, homogenous entity. Even at the level of the sub-national state, it operates at the state government, local body and parastatal agency level, and each of these mediate with each other and in the lives of the citizenry with varying and differential impact. (Benjamin, 2000, pp. 54-6). Bangalore's transition to metropolitan status paralleled a shift in the character of the state. In the early phases of the city's economic history, the developmentalist role of the state was evident in the preponderance of the public sector, controls on consumption, and redistributive mechanisms. This began to change with state encouragement to private investment and the increasing influence of the private corporate sector in influencing state policy. Nair comments with intended irony that the state apparatus which restricted consumption in its redistributive role in the 1970s had sufficiently altered in 1996 as to put to use the police force to protect Kentucky Fried Chicken outlets from attacks of Kannada activists, thus 'protecting the rights of those who wished to consume branded chicken' (Nair J. , 2000). This change in state priorities mirrored a shift in the

construction of electoral constituencies. In the 1970s and 1980s, the electoral representation of core city constituencies was the stronghold of left-wing trade unionists; a trend which gave way to those who founded their careers in the real estate business, a group that directly benefited from Bangalore's growth (Nair J. , 2005). The entry of corporate actors into the public sphere was not through the conventional electoral route but by a more nebulous route of governance Home-grown Bangalore-based IT giants such as Infosys Technologies made their presence felt in the city's political environment. They became the driving force behind civic governance initiatives such as the Bangalore Agenda Task Force, which pressed for the implementation of a public private partnership model in areas of governance that were earlier under exclusive government control(Yahya, 1-21).

■ **The Clamour for Megaprojects.**

The concept of the information technology sector as a basis for modernization captured the imagination of Bangalore's political and bureaucratic elite. Slogans claimed that Bangalore would compete not with its neighbour Hyderabad but with the real Silicon Valley in California. These slogans translated into large public investments and fiscal policy. The main justification is to make Bangalore 'globally competitive'. Corporate information technology groups were quick to point out the deficiencies in infrastructure in Bangalore and to demand ever more dedicated investment by the state to promote growth; their views were amplified, nationally and internationally, by the corporate media. It was pointed out that the hidden costs of operating in Bangalore made it more difficult for multinational corporations to move into Bangalore. Infrastructure issues were the big headaches, including poor water, irregular power, potholed roads, and non-existent parking spaces. State government response focused on instituting dedicated investment for mega-projects (Heitzman, 1999, pp. PE-8). "Let us go back to the basics in this controversy. . . The three major IT belts, the Hosur Road corridor, the Whitefield Road corridor and the Peenya corridor, support 2.5 out of the seven million residents of Bangalore. Sixty per cent of the State's revenues come from Bangalore. Shouldn't it get a part of that for its own improvement?"(Chief Financial Officer, Infosys in an interview (Menon, 2005). The official response to the IT lobby's demand for better roads and infrastructure was quick and generous. The Infrastructure Policy 2007 was launched 'to provide a fair and transparent policy framework that helps facilitate the process of economic growth and encourage public-private partnership in upgrading, expanding and developing infrastructure in the state'. It emphasised dedicated investments for mega-projects such as: the billion rupee 'mega-city project' which focuses on modernising Bangalore by urban renewal and urban design; a new international airport at Devanahalli; flyovers, ring roads and other grade separators, provision of fibre-optic services in high value industrial areas; of the six-lane high-speed corridor expressway between Bangalore and Devanahalli; upgrading airports at Hubli, Belgaum, Mangalore and Mysore; Greenfield airports at Hassan, Gulbarga, Bijapur and Shimoga; the Bangalore-Mysore Infrastructure Corridor , a six-lane 111-km highway connecting Bangalore and Mysore; the 138.9 square kilometre IT corridor; a 109 km long eight lane Rs. 1100 crore peripheral ring road which will be the longest highway in the country and the high-tech city beyond Sarjapur. Land for these projects was mostly acquired by the KIADB at very low rates. Meanwhile, the publicly sponsored mega-projects do little to support the local economies; and may even serve to disrupt them (Benjamin, 2000, p. 35). In order to make way for the newly constructed elevated expressway, many of the specialized trades operating in the vicinity were moved out in order to de-congest the roads and increase traffic speeds. What used to be an intensive support system is rapidly becoming disbanded with serious consequences for the poor. The disruption in the local economy has also meant that remittances to rural areas have fallen. Walking around the pathways that have been disrupted by the construction and demolition, a common refrain from squatters: "most now realize that they are the dirt to be cleaned off" (Dittrich, 2007, p. 51) (Sharma, 2009) (Menon, 2005) (Benjamin, 2000, pp. 36,48-9,50-51.).he financial implications of mega-project funding on local bodies are severe. The future burden of maintaining what was constructed by these funds falls directly on local bodies. This would have consequences for funds meant for upgrading basic infrastructure like drinking water, sewage lines, drains and basic roads which would be reduced as a consequence. Meanwhile governmental investments in providing shelter and affordable housing to the urban poor have been substantially reduced and the protection of tenants gradually removed (Dittrich, 2007, p. 51) (Benjamin, 2000, p. 36).

■ **The Political Backlash.**

Notwithstanding the underpinnings of links between government and the new economy, the corporate-driven program of governance and infrastructure development experienced setbacks. The excessive attention the then

government paid to the urban sector, particularly the demands and requirements of the information technology industry, at a time when agriculture was going through a serious crisis, cost the Congress dearly in the 2004 elections. The State faced a severe drought in three out of the five years of Congress rule, but drought relief was inadequate and mismanaged. The government's attitude towards the phenomenon of farmers' suicides is seen as callous, particularly the delay in payment of compensation to the families of suicide victims. The extent of popular disenchantment with the government's performance found expression in the voting. The Janata Dal (S) carried the mantle of the 'third front' in Karnataka, and consolidated its position. The coalition political leadership that came to power did not intend to repeat the mistakes of surrendering policy-making to the corporate sector or diverting civic resources to build infrastructure (Menon, 2004) (Yahya, 1-21). As a former Deputy Chief Minister said: "We cannot have islands of prosperity in an ocean of poverty" (Menon, 2005). Still, the neoliberal outward oriented discourse of the corporate sector, and the counter-discourse from below, are recurrent, at times simultaneous phenomena in Bangalore's public domain.

- **Local Politics and Agency**

There is a close connection between the local economies and local politics. Conventional public policy perceives 'the poor' as passive recipients of good or bad legislation. But, as we have seen, poor groups operate in the same arena as wealthier groups; both attempt to shape economic settings and institutions to benefit themselves. Poor and rich groups equally evolve complex political alliances, and in doing so influence institutional structures and policy. Messy chaotic settings where small informal economies flourish generate employment for the poor, provide proximity to demand, markets and suppliers, and open up opportunities for financial and sub-contracting links. Social connections are built, enabling demand-making discourse; local society evolves apace with the local economy; which in turn, shapes local politics' (Benjamin, 2000, pp. 38-9). The political setting for such settings for local economies is provided by the municipal corporation, with councillors and lower level bureaucracy playing a key role. The conventional middle-class, as well as bureaucratic view, tends to dismiss local political processes as 'vote-bank' politics, centred on patron-client relationships, exploitative of poor groups by the local elite, non-transparent, corrupt, and feudalistic. But to a politically trained eye, the direct exchange between a slum dweller and her councillor or MLA (member of the state legislative assembly) is a give and take relationship, an instance of direct democracy at work. "It might be more productive to rethink the workings of democracy under conditions of extreme poverty and differences of wealth, where the democratic processes are decidedly different from the ones these observers are used to..." (Dewit in Benjamin, 2000). This is because of the representation system, and the ethnic and social connections that exist between the lower level bureaucracy, local polity and local economic interests.

- **The Role of Parastatals**

A second critical issue relates to the relationship between parastatal agencies and local bodies. Several scholars of public administration have written extensively on how local bodies are disempowered by parastatal agencies such as development authorities who take over prime development functions that were previously at the local level, leaving local bodies with maintenance functions. Parastatal agencies have a formative role in the shaping of corporate settings, and have little or no local representation. The Bangalore Development Authority and the Karnataka Industrial Area Development Board have practically no local level representation; their governing committees are constituted mostly of bureaucrats under the direct control and supervision of the state and national government. The political representatives are appointees of the state level party in power; and they do not necessarily represent the constituency under the jurisdiction of the development authority. Irrespective of political affiliations, various chief ministers have maintained a direct control over these key developmental agencies. One Chief Minister was quoted as saying that if it was not for the constitutional protection to local bodies, he seriously considered superseding the city's elected body, so as to get on with his job of modernizing the city. Along with this centralized control comes access by the elite to key decision making. Perceiving a major problem as one of 'political interference' from lower level political circuits there is an active effort to de-politicize urban management, alienating local society and distancing decision making from poorer groups, while opening a direct channel to corporate interests. For instance, as part of an effort to shape Bangalore into a Singapore and as a setting for a Silicon Valley, specific organizational interventions such as recruiting senior people from the IT industry to head a newly constituted committee called the

Bangalore Metropolitan Task Force to decide on infrastructure and other key city management issues; and emphasising e-governance to reduce corruption. An urban management structure centred on parastatals is most conducive to this effort (Benjamin, 2000, pp. 44-5).

X. URBAN SPATIAL ARCHITECTURE AND DESIGN.

In this section we examine the spatial aspect of Bangalore's transformation; how the socio-economic changes have impacted on the cityscape, thus making city architecture and land developments reflective of the changing profile of the city.

- **A high rise city**

Apartments recast the concept of the ideal home as a standalone house on a site. Developers from India's two wealthiest cities, Mumbai and Delhi entered Bangalore's real estate market to convert large plots with colonial bungalows into multi-storey apartment blocks. They emphasized the attractions of apartment-style living in terms of a centralized location and enhanced safety. Apartments were increasingly sought as an investment by many who saw Bangalore as a possible refuge from the pressures of metropolitan life elsewhere in the country, or sometimes as a second home. Bangalore's high-class residential neighbourhoods, rather than catering to elderly elite from the senior bureaucracy and manufacturing industry, housed much younger information technology couples. Every builder of upper middle class housing in Bangalore promoted the idea that what he is offering on sale is not mere housing but a 'lifestyle'. The conveniences and luxury services offered by builders evoke a variety of images that would appeal to the city elite. First, there is the invocation of a pastoral idyll in such names as 'Whispering Meadows', 'Whitefield Bougainvillea', 'Laughing Waters', or 'Nisarga'. Then there are images of lush green meadows, babbling brooks, and nature apart from toil in the city. Second, there is the invocation of European history, in such names as 'Belvedere', 'Windermere', or the classic 'Prestige Acropolis'. Finally, there is the evocation of sentiments of peace and tranquility (Nair, 2005).
- **Occupants of fear: gated communities**

Builders now offer privatized luxury and a satisfactory negotiation of scarce public goods in the city, such as power or water supply, while guaranteeing new standards of safety. Beneath the list that bundles several services and conveniences together are the unspoken advantages of paying up for these gated cities. They are an escape from the travails and sheer unpredictability of plebeian democracy, and provide for new modes of sociality centered on the clubhouse, gym, swimming pool, and shops where there is a guarantee of homogenous social class and undisturbed enjoyment of privilege. The image of the white middle-class person is conspicuous in the lavish real estate brochures, at once the ideal consumer of these living pleasures and a reminder of the ideal towards which successful housing must strive. What is therefore offered here is a further item of consumption, relieving the middle-class buyer from the tedium of seeking permissions, negotiating bribes, or securing licences. Banished from these locations are the footpath encroachments, the occasional intrusive noises of street festivals or protests, and the untidy life of the street corner. The 'archisemiotics of class war' Mike Davis says, keeps out the masses by a number of visual, legal, and physical signs. Protected by architecture of fear-high walled compounds, 24-hour security, and restricted single point access-occupants find a refuge from the hurly-burly of political or social life, and a retreat into uninterrupted consumption (Nair, 2005). Privilege in the city wears a guarded look, so that a new architecture of fear is materialized in the gated, high-security enclaves which guarantee its occupants of life safe from the disorders of the streets, 24-hour security systems, and high and impenetrable walls with only one point of entry, once more reducing the occupants encounters with the unexpected. It is a city of fear, not unlike Night Shyamalan's images of imagined terror in 'The Village' (Dittrich, 2007, p. 51) (Benjamin, 2000, p. 38). Robert Sommer's words are worth recalling in this context: 'the deterioration of dominance relationships within a social system leads to a greater reliance on territorial rights. A society compensates for blurred social distinctions by clear spatial ones-physical barriers, keep out signs and property restrictions'.

XI. CONCLUSION

Bangalore's unprecedented rise to metropolitan status fired the technocratic and political imaginations to dream of a brave new world. Yet, even as the city grew, it was evident that its growth needed much more than the English educated netizen to sustain it. The compulsions of development necessitated a concomitant growth of migrant working class to keep it going. This offshoot altered the previously strong middleclass homogenized profile of the city. These groups not only nurture small localized economies that are in contrast to the global corporate IT led economies; they also bring a whole new range of political practices, processes and discourse that are at variance with the neo-liberal agenda. In its new metropolitan phase, therefore, the city has become the ground on which broadly two contending forces stake their claim: on the one hand are the newly renovated citizens, who are amply aided by a technocratic vision of change offered by the leaders of the new economy. On the other hand are those, including citizens-in-the-making, for whom democracy has come to have a different meaning in the urban setting. There may perhaps be no decisive victory for either of these forces in the short run given the heterogeneous composition of power in the city, although the well planned, legally unambiguous and increasingly legible city will gain visibility in the decades to come.

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Marginal Intra-Industry Trade and Adjustment Costs: The Australian Experience

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Abstract

The objective of this research is to investigate labour market adjustment associated with changes in Australia's trade pattern over the period 1992-2000. Specifically the focus is on the so-called smooth adjustment hypothesis (SAH) which posits that, compared with inter-industry trade, intra-industry trade (IIT) expansion is associated with relatively lower factor adjustment costs. A dynamic panel data approach (GMM-System) is employed. We find that there is a negative correlation between changes in employment and increased IIT. This result provides support for the SAH. Given the rise in IIT as a proportion of Australia's overall trade during the period under review, the adjustment in labour markets stemming from trade liberalisation at that time is likely to have been less than otherwise expected.

Key words: marginal intra-industry trade, labour market adjustment, dynamic panel data.

1. Introduction

Trade liberalisation and the resultant shifts in a country's trade patterns will be accompanied by significant resource reallocation effects. Transitional adjustment costs in factor markets will arise when markets fail to clear in response to changes in supply and demand conditions. More particularly, in labour markets there may be temporary unemployment and factor price disparity arising from price stickiness and the fact that resources are not freely mobile within an economy, at least in the short term. Balassa (1966) was the first to draw attention to the fact that the adjustment pressures stemming from trade liberalisation will depend on the extent to which the changes in trade which is engendered is inter-industry or intra-industry in nature. The widely held smooth adjustment hypothesis (SAH) proposes that a rising share of intra-industry trade (IIT) will be accompanied by lower factor adjustment costs, particularly in respect of labour market disruption (Brülhart, 2000). With intra-industry adjustment, workers move within rather than between industries,

While there has been increased focus in the literature on this issue of adjustment costs associated with IIT in recent years, it has tended to have very much a European focus. Very little work has addressed the Australian experience.

The results presented here tend to support the SAH which suggest that the impact of trade liberalisation policies over the 1980s and 1990s, which lead to a rising share of IIT for Australia, were relatively less disruptive of labour markets than might have been expected. This finding has implications for future policy considerations in this area.

The remainder of this paper is organised as follows. The next section addresses the theoretical issues related to adjustment and IIT. A review of recent developments in Australia's IIT trade is then given, followed by discussion of methodological issues associated with the measurement of IIT. Details of the dynamic panel data approach employed and the model specification are provided together with the empirical results and discussion.

2. Adjustment and Intra-industry Trade

It has been argued that the level of adjustment costs associated with trade liberalisation will depend on the extent to which any trade expansion is intra-industry rather than inter-industry in nature (Hamilton and Kniest, 1991; Greenaway et al., 1994; Brülhart and Elliott, 2002). Adjustment costs occur when markets are slow to respond to changing supply and demand conditions and in the context of a changing trade environment are likely to be particularly important in labour markets, with unemployment arising as a result of price rigidities and switching costs due to job search, re-location and retraining (Ferto and Soos, 2010).

Given that IIT tends to be characterised by reallocation of resources within industries while inter-industry trade is more reflective of a reallocation of resources between industries, Brülhart (1994) argued that increases in exports in a particular industry over a given period matched by increases in imports will not require significant movements of factors into or out of the domestic industry in question. To the extent that workers have accumulated human capital that allows for ease of portability between firms within the same industry, adjustment costs will be expected to be relatively less for matched changes in trade compared to a situation where labour is forced to move from a contracting importing industry to a different expanding exportable industry (Lovely and Nelson, 2000). Brülhart and Elliott (2002) provide a theoretical exposition drawing on the specific factors trade model which yields the so-called “smooth adjustment hypothesis” (SAH) inferring that trade expansion that is IIT in nature will be accompanied by relatively smooth resource reallocation. The theoretical literature, however, falls short of providing a clearly specified framework for empirical modelling.ⁱ

3. Policy Reform and Trade Patterns in Australia

Australia experienced significant reductions in trade protection for the manufacturing sector during the period of the mid to late 1970s and again from 1988 when a program of phased reductions in nominal tariffs was introduced. Revenue duties were also removed along with quotas for the manufacturing sector at this time. The average nominal rate of protection for Australian manufacturing had fallen from 13 per cent in the mid 1980s to 9.6 per cent in 1989-90 (Menon, 1994). By mid-2001 the rate was down to 4.4 per cent (WTO, 2002). The average rate of effective protection for manufacturing meanwhile, fell from 16 per cent in 1989-90 to 4.8 per cent in 2000-2001. The resulting increase in global competition resulted in significant increases in imports (and exports) of manufactured goods and was reflected in a sharp increase in Australia’s IIT from the mid-1980s through to 2000 (Sharma, 2004; Harjono, 2002). While Gaston (1998) has observed the adverse effect on manufacturing employment arising from trade reforms in Australia, to the extent that trade expansion over the period of the 1990s was more IIT in nature, then the labour market pressures would be relatively less than might be expected, assuming the SAH. Moreover, this would have implications for the efficacy of further trade liberalisation.ⁱⁱ

4. Measuring Marginal Intra-industry Trade

The Grubel and Lloyd (1975) index of IIT, or a variant, underpins much of the discussion of changing trade patterns in the literature. However, it is a static measure which captures the trading pattern at a point in time; changes in the index do not adequately reflect changes in the flow of goods traded over time (Hamilton and Kniest, 1991; Menon and Dixon, 1997). The measure also fails to address scale effects and therefore does not allow for comparisons across industries of different size. Given that adjustment costs are dynamic in nature a measure of marginal intra-industry trade (MIIT) is needed to capture changes in the structure of trade. Lovely and Nelson (2002) provide a useful survey of the various theoretical and empirical approaches that have been undertaken in this area. One particular “dynamic” measure of the share of IIT in new trade was proposed by Brülhart (1994) and is widely used in empirical work. If X and M denote exports and imports, respectively, of a particular industry grouping, then this index is given by:

$$MIIT = 1 - \frac{|\Delta X - \Delta M|}{|\Delta X| + |\Delta M|}$$

The Brülhart index is a transformation of the Grubel and Lloyd (1975) index and takes values between 0 and 1. A value of 0 indicates that the marginal trade in the industry is exclusively of the inter-industry trade and a value of 1 represents marginal trade that is entirely of the intra-industry type. The index relates to the share of IIT in trade changes over a designated time period and the approach employed in this study is to use this index based on annual changes.ⁱⁱⁱ

Empirical studies in this area have differed with respect to the measures of labour market adjustment that have been used. They encompass a range of proxies including changes in employment, output and numbers

of establishments, job turnover rates, unemployment duration and wage variability (Brülhart and Elliott, 2002; Lovely and Nelson, 2002).

5. Econometric Model

There is no formal theoretical model which dictates a particular econometric specification in investigating the labour market adjustment associated with trade liberalisation. There is no clear suggestion as to what control variables to include in any fully specified model. Methodological approaches in empirical work have varied, for the most part looking at simple correlations or looking to control for a small set of other factors in an OLS framework. A review of recent studies in the area by Erlat and Erlat (2006) finds mixed support for the SAH.

The current study applies a dynamic panel data approach. The GMM system (GMM-SYS) estimator which is used addresses the problems of serial correlation, heteroskedasticity and endogeneity among explanatory variables which can arise in static panel data models. A system of equations in both first-differences (with lagged levels as instruments) and levels (with lagged first differences of the series used as instruments) are combined. This system estimator was developed by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998, 2000). While an alternative first-differenced GMM (GMM-DIF) estimator has also been suggested by these authors, the GMM-SYS estimator is considered to exhibit superior finite sample properties where there are lagged effects (Bond, Hoeffler and Temple, 2001).

The good performance of the GMM-SYS estimator has led to its wide application in applied panel data studies where series are persistent and data are characterised by relatively small number of time periods (Bun and Windmeijer, 2007). Employment changes are a dynamic phenomenon with persistent, lagged effects likely. The use of a lagged dependent variable can provide information regarding short run and long run adjustment effects (Ferto, 2009) while the introduction of a lag structure for independent variables allows for an enhanced dynamic estimation process. Little use has been made of this approach in empirical work in the trade area to date.

Data

All data are obtained from World Bank Trade and Production database. The data includes the manufacturing sector and is at industry level as measured at the three-digit level of the International Standard Industry Classification in US dollars. The full sample contains 27 industries and covers the period 1993-2000.

Dependent Variable

Industry level employment changes are considered as an inverse proxy for adjustment costs.^{iv} Brülhart (2000) has suggested using the absolute value of employment changes in a particular industry ($\Delta EMPL$) since expected changes in total employment would be indeterminate in the specified model. According to the SAH it is expected that $\Delta EMPL$ will be negatively related to MIIT. The variable is defined as follows:

$$\Delta EMPL = 2 \times \frac{(EMPL_t - EMPL_{t-1})}{(EMPL_t + EMPL_{t-1})}$$

Explanatory Variables and Development of Hypothesis

Following the research literature we have proposed the the following hypotheses:

Hypothesis 1: A positive correlation between change in apparent consumption and change in employment is expected. The variable $\Delta CONS$ represents the change in domestic and external demand. It is the absolute value of the change in apparent consumption ($C = Q + M - X$) between t and $t - n$, where Q a measure of industry output and M and X are imports and exports respectively for that industry.

Fertö (2009) found employment changes to be positively related to consumption changes in a study of the Hungarian food industry. Brülhart and Thorpe (2000) also found a positive relationship looking at the manufacturing sector in Malaysia.

Hypothesis 2: There is an ambiguous sign between change in labour productivity and change in sector employment. An increase in productivity may lead to labour substitution or alternatively it may be an indicator of an expanding industry with growing employment.

The variable Δ PROD is the absolute value of the change in labour productivity at industry level. In a study of Turkey Erlat and Erlat (2006) found a negative relationship, while Fertö and Soós (2010) looking at Hungary and Poland and Brülhart and Thorpe (2000) in the case of Malaysia, found the opposite effect.

Hypothesis 3: The marginal intra-industry trade has the lower the adjustment cost.

MIIT is marginal intra-industry trade is measured by the index of Brülhart (1994). According to the SAH (Brülhart 2000) we hypothesise a negative relationship between marginal intra-industry trade and the changes in employment.

Hypothesis 4: Increased trade will induce enhanced competition and hence increased structural adjustment pressures on firms (Brülhart, 2000). Consequently a positive relationship is expected between trade openness and employment changes. The variable TRADE is the absolute value of the change in exports plus imports between t and $t - n$. Studies by Cabral and Silva (2006) and Fertö (2009) have found significant positive relationships.

Model Specification

Constrained by data on individual worker movement we follow Brülhart and Thorpe (2000) and Erlat and Erlat (2006) to study the relationship between marginal intra-industry trade and labour market adjustment:

$$\text{Log}|\Delta\text{EMPL}|_{it} = \beta_0 + \beta_1 \text{Log}|\Delta\text{EMPL}|_{it-1} + \beta_2 \text{Log}\Delta\text{CONS} + \beta_3 \text{Log}\Delta\text{PROD} + \beta_4 \text{LogMIIT} + \beta_5 \text{LogTRADE} + \eta_i + \varepsilon_{it}$$

All variables are in the logarithm form; η_i is the unobserved time-invariant specific effects; δ captures a common deterministic trend; ε_{it} is a random disturbance assumed to be normal, and identically distributed with $E(\varepsilon_{it})=0$; $\text{Var}(\varepsilon_{it})=\sigma^2 > 0$.

6. Empirical Results

Table 1 report on the GMM-System estimator. The Arellano and Bond test for Ar(2) indicates that the equation presents consistent estimates, with no evidence of second-order serial correlation and with the instruments not correlated with the residuals. The Sargan test shows that there are no problems with validity of the additional instruments used in the estimation. The Windmeijer (2005) finite sample correction is performed to address any issues due to the unbalanced panel.

The instruments in levels are $\text{Log}|\Delta\text{EMPL}|$ (3,7), $\text{Log}\Delta\text{CONS}$, $\text{Log}\Delta\text{PROD}$ (3,7), $\text{Log}\Delta\text{CONS}$ and LogTRADE (3,7) in the equations in first differences. For levels equations, the instruments are first differences, with all variables lagged t-2. As show in table 1, all explanatory variables are significant ($\text{Log}|\Delta\text{EMPL}|_{it-1}$, at 5%, $\text{Log}\Delta\text{CONS}$, at 1%, $\text{Log}\Delta\text{PROD}$ at 5%, LogMIIT at 1%, and LogTRADE at 5% significance level).

Lagged changes in employment ($\text{Log}|\Delta\text{EMPL}|_{it-1}$) are seen to have a significant and positive effect on changes over the current period, a result which is in accord with evidence reported by Fertö and Soós (2010) for Hungary and Poland. The coefficient of the absolute value of the change in apparent consumption ($\text{Log}\Delta\text{CONS}$) has the expected positive sign. There was no *a priori* expectation regarding the link between changes in productivity ($\text{Log}\Delta\text{PROD}$) and employment. The observed positive relationship is in line with results observed in some other studies (Brülhart and Thorpe, 2000; Fertö, 2009; Fertö and Soós, 2010).

The proxy LogTRADE which captures increased openness is seen to exhibit the expected positive relationship with employment changes. There is support for the SAH given that the coefficient for the index of marginal intra-industry trade (LogMIIT) has the predicted negative sign and is highly significant.

Table1: Employment Changes, Marginal Intra-industry Trade, and Adjustment Costs: GMM-System Estimator

Variables	GMM-SYS	Expected Sign
Log Δ EMPL $_{it-1}$	0,263 (2,15)**	(+)
Log Δ CONS	1,13 (4,61)***	(+)
Log Δ PROD	0,33 (2,40)**	(+/-)
Log Δ MIIT	-1,51 (-4,65)***	(-)
LogTRADE	0,59 (2,48)**	(+)
N	149	
Arellano-Bond test for Ar(2) (P-value)	0,223	
Sargan test (P-value)	1,000	

The null hypothesis that each coefficient is equal to zero is tested using one-step robust standard error. T-statistics (heteroskedasticity corrected) are in round brackets. P-values are in square brackets; ***/**-statistically significant at the 1%, and 5% levels. Ar(2) is tests for first-order and second-order serial correlation in the first-differenced residuals, asymptotically distributed as $N(0,1)$ under the null hypothesis of no serial correlation (based on the efficient two-step GMM estimator). The Sargan test addresses the over-identifying restrictions, asymptotically distributed X^2 under the null of the instruments' validity (with the two-step estimator).

7. Conclusion

This paper addresses the issue of labour market adjustment in the Australian manufacturing sector following a period of significant trade liberalisation which commenced in the late 1980s. Over the 1990s Australia experienced significant structural change in response to the shift in trade patterns engendered by the policy reforms. It has been noted that during this period the share of IIT in Australia's trade rose significantly. To the extent that the share of IIT in trade changes has been rising, then it is hypothesised that the adjustment pressures in labour markets will be relatively less than would otherwise be the case. This stems from the SAH which is predicated on the notion that trade expansion which is IIT in nature entails relatively smoother resource reallocation, occurring within industries as opposed to between different industries and as a result, there are expected to be lower transitional adjustment costs. There has been only limited investigation of the evidence for the SAH in the literature, particularly in the Australian context. This study goes directly to this issue as evidenced by recent adjustments that have occurred in Australia's manufacturing sector.

The results obtained do lend support to the SAH while controlling for other factors expected to be important influences on labour market outcomes. As expected, growth in consumption and productivity are seen to positively impact on employment changes. Increased trade also has an expected influence and is found to also be directly related to greater adjustment costs as measured. Changes in employment associated with trade liberalisation and trade expansion over the period of the study are found to be inversely related to increases which are IIT in nature. This outcome conforms to the prediction based on the SAH.

There are implications for policy makers in this outcome to the extent that the adjustment pressures accompanying further trade liberalisation in manufacturing will likely be lower than expected. The results presented here are indicative and further empirical investigation in this area is suggested. Studies involving IIT have sought to separate out this type of trade into vertical and horizontal components. The implication for studies of adjustment is that factors may be relatively less mobile within vertically differentiated industries compared to horizontal differentiated industries due to differences in skill requirements. Any analysis would benefit, therefore, from such disaggregation of IIT flows. The proxies which are required of necessity to measure adjustment in labour markets are also problematic. Data limitations have been a constraint on efforts to capture fully the nature of adjustments that can arise. Further comparative work, looking at other periods for Australia, as well as the experience in other countries, will also help understanding the adjustment impacts of policies directed towards greater trade liberalisation.

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For a complete list references, please contact the author(s).

ⁱ Lovely and Nelson (2000; 2002) adopt a general equilibrium modeling approach which incorporates changes in domestic consumption as well as production resulting from trade liberalisation. They conclude that the relationship between MIIT and factor market adjustment suggested by theory is complex and not unambiguous in terms of net impacts.

ⁱⁱ Marks (2010) has noted that IIT changes in response to reduced protection in Australia has differed between the textile and clothing and footwear sector and the motor vehicle industry. While it is suggested there is a

correlation between changes in output and employment growth in these industries linked to the shift in trade patterns, the study stops short of developing a formal model.

ⁱⁱⁱ Brülhart (2000) favors the use of this index based on annual change data when used as a proxy although there is no a priori expectation as to any preferred interval.

^{iv} Measures of adjustment cost that are used in empirical work will be constrained by the availability of data (Greenaway et al, 2002). Brulhart and Elliott (2002), for example, have looked at unemployment duration and wage variability in a study which finds that adjustment costs associated with changing trade patterns in the UK reflect in large part the greater heterogeneity of labour between industries than within industries.

Research and Development (R&D) Cooperation: Economics Foundations of Business Strategy

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Abstract

The purpose of this paper is to present a literature review on the topic of R&D specifically tackling cooperation versus competition amongst firms. Furthermore, the paper aims at suggesting a brief critique by linking the economical perspectives of R&D to other management fields in particular strategic management and organizational theory. In the first section, I will start by reviewing an eclectic set of celebrated journal articles in the aforementioned field.

Literature Review

According to Galbraith (1952), the era of cheap invention was over and Research and Development (R&D) could be only conducted by firms with considerable resources. Nevertheless, R&D requires substantial efforts and resources often not even held by large firms and thus the need for cooperation. The research stream of R&D and cooperation has attracted significant attention in the past few years. Two ways of modeling knowledge externalities have emerged, specifically the AJ and KMZ models.

One of the most influential papers in the area of R&D has been that of D'Aspremont and Jacquemin (1988) in which they introduced the AJ model. The authors contribute to the field by suggesting that firms could cooperate in conducting research but still compete aggressively in the market. To understand the different types of cooperative and competitive agreements among firms, they examine two-stages namely research and the subsequent production strategy. Consequently, the authors scrutinize three possible strategic games by employing the two-stage approach. In the first game, firm *i* and firm *j* decide not to cooperate in both stages thus neither in R&D nor in production (D'Aspremont & Jacquemin, 1988). This type of game has been later described as "Case N" standing for Nash (Amir, 2000). In the second stage, the two firms strategically cooperate at the first stage of R&D but opt to remain competitors in the production stage (D'Aspremont & Jacquemin, 1988). According to Amir (2000), this game could be referred to as "Case C" meaning R&D cartel. In comparison with the complete non-cooperative condition, this game displays an increase in R&D levels as well as an increase in the amount of production. In the last game, firm *i* and firm *j* cooperate in the form of a monopoly by cooperating at both stages (D'Aspremont & Jacquemin, 1988) and considered as the "Case CC" in Amir's (2000) terms. When contrasting with the non-cooperative game, the R&D level in full cooperation is dependent on the amount of spillover. In cases of large spillovers, R&D is higher in the fully cooperative game than in the non-cooperative one. In comparison with game two, we can notice that the level of R&D is higher although the actual quantity produced is lower (D'Aspremont & Jacquemin, 1988). The authors utilize several equations to represent the three games and conclude on the highest levels of social efficiency. The results show that game two increases R&D expenditure and production levels in the case of large spillovers. Given the aforementioned condition, production levels reach a social optimum. On the other hand, R&D levels touch the social optimum in the monopoly game when the spillover level is high. The paper illustrates that the best form of cooperation is that at both stages namely R&D and production especially when spillover effects are high enough (D'Aspremont & Jacquemin, 1988). An underlying assumption is that R&D spillovers represent the benefits transferred from firm *i* to firm *j* in which "leakages in technological know-how take place in final outcomes: Each firm's final cost reduction is the sum of its autonomously acquired part and a fraction of all other firms' parts" (Amir, 2000, p. 1014).

Kamien, Muller, and Zang (1992) introduced another influential model in the field of R&D known as the KMZ model and often considered as an extension of the AJ model. Similar to the AJ model, the authors separate the cooperation process into two stages namely R&D and production. Instead of three games as in the AJ model, the KMZ model suggests four scenarios. In the first scenario termed as "Case N", the firms compete on both stages. The firms make decisions separately on the R&D level of investment in stage one. In the second stage, the costs of production are reduced by the firm's R&D investment as well as spillovers from the competing firms (Kamien, Muller, & Zang, 1992). "Case N" could be considered as an equivalent to the first game in the AJ model

(D'Aspremont & Jacquemin, 1988). The second scenario of the KMZ model is R&D cartelization named as "Case C". Firms merely cooperate on the R&D stage but remain competitors in the second stage. As in the first scenario, the firms benefit from their own R&D cost endeavors and spillovers. Even though the firms coordinate their R&D decisions, they decide not to form a RJV. This scenario is comparable to the second game in the AJ model (D'Aspremont & Jacquemin, 1988). In the third scenario of RJV competition termed as "Case NJ", firms decide to form a research joint venture (RJV) although the R&D expenditures remain uncoordinated. Each firm aims at maximizing its profits independently of the rest of the competitors. Firms remain competitors in the second stage and spillover is increased to the maximum level (Kamien, Muller, & Zang, 1992). In the last scenario RJV cartelization named as "Case CJ", firms create an RJV and thus maximize combined profits by coordinating their R&D efforts and expenditures. In the production stage, firms are still competitors and the outcomes are similar to the third scenario. Based on the results, RJV competition proves to be inferior to the other three scenarios as it causes low levels of technological improvements as well as a high product price. Nevertheless, forming a research joint venture is not always associated with negative consequences. The results have shown that RJV cartelization leads to the highest profits benefiting all of the cooperating firms in addition to the lowest production prices. Firms that opt for cooperation as part of their R&D strategy should follow the RJV cartelization for optimal outcomes. The understanding of spillover differs from the AJ model where "each firm's final R&D investment is the sum of its own expenditure and a fixed fraction of the sum of other firms' expenditures (Amir, 2000, p.1014).

Economists have long employed the AJ and KMZ models interchangeably when modeling knowledge externalities. Amir (2000) presented a comparison of the two models with the aim of highlighting the differences and emphasizing the superiority of the KMZ model in generic situations. To do so, Amir (2000) scrutinizes the models from a quantitative and qualitative point of view. Furthermore, he evaluates the validity of the two models. Quantitatively, the paper manages to empirically prove that the AJ model systematically leads to higher levels of R&D as compared to the KMZ model in all of the different tackled scenarios or games. On the qualitative level, Amir (2000) finds conflicting discrepancies between the two models. For the KMZ, the summation of the firm's own R&D investments and spillovers from competing firms result in a decreased spillover rate. The results of the paper show that the above is not applicable for the AJ model (Amir, 2000). In the validity check, the author finds that the KMZ model is fully valid whilst the AJ model is not completely valid specifically in the case of high spillovers. In conclusion, the AJ model could be useful in particular situations for instance to explicate the emergence of technology parks. In contrast, the KMZ model is more appropriately employed as a generic model (Amir, 2000).

As we can notice from the above brief review, the role of cooperation in R&D has been acknowledged in previous literature. However, an important question remained unanswered at that stage regarding the level of expenditure in the different cooperation scenarios. In his empirical paper on German service firms, Kaiser (2002) aims at addressing whether cooperating firms spend less, the same or more than non-cooperating firms. In order to do so, the author first investigates the cooperation choices by tackling horizontal versus vertical cooperation. Horizontal encompasses cooperation with competitors whilst vertical includes cooperation with customers or suppliers. Additionally, firms could opt for a mixed type of cooperation involving both, horizontal and vertical. According to the results, RJVs are more prevalent in the latter form of cooperation. Furthermore, the results show that merely horizontal spillovers positively impact the likelihood to cooperate, although displaying a weak significance. Another significant result is that horizontal spillovers display a positive effect on innovation intensity specifically when goods are substitutes and spillovers are at a lower level. Research productivity has also been proved to have a positive effect on RJV formation and R&D expenditures. The more general the R&D approach employed by the firm, the higher the incentive for a firm to form an RJV. In a similar context, generality of the R&D approach and expenditure display an inverse U-shaped effect. Moreover, the results show that market demand fluctuations have no effect on RJV formation or R&D expenditures. Perhaps the main finding of the paper is that cooperating firms spend more on innovation and R&D as opposed to firms not involved in any joint research project (Kaiser, 2002).

Another area of interest in R&D research has been the relationship between R&D cooperation and spillovers. In their paper on spillovers, Cassiman and Veugelers(2002) differentiate amongst two types of spillovers namely incoming spillovers and appropriability. Incoming spillovers stand for the knowledge and information

incoming to the firm from external sources such as competing firms and suppliers, for instance. Conversely, appropriability portrays knowledge and information flowing from within the firm to the public. The results show that the distinction between the two types of spillovers determines the nature of the R&D cooperation between firms. For instance, firms with high incoming spillovers and well-managed appropriation are more likely to cooperate with their R&D efforts. Moreover, firms are more likely to cooperate with research institutes in the case of high incoming spillovers. On the other hand, firms tend to prefer to cooperate with customers or suppliers when appropriation is better. Nevertheless, those firms should be cautious in protecting their information when opting for agreements with customers or suppliers as such cooperative agreements reduce the efficacy of protection measures. The opposite results are observed for research institutes. The main underlying contribution of this paper is the fact that the two different spillover effects should impact the decision concerning the type of R&D cooperation between two firms (Cassiman & Veugelers, 2002).

In order to investigate the cost functions of R&D, Amir, Jin, and Torge (2008) scrutinize the relationship between additive spillovers and returns to scale in R&D. To explicate this relationship, the authors postulate a criterion stating that a joint research is capable of replicating and even being more efficient than the outcome of numerous independent labs with the condition of natural spillovers. Further, they manage to revisit the AJ model by altering the R&D cost function in order to match it with spillovers in the inventive output. Thus after applying the criterion, the authors modify the cost function by first introducing a positive initial marginal cost, adding a fixed cost to the cost function and finally enabling increasing returns to scale. The returns to scale depend on the level of activity, increasing at a low level and decreasing at a high level. Although the results of the study are not necessarily applicable to all industries, they still carry useful implications for R&D policies. For instance when spillover rates are high, the two cooperating firms could profit from economies of scale as a result of R&D endeavors (Amir, Jin, & Troege, 2008).

Literature Critique

After reviewing the literature, the following section aspires to connect the economic point of view of R&D to areas of strategic management and organization theory. The rationale is to link the diverse perspectives to tackle the field from different possible corners thus providing the reader with a fresh and broad impression.

To compete or to collaborate is probably one of the most critical decisions firms have to embark on in various situations ranging from production collaboration to R&D cartels to internationalization strategies (Anand & Delios, 2002). Economically, competing or collaborating is perhaps best elucidated from a game theory standpoint. Analogous with the eminent "Prisoner's Dilemma", firms might decide to fiercely compete on the R&D level despite the numerous incentives to cooperate hence representing perfect Nash equilibrium. In this case, individual profit maximization is the answer to competitors' strategies. Conversely, firms might opt for cooperation as a strategic option thus maximizing profits jointly. In relation to R&D, firms decide to symmetrically commit to cooperation (Suetens, 2005). We can notice that AJ and KMZ, the two most influential models in the area of R&D, are a reflection of game theory as they present several possible "collaboration versus competition" scenarios.

The significant influence of the two models has not stopped severe criticisms from emerging. For instance, Henriques (1990) and Amir (2000) argue that the AJ model is only valid in the case of high spillovers. Furthermore, the AJ model could be of use merely in an attempt to explicate the emergence of technology parks such as Silicon Valley (Amir, 2000). Although technology parks are not the most important source of innovation, recent studies have shown that location in fact is a crucial innovation engine. The old school of thought has often focused on the internal factors behind innovation such as the resources to innovate and commercialize new technological advances. Yet, recent ideologies have aimed at equating the magnitude of the internal force with that of external forces. This school of thought highlights the role of location as a crucial incubator of innovation. A favorable innovative environment could consist of linkages with educational and research institutes, high vertical and horizontal spillovers and a conglomerate of scientists and field experts. Recent studies have shown that countries with favorable innovation environments are much more likely to innovate than their counterparts. This carries implications for firms deciding on the optimal strategic game. Opting for an R&D location should be based on

advantages related to spillover rates and relationships with key stakeholders who facilitate information access and knowledge sharing. Again, this raises the issue of “compete versus collaborate”. Some might argue that such clusters or technology parks carry disadvantages linked to the loss of competitive advantage due to high spillover rates making it tricky to protect novel ideas from rivals. Yet, such clusters are usually characterized by a set of indirect competitors such as suppliers which are sources of complementary ideas that enforce the competitive advantage of individual firms in addition to that of the overall location (Porter & Stern, 2001). This is in line with Kaiser’s (2002) findings on the likelihood of RJV formation in the cases of vertical cooperation. If the future of R&D will be mainly driven by location, the criticism targeted towards the AJ model would be diluted. In this case, the applicability of the AJ model would be strengthened as most clusters are characterized by high spillover rates.

Another stream of criticism states that most of the literature on R&D assumes the symmetry of R&D endeavors (Salant & Shaffer, 1998, 1999). In the real world of R&D, this assumption does not apply. In a typical collaboration, one firm often places more efforts than its partner. Nowadays, the nature of the innovation process is changing. Instead of internal R&D teams, the current state is shifting towards global multifaceted networks of relationships bringing together anyone from academic institutions to the fiercest competitors. Due to this increasing complexity, firms have to acquire the dexterity to better manage collaborations. In order to do so, partnering firms could first decide on their contribution such as the added knowledge. To avoid free-riders, firms could divide an R&D project into several phases each underpinned by an IP agreement and exit plan. This way, each firm could decide on the quantity and nature of information to be shared (Collins, 2007). In line with Kamien, Muller, & Zang (1992), coordinated expenditure in the case of RJV cartelization leads to the highest profits and the lowest production prices for the collaborating firms. Furthermore, the above plan could be the answer to one of the most prevalent dilemmas in the area of R&D: IP. To protect their innovations, firms often spend immense amounts and thus minimize spillover rates (Collins, 2007). Yet, IP is not always the answer. As we have already acknowledged from the AJ and KMZ, well-managed collaboration in R&D could have superior results as opposed to alternative strategies.

An issue of concern could be the fact that the R&D literature fails to consider the asymmetry of size amongst different firms in both, competition and collaboration scenarios. From an organizational learning perspective, powerful organizations manage to create their own environments whilst weaker organizations imitate. Moreover, stronger firms are less capable of learning than their counterparts (Levitt & March, 1988). Another perspective highlighting the substantial role of size firm in relation to innovation is Schumpeter’s (1975) renowned article on “creative destruction”. According to Schumpeter (1975), small firms often replace their larger counterparts with disruptive innovations that alter the whole industry. Probably by not considering the natural asymmetry of firms, R&D literature fails to draw a realistic view on competition and collaboration. This brings us to the possible link between the economical perspective on R&D in relation with organizational theory, specifically organizational learning. According to literature, the main sources of learning are “own” and “other’s” experience. Learning from one’s own experience is advantageous as it produces unique outcomes. Nevertheless, this source of learning could incorporate high costs and in many cases, duplicated effort (Schultz, 2005). This is consistent with the literature review on R&D from an economical point of view. Furthermore, we can compare the organizational learning perspective on diffusion with the two types of spillovers namely incoming spillovers and appropriability as termed by Cassiman and Veugelers (2002). Diffusion of technologies for instance happens through several mechanisms such as imitation and pressure. Firms could benefit from the experience of others and thus gain profits through those forms of incoming spillovers. On the other hand, firms that are copied could lose their competitive advantage especially when technological efficiency is a success determinant (Levitt & March, 1988). Thus as already described in appropriability, firms have to learn how to properly manage the knowledge flowing to competitors and partners as to not lose their competitive advantage in the market (Cassiman & Veugelers, 2002). Nevertheless, firms that are copied could enjoy an advantage in other cases. In specific situations where gaining legitimacy is a crucial prerequisite for success, diffusion might place the mimicked firm at a superior position.

One more thought concerning the literature could be related to Coase’s (1937) article on the nature of the firm. Collaboration in R&D efforts might be in line with the underlying notion of transaction costs. With the purpose of saving transaction costs, firms coordinate their R&D endeavors with partners thus forming what could be compared to a monopolistic firm as described by the reviewed literature. Moreover, the results of the R&D literature

show that cooperating firms tend to spend more on innovation as opposed to those who do not (e.g. D'Aspremont & Jacquemin, 1988). This proposition is in line with the Schumpeterian proposition that monopolistic firms tend to innovate more as they have enough cash flow to invest in research activities (Schumpeter, 1934). Strategic management seems to be in line with this ideology. For instance, Turner, Mitchell, and Bettis (2010) suggest that a highly concentrated market places pressure on firms to innovate.

A last issue to be tackled in this section concerns the “free riding” problem mentioned in the article of Kamien, Muller, and Zang (1992). According to the authors, one of the common hazards of research joint ventures is free riding leading to disadvantages for cooperating firms such as a lowered level of research (Kamien, Muller, & Zang, 1992). The solution to this challenge could be underlying in the organizational theory’s perspective on networks. From the network point of view, building strong personal relations and strategically belonging to a social network generates trust thus discouraging malfeasance. Continuous economic relations bring expectations of trust from all the involved parties and minimize opportunism (Kilduff & Tsai, 2003). “Prisoner’s Dilemmas are nevertheless often obviated by the strength of personal relations, and this strength is a property not of the transactors but of their concrete relations” (Granovetter, 1985, p.491).

Conclusion

This paper presents a brief literature review on R&D competition and cooperation strategies. At the same time, it critiques the literature by linking the economical perspective with strategic management and organizational theory. In the literature review, several influential papers are reviewed namely the AJ model (D'Aspremont & Jacquemin, 1988), the KMZ model (Kamien, Muller, & Zang, 1992), a comparison of the two models (Amir, 2000), the level of expenditure in different cooperation scenarios (Kaiser, 2002), the relationship between R&D cooperation and spillovers (Cassiman & Veugelers, 2002), and a review of the AJ model cost functions (Amir, Jin, & Troege, 2008). In the critique section, the paper connects the dots between economics, strategic management and organizational theory. For instance, the first section of the critique builds on the criticism towards the AJ model regarding the high spillover levels in order to relate to the emergence of technological parks (Henriques, 1990; Amir, 2000). If the future of innovation will be driven by location clusters, the AJ model would gain applicability as it is mostly valid under the condition of high spillover rates. A second criticism of R&D literature is linked to symmetry of R&D efforts (Salant & Shaffer, 1998, 1999). The paper suggests ways to better control the asymmetric nature of those efforts by bringing the viewpoint of strategic management literature (Collins, 2007). A third criticism of R&D literature revolves around the assumption that firms are of symmetrical size, which is not the case in real scenarios. The critique thus introduces Schumpeter’s (1975) celebrated “creative destruction” highlighting the relationship between size and innovation levels. This paper then moves to the aspect of organizational learning in connection with R&D’s economical perspective. Diffusion of technologies (Levitt & March, 1988) is compared to incoming spillovers and appropriation (Cassiman & Veugelers, 2002). Organizational learning has proposed different conditions in which appropriation results in competitive disadvantages as well as advantages. After that, the critique relates Coase’s (1937) nature of the firm and the monopolistic perspective from a Schumpeterian (1934) and strategic management point of view (Turner, Mitchell, & Bettis, 2010) to the corresponding levels of innovation. Finally, the critique suggests how organizational theory’s network perspective could be utilized to solve “free-riding” problems in R&D collaborations. In conclusion, the paper has managed to bring together diverse perspectives from several areas of study. Fresh notions are usefully employed to critique, interpret and find possible solutions to the economical perspectives and fundamental topics in the area of R&D.

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Strategic Alliances, Institutions, and Performance in Emerging Markets

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Abstract

This study tackles two research questions. First, how do institutional contexts impact the decision of foreign firms to opt for strategic alliances as entry strategies in emerging markets? Second, are strategic alliances linked to superior performance in specific institutional contexts? Building on a network perspective, I investigate the relationships between strategic alliances as entry strategies, home and host countries' institutional contexts, and performance consequences. In particular, I argue that foreign firms are more likely to enter emerging markets with a strategic alliance to counteract market inefficiencies. However when the institutional context is similar, foreign firms prefer alternative entry strategies. I also argue that in a weak institutional context, strategic alliances are associated with superior performance in comparison with other entry strategies.

Introduction

When home markets mature, firms have to seek opportunities elsewhere. Recently, many emergent economies have received a massive inflow of FDI projects especially from foreign firms based in developed countries. Despite the growing attention, entering emerging markets remains a challenging endeavor due to the specific contextual hindrances (Chung and Beamish, 2005). One of the most problematic impediments to successful entry to emerging markets is the host country's institutional framework. Institutions are often referred to as 'rules of the game' as they play a crucial role in supporting the efficient functioning of market mechanisms. Foreign firms based in developed countries are typically accustomed to operate in properly-functioning institutional contexts where property rights are protected and contracts are respected (Meyer, Estrin, Bhaumik, and Peng, 2009). However, the institutional context differs greatly in emerging markets (McMillan, 2008). The weak institutional context often characterized by informal rules poses various difficulties for foreign firms such as corrupt business practices and limited access to information (Peng, 2003). Thus strategic entry decisions have to be tailored to the specificity of the institutional framework (Brouthers and Brouthers, 2000). Although entry strategies have been extensively scrutinized over the course of years particularly in terms of ownership and control (e.g., Agarwal and Ramaswani, 1992) and capabilities of the foreign firm (e.g., Anand and Delios, 2002), the institutional context of the host country remains unexplored (Meyer, 2001). Furthermore, very few studies address the interaction effect between the institutional context of the foreign firm's home country and that of the host country. Foreign firms are more likely to learn quickly and more efficiently if the new learning elements are similar to existing memory elements (Lee and Paruchuri, 2008). For instance, the foreign firm might be capable of dealing with the challenges of the host country if it is already familiar with a weak institutional context. Hence a marginal difference allows the foreign firm to comprehend and cope with rules of the game. Numerous studies have tackled the institutional context of the foreign firm's home country, although remarkably few consider the possible interaction effect (Meyer and Vo Nguyen, 2005). Institutions not only affect the entry mode decision of foreign firms, but also carry performance consequences. In the weak institutional framework of emerging markets, the asymmetry of information places the foreign firm at a disadvantaged position hence increasing the likelihood of market failure (Casson, 1997). Furthermore, the proliferation of informal norms creates an environment favoring local players (Meyer, 2001). Scrutinizing the consequences of the entry strategy on performance has been a relatively untapped field of research. For instance, minimal studies investigate strategic alliance performance (Saxton, 1997) in spite of escalating research calls (Gulati, 1998). Specifically to my knowledge, none of the previous research has tackled the relationship between entry strategies, institutional context, and performance in emerging markets.

Responding to the crucial role of institutions in determining the entry mode and performance results, I propose the following research questions: (1) How do institutional contexts impact the decision of foreign firms to

opt for strategic alliances as entry strategies in emerging markets? (2) Are strategic alliances linked to superior performance in specific institutional contexts?

The decision to scrutinize strategic alliances in the two research questions spurs from the underlying assumption that strategic alliances counteract the challenges imposed by weak institutional contexts (Meyer *et al.*, 2009). Strategic alliances provide access to crucial resources impacting survival and performance especially key networks (Gulati, 1998). Since the key resources offset weak institutions, I argue in the first hypothesis that foreign firms will opt for strategic alliances as an entry mode in a weak institutional context. Second, foreign firms initially operating in a developed country characterized by a weak institutional context are expected to cope better with the institutional context of emerging markets (Lee and Paruchuri, 2008). Thus, foreign firms originating from a weak institutional context tend to be accustomed to the conditions of emerging markets and are less in need of learning how to deal with informal rules such as corruption and contract violation. Consequently the rationale behind entering the new market with a strategic alliance is diluted. Based on this reasoning, I suggest a second hypothesis indicating that firms are less likely to opt for strategic alliances as an entry mode when the difference in the institutional context is minimal. Finally, a strategic alliance bestows the firm with networks that counteract the negative aspects of a weak institutional context resulting in a competitive advantage (Casson, 1997). In the third hypothesis, I propose that the decision to enter with a strategic alliance in a weak institutional context is expected to positively impact the alliance performance as opposed to alternative entry strategies.

To test the three proposed hypotheses, I am collecting archival data over two time spans namely 1995 and 2005. The main advantage is to capture venture performance via various measures hence augmenting internal validity (Lunnan and Haugland, 2008). In order to capture home and host countries' institutional variations, I opt for a cross-country dataset of multi-industry firms. I particularly examine firms originating from developed countries entering into emerging markets through a strategic alliance, acquisition and/or Greenfield entry mode. In spite of the recent growing interest in the impact of institutions on entry strategies (Meyer *et al.*, 2009), numerous gaps persist. The paper contributes to the field by applying the network perspective to link between entry strategies, home country *and* host country institutions, and performance consequences.

Theory and Hypotheses

Strategic alliances and networks

'Strategic alliances can occur as a result of a wide range of motives and goals, take a variety of forms, and occur across vertical and horizontal boundaries.' (Gulati, 1998:293). Firms decide to enter a strategic alliance due to formal governmental regulations in the host country as is the case in several Asian countries (Delios and Beamish, 1999). However, other motives might underpin the entry decision through this specific strategic mode such as minimizing transaction costs, enhancing market power, organizational learning and acquiring knowledge on the specific environmental context (Kogut, 1988). The aforementioned benefits are mainly achieved thanks to the access of key networks in the host country. Besides, social networks allow the firm to build relationships of trust which enable a larger exchange of information. All of the stated advantages impact performance positively giving the firm a competitive advantage over rivals (Burt, 1997). A network perspective is indispensable to comprehend the relationship between networks and performance. According to the open systems perspective, social networks are a crucial component of the firm's environment (Powell, Koput, and Smith-Doerr, 1996). A social network can be defined as the 'set of nodes (e.g., persons, organizations) linked by a set of social relationships (e.g., friendship, transfer of funds, overlapping membership) of a specified type' (Laumann, Galaskiewicz, and Marsden, 1978: 458). Embeddedness, one of the most referred to notions in the network perspective, is described as the structure of relationships constraining the actions available to the involved actors (Marsden, 1981). The degree of embeddedness can minimize uncertainty faced by the actors hence providing valuable information (Gulati, 1998). Social networks bestow firms with a social capital that is advantageous, especially in specific contexts.

Strategic alliances and institutions

The essence of well-functioning markets comes from the support of institutions (North, 1990) which could encompass property rights, legal frameworks, information systems, and regulatory procedures as well as other coordination mechanisms enabling markets to function properly (Meyer, 2001). In more developed countries, institutions that support the efficient market mechanism are nearly invisible despite their substantial underpinning role. Conversely, the striking majority of emerging countries suffer from weak institutions thus resulting in corrupt practices and inefficient markets (McMillan, 2008). Foreign firms aiming at entering emerging markets have to face challenges associated with the weak institutional context, often incurring massive transaction costs and various success barriers (Globerman and Shapiro, 1999). For instance, information asymmetry proves to be one of the main reasons behind market failures. Institutions act as information providers about business partners thus reducing asymmetries (Casson, 1997). Given the weak institutional framework of emerging countries, entering firms have to spend resources in order to compensate for the asymmetries and reduce risks associated with business partners (Meyer, 2001). Therefore, the costs of entry are vastly dependent on the institutional context of the host country (Heinsz, 2000). For this reason, the strategy choice of foreign firms entering emerging markets should be targeted at counteracting the aforementioned challenges. Specifically, strategic alliances such as joint ventures (JVs) bestow the firm with valuable resources that could offset the disadvantages related to the host country's weak institutional environment (Delios and Beamish, 1999). Strategic alliances provide the entering firm with access to local networks and relationships which could not be acquired by employing other strategies. These valuable resources enable the firm to enforce contracts that are often based on informal norms hence mitigating the risk of contract violation (Peng and Heath, 1996). In contrast with strategic alliances, other forms of entry do not bestow the firm with access to local networks and are hence less favorable in weak institutional contexts. Therefore,

Hypothesis 1: The weaker the institutional context of an emerging market, the more likely are foreign firms to opt for strategic alliances as entry strategy.

Institutional context of home country

Since institutions could act as facilitators or constrainers of economic exchange by providing valuable information, a large distance between home and host country implies that the foreign entrant has to invest in more resources to search for information regarding the unfamiliar institutional context. The more similar this knowledge is to the home country, the less likely is the foreign firm to face the 'liability of foreignness' (Zaheer, 1995). Besides, foreign firms based in developed countries characterized with a strong institutional context are not accustomed to deal with challenges associated with weak institutions such as corruption, embeddedness, and property rights violation (Mezias, 2002). Foreign firms also face the challenge of transferring organizational capabilities to a host country that is substantially different in the institutional context. In most cases, capabilities are specific to the context of the home country because the solutions tend to be particularly designed to solve problems related to that environment (Hannan, 1998) thus determining the strategic orientation of firms as they 'learn by encoding inferences from history into routines that guide behavior' (Levitt and March, 1988: 319). Routines are a result of experience and are retrieved when necessary in future situations as answers to possible complexities, hence directing strategic decisions. Therefore when the institutional context of the host country is considerably different from that of the home country, the foreign firm is less capable of leveraging previous knowledge and experience to formulate novel solutions which places the firm at a disadvantaged position in comparison to local firms (Szulanski, 1996). Strategic alliances assist firms to solve problems of institutional differences by counteracting information asymmetries and corruption through access to valuable networks (e.g., Delios and Beamish, 1999). When the institutional distance is large, firms are probably more reliant on a partner to help with the familiarization process in the alien context. On the contrary when the distance is small, the firm is more likely to approach the foreign market with other entry modes such as Greenfield which allows higher levels of control as well as transferability of knowledge and experience (e.g., Meyer and Vo Nguyen, 2005). Thus,

Hypothesis 2: The greater the similarity between the home institutional context and that of the emerging market, the less likely foreign firms are to opt for strategic alliances as entry strategy.

Strategic alliances and performance

One of the prevalent reasons behind market failure is linked to information asymmetries. Buyers have a limited capability to access information prior to the actual exchange and are faced with the challenge of deciding under ambiguous conditions (Arrow, 1971). Institutions act as the main providers of information thus facilitating the predictability of business partner behavior. Firms operating in a strong institutional context are not required to invest in additional resources in search for information to eliminate uncertainty (Tong, Reuer, and Peng, 2008). When institutions are weak, market mechanisms supporting efficiency severely malfunction. Foreign entrants targeting countries with weak institutions face difficulties accessing local resources and acquiring complete transparent information (Meyer *et al.*, 2009). In such contexts specifically prevalent in emerging countries, embedded resources held by the local firm particularly networks and relationships are indispensable (Delios and Beamish, 1999). Such environments are generally based on informal rules and idiosyncratic structures that tend to set an environment favoring local firms accustomed to 'rules of the game' (Meyer and Vo Nguyen, 2005). Foreign firms have to design strategies to accommodate to those rules. Contract enforcement and property rights protection come from networks and relationships with government authorities, business networks with other firms, and distribution channel agents (Peng and Heath, 1996). For foreign firms merely familiar with legalities, doing business without a local partner in such environments could prove tricky leading in many cases to brutal market failure. Strategic alliances provide the means to access such resources hence lowering transaction costs and partner risks (Buckley and Casson, 1998). The aforementioned context-specific resources enable firms to attain a competitive advantage over other foreign rivals in emerging countries (Delios and Beamish, 1999). Hence, the resources attainment could be positively linked to superior performance. The influencers of performance on alliances and the firms involved have been an underrepresented field of research, especially from a network perspective (Lunnan and Haugland, 2008). Lately, researchers have attempted to examine the relationship between embeddedness in social networks and firm performance (Gulati, 1998). According to structural sociologists, social networks are one of the most substantial aspects of an organization's environment as its actions are embedded in the social network of relationships (Laumann, Galaskiewicz, and Marsden, 1978). Firms with access to social networks can enjoy information and control advantages as compared to those with little or no access (Burt, 1992). As already stated, strategic alliances bestow firms with valuable social networks in the local market. Especially in a weak institutional context (Meyer *et al.*, 2009), the social capital obtained can become the source of competitive advantage and consequently, superior performance (Gulati, 1998). Furthermore, partnering firms have the benefit of trust which minimizes the risk of opportunistic behavior. Due to the weakness of institutionally supported mechanisms such as lack of property rights protection and contract violation, trust could be considered as one of the most critical assets a firm could own (Meyer and Vo Nguyen, 2005). Trust encourages the exchange of information amongst actors thus enforcing the flow of information bestowed through the mere access to networks. Additionally, trust facilitates the interaction between actors as they are not compelled to search for risk-minimizing information at each transaction. All of the mentioned conditions increase the likelihood of the superior performance of an FDI project (Gulati, 1998). Previous research supports the positive relationship between social network embeddedness and performance (e.g., Kogut, 1989). As social networks especially in a weak institutional context are linked to superior performance, the following hypothesis is proposed:

Hypothesis 3: In a weak institutional context of the host country, strategic alliances are expected to be linked to higher performance as compared to other entry strategies.

Research Method

Sample

In order to test the three hypotheses, I opt not to limit the sample to specific countries. I thus select a broad cross-country sample with the aim of highlighting the variation in the institutional context. The institutional variation is both across the foreign firms' home countries (developed countries) and the host countries (emerging countries). The variation allows me to scrutinize the institutional impact on the strategic alliance as an entry mode as well as the effect of institutional distance. The sample will include FDI randomly selected projects from diverse industries all representing foreign firms from developed countries entering into emerging markets. The rationale behind choosing several countries and industries is to capture the utmost institutional variation regardless of country or industry specificities.

I am currently collecting data on the same sample at two time periods, 1995 and 2005 due to several advantages. First, observing the sample at two time periods enables me to monitor FDI terminations and examine performance over the short-term and long-term. Second, the selected period is not too distant in time hence minimizing bias related to events too far in the past. At the same time, the dataset is not extremely recent which allows me to reflect on performance and termination.

Measures

Strategic alliance as entry mode

FDI project could be a strategic alliance, acquisition, or Greenfield (Meyer *et al.*, 2009).

Performance

Measuring alliance performance 'remains one of the most exciting and unexplored areas' of alliance research (Gulati, 1998: 306) This paper aspires to encapsulate a broader perspective by utilizing a multidimensional construct based on Lunnan and Haugland (2008). I operationalize performance using three measures: (1) short-term performance, (2) long-term performance, and (3) abrupt termination (Lunnan and Haugland, 2008).

Institutions

Based on my conception of the notion in this paper, institutions are deemed as strong or weak according to the extent to which they are supportive of a well-functioning market mechanism (Meyer *et al.*, 2009). In order to evaluate the strength or weakness of market-supporting institutions, I select the Heritage Foundation economic freedom index (Kane, Holmes, and O'Grady, 2007). The ten freedom categories reflect Adam Smith's theories on market efficiency and economic freedom.

Control variables encompass *foreign firm age*, *foreign firm size*, *cultural distance*, *GDP per capita*, and *prior experience*.

Contributions, limitations, and future research directions

This study is a theoretical and empirical contribution to the field of strategic management. Theoretically, I apply the network perspective from the field of organization theory to address entry strategies in emerging markets. The paper integrates strategic alliances, institutional context of the home and host country, and performance consequences. Empirically, the paper will contribute to the field on multiple aspects. In response to the call by Meyer *et al.* (2009), I work with a large set of countries to increase the institutional cross-country variations. The data will encompass FDI randomly selected multi-industry projects representative of firms from developed countries

entering into emerging markets. The data will also capture performance from a multidimensional perspective namely short-term, long-term, and termination of ventures (Lunnan and Haugland, 2008).

Although the paper carries interesting implications, I suggest a limitation and future research openings. The archival data on FDI project performance will be of a secondary nature. Secondary data does not entirely capture all aspects of performance, especially subjective facets. In order to strengthen the results, primary data is advisable in future endeavors. Moreover, network analysis offers possible future research opportunities. For instance, research could tackle whether centrality in a network in specific institutional contexts impacts performance.

Conclusion

Despite the crucial role of institutions in the determination of entry strategies and performance consequences for foreign firms, several gaps persist. When entering emerging markets, firms have to tailor the entry mode to counteract the weak institutional context of the host country (Brouthers and Brouthers, 2000). The difference between the institutions of home country and host country also influence the entry strategy (Lee and Paruchuri, 2008). Nevertheless, the impact of institutions on entry modes has been underrepresented. The paper answers the aforementioned research gaps by asking ‘how do institutional contexts impact the decision of foreign firms to opt for strategic alliances as entry strategies in emerging markets?’ Another research gap relates to the consequences of entry strategies in specific institutional contexts on performance (Saxton, 1997). The paper taps this gap by attempting to answer the following question: ‘Are strategic alliances linked to superior performance in specific institutional contexts?’ The paper employs a network perspective to theoretically support the relationship between strategic alliances, institutions, and performance. The results will be based on a sample of multi-industry and cross-country FDI projects. The paper is a contribution to the international strategic management field.

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Strategic Options for Vietnam in the East Asian and Global Economy

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Abstract

Since the *Doi Moi* re-orientation of 1986, Vietnam has experienced substantial economic expansion, with GDP growth unfolding at rates between six and nine percent per year. While Vietnam was able to crown this growth with accession to the WTO in 2006, it now faces serious constraints, only some of which reflect the current global recession..

Our analysis of Vietnam's constraints focuses on monetary policy and institutional governance. Excessive monetary growth has fueled rising inflation. In turn, corruption in various sectors has undermined the efficiency of foreign direct investment flows, particular in the state enterprise sector.

In terms of strategic options, we find that the reform measures of 1986 now require more fundamental reforms of domestic financial institutions, improved budgetary management, and a sustained effort to reduce historic rates of inflation. We are confident that structural reforms along these lines can once again bring sustained economic growth in Vietnam at rates similar to its export-driven Asian neighbors.

1. Introduction: Vietnam at the heart of a turbulent world

It is increasingly clear that no country has mastered the skills and policies for successful integration in the global economy. Since Asia has been the focus of much efforts to track globalization, it is of some interest to examine how countries other than China, Japan, and South Korea have proceeded.

Vietnam, a country with a current population of 88 million, provides an interesting case study. In particular, we choose to examine the strategic options adopted by Vietnamese leaders. In so doing, we take up the paths that Vietnam has adopted in terms of internal reform as well as examine how these policies have helped to shape Vietnam's response to external economic challenges and opportunities. We do so in the context of the recent global recession, the backdrop of seismic events in Japan, and in consideration of the scale and depth of social upheaval taking place in the Middle East.

Vietnam's economic future depends very much on how the above external environment unfolds. At the same time, it also depends on Vietnam's internal governance, in particular, the capacity and willingness of the current leadership to tackle financial austerity as well as reform of its public enterprise sector. We look first at Vietnam's internal reforms.

2. From the *Doi Moi* to the WTO

Vietnam's present challenges can be traced to the initial reforms adopted by the country following re-unification in 1976. From 1976 to 1986, Vietnam leaders extended Communist party rule over the former Republic of Vietnam in the south. This process placed the economy largely on a path of economic autarky and an elimination of any effective political opposition. During this period, Vietnam's economy did not experience much notable growth. Vietnamese leaders recognized that continued party control would require something in exchange for the continuation of the regime. In this sense, Vietnam was not unlike China under Deng Tsiao Ping, who put forth a post-Maoist doctrine of financial and economic reform that could help stimulate economic growth while at the same time providing a basis for political legitimacy under Communist party rule¹.

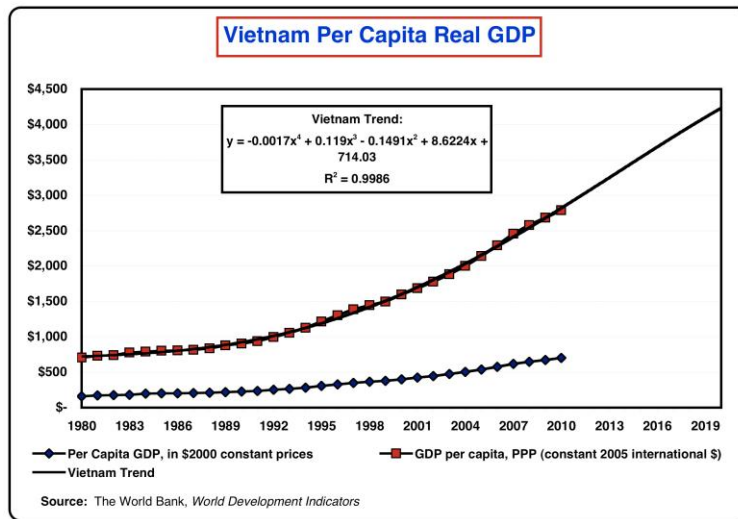
As with Deng's reforms, Vietnam began to open its economy to international trade and a shift in governance toward a market economy. The *Doi Moi* reforms were based on several key factors affecting the Vietnamese economy.

First, as other socialist economies had done, Vietnam had imposed collectivization of agriculture that, as with the former Soviet Union and elsewhere, had failed to lift production sufficient to feed a rapidly growing population. Privatizing agriculture was one key element in the *Doi Moi* reforms.

Second, public enterprises created and operated by the Communist party under a system of centralized planning had failed to meet both production targets, but also internationally competitive quality standards. Domestic enterprise and financial reform was a necessary step to bring Vietnam into the global economy.

Doi Moi thus can be viewed as a comprehensive shift in emphasis away from an historical socialist planned economy toward a market-driven economy. The *Doi Moi* reforms did indeed revive the Vietnamese economy, bringing sustained annual growth rates of between 6 and 9 percent that affected in mutually reinforcing patterns both agriculture and industry. In so doing, the *Doi Moi* reforms paved the way for Vietnam's re-entry in the global market, and which was crowned by Vietnam's admission to the WTO in 2006.

FIG. 1



Evidence of Vietnam's success can be seen in Figure 1. While starting from a relatively small base, Vietnam's growth in per capita income has placed it on a par with the kind of growth rates seen in China and South Korea, even if Vietnam's per capita GDP is not about to equal or exceed levels in those countries for several years.

As agricultural and industrial reforms proceeded under *Doi Moi*, Vietnam also became increasingly attractive to foreign investment. This meant that under gradual privatization of public enterprises, Vietnamese firms began to develop partnerships with external investors, thus facilitating technology transfer and augmenting Vietnam's domestic savings rate. The most telling measure of this engagement is in terms of Foreign Direct Investment.

FIG. 2

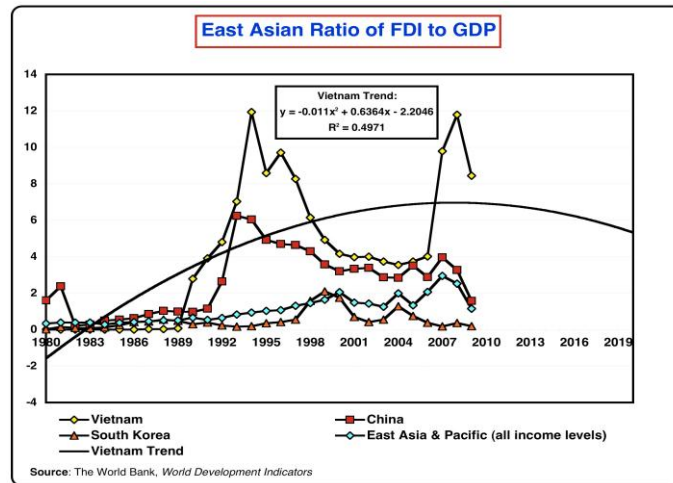


Figure 2 shows comparative rates of Foreign Direct Investment (FDI) to GDP ratios for selected countries in East Asia. Vietnam's rate exceeded others in the region, in part because its base level of per capita GDP was relatively low, and in part because, like China in the early post-Mao years, it was looking to accelerate investment and technological innovation in the shift toward a more market-driven economy.

3. Vietnam since 2007 – An Overheated Economy under Weak Governance

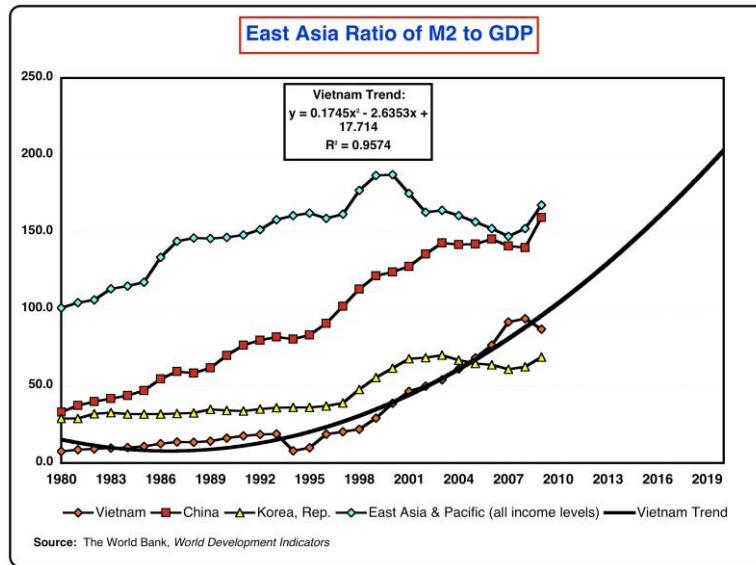
Despite the impressive revival of economic growth and newly acquired membership in the WTO, Vietnam's economy began to show the limits of its reforms in achieving sustained economic growth. The rosy projections of per capita GDP in Figure 1 assume that growth could continue without any additional reforms. Such has not been the case. Instead, even as foreign investors looked to Vietnam's membership in the WTO as a sign of approval, growth has generated both inflation and rising corruption that threaten to undermine the economy.

3.a Excessive Monetary Expansion

How has inflation arisen in the Vietnam economy? Coupled with rising foreign direct investment, Vietnamese authorities have used an expansionary monetary policy to sustain rising rates of economic growth. As this has taken place, inflation rates have increased. Local institutions, ranging from banks to state enterprises that make up some 40 percent of GDP, have been weak in responding to changing market opportunities, with corruption as a key measure of the costs of doing business. Inflation and corruption together have threatened to bring Vietnam's growth to a halt, even if it were not confronted with the impact of the recent global recession.

Figure 3 illustrates the growth of the M2 money supply in Vietnam and in other East Asian regions. Starting from a low base, monetary growth in Vietnam began surpass that of South Korea, and at the pre-recession rate, would soon surpass that of China and East Asian economies as a whole.

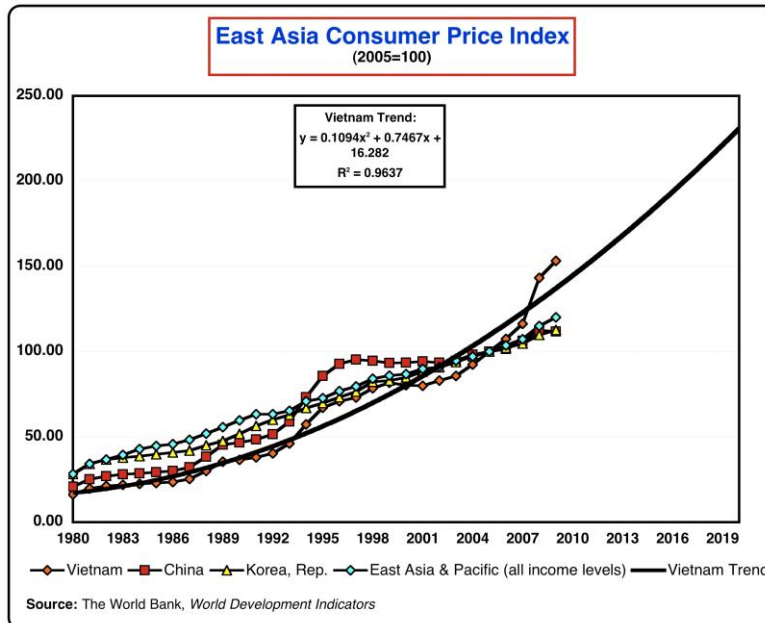
FIG. 3



Monetary growth can achieve sustainable growth as long as an economy's productive capacity is expanding at some proportional rate. Unfortunately, the weak structure of governance in Vietnam has meant that even as monetary growth rates expanded, productive capacity did not, with the result that inflation rates began to rise.

Figure 4 illustrates consumer inflation rates for Vietnam, China, South Korea and East Asian economies as a whole. While inflation rates in China have been a concern to international economic stability, Vietnam's much smaller economy has had rates that have surpassed those in China and East Asia as a whole. As in any economy, rising inflation creates economic uncertainty, and investment tends to shift from more productive areas to those that serve simply as an inflationary hedge.

FIG. 4



In the presence of inflationary pressure, monetary velocity also increases, further undermining the ability to manage economic expansion through monetary policy alone. We can state this relationship in terms of the basic equation of exchange across the respective monetary aggregates:

$$(1.1) \quad MM = (M_1)(V_1) + (M_2)(V_2) + (M_3)(V_3) = \sum M_i(V_i) = (P)(Q)$$

where: M_i = the corresponding measure of the supply of money,
 V_i = the corresponding velocity of circulation,
 P = the general level of prices,
 Q = the aggregate quantity of output, or real GDP.

In equilibrium, the value of the money supply, or base, which combines both domestic and foreign direct investment, is equal to the value of production for the domestic and international market. In a non-inflationary environment, changes in the supply of money can lead to an increase in real output. However, if real output is constrained by an imperfect set of incentives, then an increase in the supply of money will lead essentially to an increase in the price level alone, i.e.:

$$(1.2) \quad \sum MM > \sum Q \rightarrow \sum P > 1$$

in which some increase in real GDP is dominated by the rising level of pricesⁱⁱ. For Vietnam at least, the absence of significant institutional reform beyond the *Doi Moi* framework meant that inflation would ensue, with attendant effects on the balance of payments, fiscal deficits, as well as in rising national debt.

3.b Weak Economic Governance

Membership in the WTO soon revealed the weakness of Vietnam's underlying governance institutions. In the 2007-2009 period, credit expansion went largely unsupervised, with too-big-to-fail conglomerates taking the lion's share of borrowingⁱⁱⁱ. One reason why these state enterprises were able to take on such levels of borrowing is that they had the implicit backing of the Vietnamese government. But when faced with the slightest degree of financial stress, the Vietnamese government adopted a hands-off policy, insisting on a strict separation of government debt proper and state enterprise debt, effectively repudiating any implicit government guarantees to honor public enterprise debt obligations. Once this happened, even diaspora Vietnamese, the *Viet kieu*s, stepped back from continued lending, thus helping to precipitate a liquidity crisis in the Vietnamese economy.

Faced with falling investor confidence, the Vietnamese government chose to fill the financing gap not by accounting and institutional governance reforms but by monetary expansion. Because easy credit meant an increase in non-performing loans, the interaction of bank loans, nepotism, and corruption, monetary policy became increasingly ineffective, thus leading to a wave of currency devaluations. *Vinashin*, Vietnam's principal shipbuilding state enterprise, faced charges of nepotism and corruption in 2010, following revelations that it had over \$U.S. 5 billion in losses, which represented approximately 4.5 percent of Vietnam's overall GDP^{iv}.

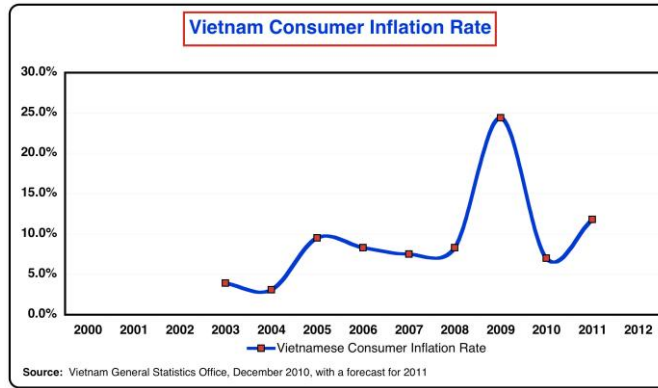
3.c Serial Currency Devaluations

In the presence of imperfect information, investors are prone to asset bubble behavior. As elsewhere, Vietnamese investors took note of the high flows of credit and weak performance to hedge their risks through real estate and stock market speculation. By 2008, Vietnam's annual inflation rate exceeded 25 percent. Export prices rose accordingly, leading to a rising external deficit that currently is in excess of \$U.S. 12.5 billion.

In response to rising inflation and falling exports, the Vietnamese began a series of successive currency devaluations: three times in 2008, twice in 2009, twice in 2010, and the latest in February 2011. With each successive devaluation, imports became more expensive. Rising import

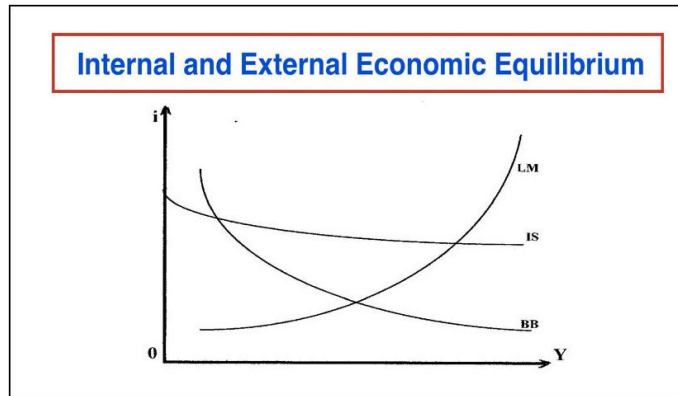
prices increased consumer prices, thereby placing pressure on the Vietnamese central bank to increase interest rates and reduce the rate of expansion in the money supply.

FIG. 5



A very steep currency devaluation can create an electric shock to an economy that can either produce a positive adjustment or cause a general loss of investor confidence. Figure 5 illustrates the combined impact of currency devaluations and credit tightening on Vietnam’s consumer inflation rate.

FIG. 6



For Vietnam, the challenge is to set an interest and exchange rate that could lead to a non-inflationary steady-state economic equilibrium. Figure 6 illustrates the dis-equilibrium that arose from excessive monetary growth and an external imbalance. An initial IS-LM intersection on the right would generate a macroeconomic equilibrium that is non-sustainable, leading to an increase in the central bank’s discount rate and a lower level of GDP. But the fiscal balance (BB) may still be an unstable equilibrium point as IS no longer intersects LM at that point. Clearly, Vietnamese authorities had to seek an interest and exchange rate that would simultaneously enable them to reach non-inflationary output with an internal fiscal and external balance at the same time. And none of this would be possible in the presence of excessive credit growth and corruption distorting effects of investment in the economy.

Table 1

Vietnam Trade Balance and GDP						
	2006	2007	2008	2009	2010	2011*
External Current Balance	-\$2,776	\$10,360	-\$12,782	\$8,305	-\$10,596	-\$10,422
Net Transfers	\$4,049	\$6,430	\$7,311	\$6,527	\$6,698	\$7,340
FDI (Net)	\$2,315	\$6,650	\$9,279	\$6,900	\$7,555	\$7,928
GDP	\$60,933	\$71,111	\$90,274	\$93,164	\$103,929	\$117,208

Source: Vietnam Statistical Office, with a projection for 2011

Using data drawn from the World Bank, we derive some stylized facts about Vietnam's growth. Table 2 provides a summary of several estimating equations.

Table 2

Dependent Variable	GDSR	GDSR	GDSR	GDSR	EXP GDP Ratio	EXP GDP Ratio	EXP GDP Ratio	EXP GDP Ratio	PPP PC \$2005 GDP	PPP PC \$2005 GDP
Constant	57.29	75.79	44.82	59.18	115.83	81.10	150.40	102.46	463.07	
	(6.7929)	(6.2768)	(6.1177)	(5.6042)	(5.1407)	(4.2647)	(4.4883)	(3.5868)	(2.9991)	
GCGDP	-5.5317	-5.2101	4.6003	-4.4344	-10.5844	-7.9906	-9.9835	-7.7439		
	(4.9617)	(4.8777)	(5.0431)	(5.0389)	(3.5535)	(3.3745)	(3.3677)	(3.2531)		
CORRUPA		-2.7507		-2.0004			-5.1405	-2.9745		
		(2.0442)		(1.8229)			(1.3765)	(1.0020)		
FDIGDP			1.3230	1.2265		3.6845		3.5409		
			4.1807	3.9787		4.4851		(4.2465)		
GDSRF(-2)									27.32	21.7781
									(2.1315)	(2.2537)
EXPGDPF(-1)									14.474	
									(2.5840)	
EXPGDPF										13.9576
										(3.5806)
TAXREVGDP(-1)										-200.5347
										(2.5957)
Adj R-Squared	0.4489	0.5051	0.6530	0.6805	0.2862	0.5758	0.3083	0.5759	0.6267	0.7372
F-Stat	24.62	15.80	28.29	21.59	12.63	20.68	7.46	14.12	23.66	26.25
Granger Null										
GCGDP	8.2223	8.2223	8.2223	8.2223	23.42	23.414	23.414	23.4139		
	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0000)	(0.0006)	(0.0006)	(0.0006)		
CORRUPA		1.2138		1.2138			0.2814	0.28135		
		(0.3154)		(0.3154)			(0.7573)	(0.7573)		
FDIGDP			1.3834	1.3834		0.9661		0.9661		
			(0.2708)	(0.2708)		(0.3955)		(0.3955)		
GDSRF(-2)									3.1475	3.1475
									(0.0619)	(0.0619)
EXPGDPF(-1)									2.3644	2.3644
									(0.1165)	(0.1165)
TAXREVGDP(-1)										1.02484
										(0.3747)

Source: The World Bank, and authors' estimates

Per capita real GDP, on a \$2005 purchasing power parity (PPP) basis, depends on the economy's rate of savings and on its export share of GDP. In turn, these variables depend negatively on the level of government consumption, negatively on the level of corruption, and positively on the ratio of FDI to GDP. When forecast values of the gross domestic savings rate (GDSR) and the ratio of exports to GDP (EXPGDP Ratio) are used along with the ratio of tax revenue to GDP to explain economic growth, it is clear that government intervention has worked adversely on the level of PPP Per Capita GDP. While we have not included estimates of monetary policy here, we also note that monetary policy alone does not explain a significant degree of per capita growth, for reasons we have summarized in this paper.

4. The Outlook for Vietnam in 2011

Given Vietnam's rising inflation rate wrought by successive currency devaluations noted above, prospects for continued economic growth will depend on establishing a set of institutional reforms along with monetary and fiscal restraint. We focus on several key steps that are most likely to make a difference in Vietnam's current outlook.

Vietnamese authorities need to act without delay in implementing a credible plan of adjustment, starting with large public sector enterprises on the scale of the naval construction conglomerate, *Vinashin*. What drives the need for reform is the impact of downgrades by S&P and Moody's on Vietnam's local financial institutions, three of which at BB- are close to junk bond status^v. These downgrades reflect the rising level of risk exposure on loans to Vietnam's public sector enterprises. The cumulative effect is to reduce foreign direct investment and the ability of the Vietnamese government to secure external credit for overall government capital projects.

Meeting in a party Congress in January of 2011, Vietnamese authorities have set out a series of goals for the next ten years^{vi}. In summary fashion, they are:

1. GDP growth of between 7 and 8 percent per year, reaching \$3,000 per capita in 2020
2. Limit inflation to a maximum annual rate of 7 percent by increasing the central bank commercial discount rate to 12.5 percent, for a real rate of 5.5 percent.
3. Reduce the government deficit to 4.5 percent of GDP and create 8 million new jobs.

Reaching these goals will not be easy. While they are comparable to macro-economic standards adopted by many countries, for them to succeed will require additional measures, which we identify below.

4. Essential Steps in Vietnam's Economic Reform

While Vietnamese authorities have put in place a program of monetary and fiscal austerity, restoring both investor confidence and creating sustainable economic growth will require additional measures. We view the following steps as essential building blocks for this to occur.

1. Public enterprise must undertake major reforms, including a systematic effort to reduce corruption, the elimination of nepotism, and an end to tax shelter legislation that has given these firms the illusion of competitive institutions. In short, Vietnamese public firms must adopt practices now applied to private sector firms if they are to be able to compete in the global market.
2. Consider a short-term plan to use wage and price controls to break the inflationary psychology now unraveling the economy. We view this only as a short-term measure, with a long term view to restoring product and factor markets to competitive conditions.
3. Adopt a flexible exchange rate that would avoid the cascading set of artificial rates and place the economy more in line with internationally competitive standards.
4. Increase banking real interest rates to levels that would generate more sustainable investment decisions, whether in the public or private sector.
5. Adopt internationally competitive auditing standards for Vietnamese firms, and which would apply equally to both public and private firms, to enable greater transparency in the performance of firms and in helping to set prudential levels of investment, consistent with more obviously measured levels of risk.

These measures are essential if Vietnam is to increase the effectiveness of investment flows in the economy, and to achieve the kinds of goals outlined in the National Congress of 2011. While they may be politically unpopular in some quarters, one needs to keep in mind what is likely to happen if these measures are not adopted, namely, a further weakening of Vietnam's economy, even as neighboring Asian economies move to adjust to the difficult challenges ahead.

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ⁱ It should be noted that Deng’s reforms were inspired to some extent by a recognition not just of China’s lack of economic growth, but that its former partner, the Soviet Union, was on the verge of economic collapse, even though the formality of that collapse did not become obvious until the fall of the Berlin Wall in 1989, and the end of the Soviet Union in 1991. Much of this comparative observation has been presented in detail in Philippe Delalande, “*La politique économique vietnamienne, ses étapes de 1975 à 2009*”, Franco-Vietnam Friendship Association conference, February 5, 2009.

ⁱⁱ This illustration illustrates a classic division in economic theory, namely the relevance of monetary versus fiscal policy in achieving a sustainable level of full employment growth. The quantity theory of money, which has a long pedigree dating back to Jean Bodin (1596), has been resuscitated against a once dominant Keynesian emphasis on fiscal policy by Milton Friedman, in particular in terms of his *Essays on the Quantity Theory of Money* (1956), in which he took issue with Keynes’ elaboration of the liquidity trap in his *General Theory of Employment, Interest, and Money* (1936). For our purposes, suffice to say that excessive monetary inflation can undermine economic growth, which has clearly been the case with Vietnam.

ⁱⁱⁱ Large borrowers included Vinarubber, Petrovietnam, VNPT (Vietnam Posts and Telecommunications), Vinatex (Vietnam Textile Corporation), and EVN (Electricity of Vietnam).

^{iv} Pham Thanh Binh, CEO of *Vinashin*, was suspended from office on July 20, 2010, and charged with mis-management, including the ill-considered use of \$U.S. 750 million that provided key management positions to his son and his brother.

^v Recently, *Vietnam Business News* reported ratings of three Vietnamese banks: *Vietcombank*: BB-; Vietnamese Investment and Development Bank (*Banque pour l’Investissement de Développement du Viêt-Nam*) (BIDV: BB-; and the Vietnam Technological and Commercial Joint Stock Bank (BIDV): BB-. See: <http://vietnambusiness.asia> March 15, 2011.

^{vi} “Continuer d’améliorer les capacités de direction et la combativité du Parti, faire valoir les forces de l’ensemble de la nation, renforcer intégralement le Renouveau afin de créer les bases pour faire du Vietnam un pays pour l’essentiel industrialisé et modernize en 2020” (Continue to increase leadership capacity and engagement of the Vietnamese Communist Party, increase the economic value of all resources of the country, reinforce the process of renewal in order to achieve in Vietnam an essentially industrial and modern economy by 2020) – *Le Courrier du Vietnam*, 20 janvier 2011.

Section 3

Corporate Governance in a Globalized Environment

Competencies Based Development in Emerging Market: Case Study of Toshiba Thailand

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Abstract

From a 180 degree view, this study explores the competencies necessary for a foreman by comparing perspectives of foremen and their supervisors. We utilize both qualitative and quantitative research methods, critical incident interviews, and surveys. Toshiba Thailand Co. Ltd. is selected since all production lines have been moved from Japan to Thailand; therefore, competency development, particularly at the level of the foreman, is crucial to the company to produce global standard products. By adopting Spencer and Spencer's competency model as the basic framework seven more competencies are added according to interview results with top management. The survey results reflect that foreman and supervisor perceptions on the importance of competency for the foreman position are quite similar. Although the finding reveals that functional competencies are important, it is interesting that ethics, which is not mentioned in Spencer and Spencer, is perceived by both foreman and supervisor as an important competency.

Introduction

Human resource is regarded as an organization's best source of competitive advantage (Hay, 2004). Human resources with the right competencies and commitment allow an organization to achieve its goals and achieve success in business (Slocum, Jackson, and Hellriegel, 2008). Low competencies lead to poor jobs and consequently poor performance of the organization (Thai-Ngam, 2005). Therefore, many organizations determine required human resource competencies that allow the organization to implement strategies according to the organization's goals (Spencer and Spencer, 1993). Competencies-based development (CBD) is widely adopted and is mentioned as the best way to manage people in their jobs (Carretta, 1992). Accordingly, CBD is a popular framework in human resource development both in developed and developing countries (Serpell and Ferrada, 2007). Similar to the practical world, research focusing on CBD is gradually increasing in the academic world, with a few addressing emerging countries. Further, among those studies, CBD focuses mostly on the management level, not the operational level. This leads to a knowledge gap. To compete with rapid competition, a company in an emerging country needs more than the manager-level CBD but also operational-level CBD including employees, particularly at the foreman level. Walker and Bierema (2008) point out that in a new competition paradigm, the foreman as a man of the process is crucial. More focus on developing the role of the foreman is needed to ground the strong employee-based resource in the further development of the company.

In the case of Thailand, CBD has taken its first step in implementation, mainly in multinational companies (Tantiwong and Thanatiwakul, 2005), particularly in American subsidiaries. It is interesting to note that CBD is rarely found in the case of Japanese companies in Thailand even though they are major foreign investors and play important roles in driving the major leading Thai industry. This study attempts to fill the knowledge gap. By raising country level competitiveness and focusing more on human resource development, particularly in the level of operation in the manufacturing sector, which is considered an important contributing factor to the prosperity of the country. Among the subsectors in the manufacturing sector, electronics and electric home appliances are considered the leading subsector (BOI, 2010; Viboonchart, 2011). Thai government encourages industry development, at first as an attempt to substitute imports and now to raise its competitiveness as a hub of exports. Currently the country is reported as the ASEAN's largest production base for home appliances with its leading products of air conditioners and refrigerators (BOI, 2010). Toshiba Group Thailand is selected as a case study to explore since the Toshiba

Corporation has decided to move all of its product lines from Japan to Thailand, supporting its aim to use Thailand as its production hub. To supply global standard products, it is necessary for the company to have competent local employees to ensure the effective and efficient use of human resources talent to accomplish business goals. The HR department attempts to develop competencies, particularly at the foreman level, which is crucial for the company to produce global standard products.

Literature review

“Competency” originates from the Latin word meaning “suitable” (Bueno and Tubbs, 2004). In academia world, the concept of competency is first introduced in the work of McClelland in 1973. His work reflects that competency is a determination of work success rather than IQ. Excellent working employees are not those who have good academic records but ones who are capable of applying knowledge to benefit their work. For the last thirty years, competency has changed from being specialized to being a widely adopted technique and a key factor in HR (Vathanophas and Thai-ngam, 2007).

Along the way, various scholars provide a wide range of competency terminology, including

- *skills* (McClelland, 1973; Boyatzis, 1982; Kolb, 1984; Morgan, 1988; Nordhaug, 1993; Sandberg, 2000, etc.),
- *knowledge* (McClelland, 1973; Boyatzis, 1982; Sandberg, 2000, etc.), *motives* (McClelland, 1973; Mitrani et. al. 1992; Spencer and Spencer, 1993),
- *self concept* (McClelland, 1973; Mitrani et. al. 1992; Spencer and Spencer, 1993),
- *attitude* (Slocum, Jackson, and Hellriegel, 2008; Athey and Orth, 1999),
- *self image* (Ieamvijarn, 2005),
- *attributes* (Sandberg, 2000; Rassamettummachot, 2005, UNIDO, 2002),
- *abilities* (Simpson, 2002), *social role* (Ieamvijarn, 2005),
- *traits* (McClelland, 1973; Mitrani et. al. 1992; Simpson, 2002), and
- *behavior* (Slocum, Jackson, and Hellriegel, 2008; Woodruff, 1992).

Although various scholars term competency in various ways, after a detailed review of those terminologies, the definitions of some terms are actually the same. In sum, competency includes a person’s skills, knowledge, motives, self concept, and traits. Competency is the inner drive that leads to unique characteristics of that person. Spencer and Spencer (1993) further note that competency relates to work effectiveness and efficiency. Competency is measurable and can help differentiate between effective from ineffective employees; therefore, competency allows one to outperform than others (Pornnutwittikul, 2000; Saenthong, 2004).

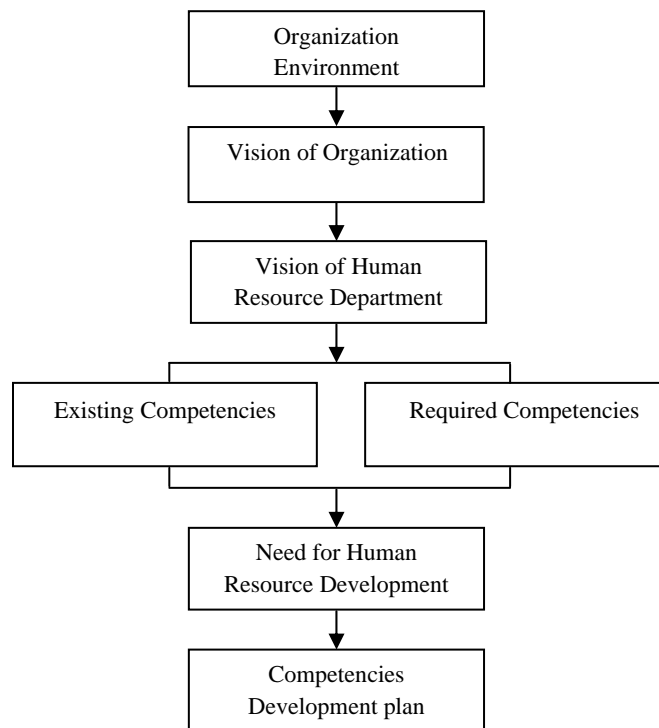
Every organization should encourage competency based development as it benefits both individuals and the organization (Rao, 2000; Rodrigues and Chincholkar, 2005). The challenge in CBD is that some competencies such as skill and knowledge are visible and easy to develop through technical training whereas self concepts, traits, and

motive are the invisible, embedded inner layer of a person and are more difficult to notice, measure, and develop. However, with the systematic competencies based development, these inner competencies can be developed (Tantiwong and Thanatiwakul, 2005; Thai-ngam, 2005).

Competency based at the labor level

Competency is generally classified based on managerial tasks. However, different levels of HR need different competency focuses. Unlike other studies, Serpell and Ferrada (2007) address the different competencies at the labor level. According to their works, competency is divided into three groups: (1) basic competency, which includes a person’s knowledge, ability, and attitude; (2) organization competency, which includes competencies related to the value and culture of an organization; and (3) labor function competency, which includes a mix of knowledge, ability, and psycho-social behavior that cover both technical and generic competencies.

Fig. 1: THE PROCESS OF A HUMAN RESOURCE DEVELOPMENT PLAN



Source: Adapted from Serpell and Ferrada (2007) and OCSC (2004)

To identify competency requirements and gaps as an integrative part of the organizational environment, an appropriate competencies model with proper research data collection such as interview, questionnaire, and focus group with key stakeholders (OCSC, 2004) can be used. This research adopts the above process as the framework for this study.

Research methodology

This research utilizes both qualitative and quantitative research methods aimed to explore the competencies necessary for a foreman to identify competency gaps by comparing perspectives of the foreman and supervisor. First, an in-depth interview with the CEO of the Toshiba group was conducted in order to understand the strategic vision of the company, the direction of the company, and the perception toward the necessity and expected competency of the foreman position, particularly after Toshiba established set its Thailand production center as an export hub.

Secondly, interviews with seven top managers, including general managers, senior managers, and other managers, from five companies under Toshiba (Thailand) group. The companies include Toshiba consumer products (Thailand) Co. Ltd., Toshiba carrier (Thailand) Co. Ltd., Toshiba lighting Co. Ltd., Thai Toshiba electric industries Co. Ltd., and Toshiba Hokuto electronic devices (Thailand) Co. Ltd) were conducted. Critical incident interview techniques are used because this technique is regarded as an appropriate method for indentifying competency (Klemper and McClelland, 1986; Spencer and Spencer, 1993). Interviews focused on current and expected competency levels of the foreman and the competency development plan. Narrative data from interviews were transcribed and analyzed to find out the competencies of the foreman.

Thirdly, by adopting Spencer and Spencer's competency model as the basic framework, competencies that were obtained from the interview in the second stage are compiled to prepare a list of competencies for a survey questionnaire. The Spencer and Spencer model is selected because this model is regarded as one of the most popular models that measures underlying intent competencies while also covering all common competencies of any position (Thai-ngam, 2005; Mansfield, 2000; Chyung et al., 2006). Spencer and Spencer (1993) developed the competency dictionary that represents 20 common competencies for all types of jobs. The common competencies are: (1) Achievement orientation-ACH, (2) Concern for order-CO, (3) Initiative-INV, (4) Information seeking-INFO, (5) Interpersonal understanding-IU, (6) Customer service orientation-CSO, (7) Impact and influence-IMP, (8) Organizational awareness-OA, (9) Relationship building-RB, (10) Developing others-DEV, (11) Directive-DIR, (12) Teamwork and cooperation-TW, (13) Team leadership-TL, (14) Analytical thinking-AT, (15) Conceptual thinking-CT, (16) Technical/expertise-EXP, (17) Self control-SCT, (18) Self confidence-SCF, (19) Flexibility-FLX, and (20) Organizational commitment-OC.

After comparing the competencies obtained from interviews in Stage 2, seven more competencies are identified – ethic, foresight, positive thinking, self development, problem solving and decision making, writing communication, and presentation skill. A few competencies from the competencies dictionary are omitted: customer service, concern for order, self control, and organization awareness. The most common reason pointed out by top level managers is that according to the job description and expected role of the foreman, these competencies seem to receive less focus. A few top managers point out that these competencies are expected from the supervisor rather than of the foreman.

Fourthly, a survey questionnaire is prepared and piloted by 30 people to ensure the reliability of the questions. A short description of each competency is provided to ensure clarity. The same questionnaire, which asks about the importance of competencies for the foreman position, is used to survey 93 supervisors and 146 foremen. The survey uses a five-point scale, asking survey participants to rate their perceptions of how important each competency is for the foreman position. The sample numbers for supervisor and foreman are presented in Table 1. The return rate is 100 percent with all useable questionnaires returned, mostly because support was provided if participants did not clearly understand the questionnaire.

TABLE 1: TOTAL SAMPLE SIZE FOR SIZE FOR SUPERVISOR AND FOREMAN POPULATIONS

Company	Supervisors	Sample	Foreman	Sample
Toshiba consumer production (Thailand) Co. Ltd.	48	37	84	52
Toshiba carrier (Thailand) Co. Ltd.	21	16	56	35
Toshiba Hokuto electronic devices (Thailand) Co. Ltd.	9	7	22	14

Toshiba lighting component (Thailand) Co. Ltd.	9	7	4	3
Thai Toshiba electric industries Co. Ltd.	24	18	40	25
Thai Toshiba lighting Co. Ltd.	4	3	14	9
Thai Toshiba fluorescent lamp Co. Ltd.	6	5	6	4
Control component Co. Ltd.	-	-	7	4
Total	121	93	233	146

Findings and Discussions

From the interview with the CEO, competition in home appliances has been increasing severely. Key success factors of Toshiba Thailand Co. Ltd. are the ability to produce home appliance products at competitive costs, global standard quality products, modern product design, and excellent after sale service. As a hub, it is very important for the company to pay a great deal of attention to the development of human resources. Considering for manufacturing process, the foreman plays an important role since he works most closely with the line workers. A highly competent foreman allows Toshiba Thailand to operate more efficiently and effectively production so the company can deliver home appliance products on time. Furthermore, this can help the company gain advantage by having the first products launching to the market. This is a unique advantage to triumph over competitors in the market.

It is interesting to find out from interview results with top-level managers that there are more competencies to be added to the Spencer and Spencer's competency model. The seven new competencies are ethic, self development, foresight, positive thinking, problem solving and decision making, writing communication, and presentation skill.

As described by top management, the production line is operating 24 hours per day and if any problem occurs, the foreman has to make precise and timely decisions to solve problems. Thus, problem solving and decision making is very crucial to ensure a smooth production process that prevents bottleneck problems, those that stop the production line resulting in a production delay or those that can impact production quality. Reflecting on the importance of "problem solving and decision making," one interviewee said:

"....We have big gap between supervisor and foreman, our foreman pays too much attention on day to day operation. To survive in business, our foreman has to be able to make a quick decision. Faster accessible to root cause of the problem is a must. ..."

"Foresight" is another competency that the top management team believes is important for future growth and performance. One general manager pointed out that:

"....as our competition will not limited only to Thailand, we compete with India, China, and most important is Vietnam. We cannot win with low cost production anymore. Our foreman needs effective communication skills both in verbal and written to help generate better knowledge management for the company. ..."

Furthermore, top management reveals that if the foremen have positive attitudes and attempt to continue developing themselves, it helps raise the competitive advantage of Toshiba over its competitors. Furthermore, changing from shift to shift, the foreman has to pass information regarding production progress, problems, and solutions to the foreman and supervisor of the following shift.

Opposite, a few competencies such as concern for order, customer service orientation, self control and organization awareness are omitted due to the common comments of top level managers that these competencies are expected at the supervisor level not the foreman.

From survey results, in term of demographics, there are 62 male and 6 female supervisors, and 118 male and 25 female foremen as survey respondents.

From the perspective of supervisor, considering mean scores and standard deviations for each competency, 19 out of 23 competencies are regarded as very important competencies for the foreman while four competencies (self development, positive thinking, analytical thinking, and perspective) are regarded as important. The

competencies that received the highest mean score of 4.66 are “team leadership” and “technical/expertise.” The lowest competencies are “analytical thinking” and “foresight” with mean scores of 4.12.

From the perspective of the foreman, the mean scores and standard deviation for each of the following seven competencies are regarded as very important: technical/expertise, team leadership, teamwork and cooperation, impact and influence, ethic, problem solving and decision making, and self development. Among these, “technical/expertise” is perceived as the most important competency with 4.43 mean score. The lowest competency is “foresight” with 3.23 mean score. The rest are regarded as important.

In this paper, the five most important competencies are highlighted. While Spencer and Spencer propose a long list of competencies, they suggest focusing on the five to nine most important competencies. Hence, the top five most important competencies, ranked by both supervisors and foremen, are presented in Table 2.

TABLE 2: SUPERVISOR AND FOREMAN PERCEPTIONS ON THE IMPORTANCE OF COMPETENCY FOR THE FOREMAN POSITION

Competency	Importance of Competency					
	Supervisor			Foreman		
	Means	S.D.	Ranking	Means	S.D.	Ranking
Team leadership	4.66	0.536	1	4.41	0.695	2
Technical/expertise-	4.66	0.536	1	4.43	0.645	1
Teamwork and cooperation	4.63	0.544	2	4.40	0.595	3
Organizational commitment	4.57	0.633	3	4.18	0.646	8
Impact and influence	4.54	0.609	4	4.36	0.644	4
Problem solving and decision making	4.50	0.586	5	4.22	0.652	6
Ethic	4.28	0.542	13	4.25	0.655	5

The finding of the top five important competencies for the foreman position in this study is different from what noted in Spencer and Spencer’s model. Spencer and Spencer (1993) pointed out that top five important competencies for technician job are achievement orientation, impact and influence, conceptual thinking, analytical thinking, and initiative.

The survey results reflect that foreman and supervisor perceptions are quite similar. A focus group of supervisors and foremen was arranged to discuss the results. Supervisors comment that with organizational commitment, the foreman will give priority to achieve organizational needs. With strong commitment, the foreman will be willing help line works and other colleagues complete their tasks. Furthermore, a few foremen who have worked with the company may be inactive. With organizational commitment, supervisors believe that a foreman who has been with the company for a long time is a great asset for the company. On the foreman side, they think commitment is important but not very important.

As for the ethic issue, supervisors comment that it may be difficult to analyze because currently the foreman ethic level is appropriate so they do not give high score to ethics. However, during a focus group, foremen pointed out that when problems occur in the production line, having an ethical foreman is very crucial because transparency information will be shared and reported so the problem can be solved correctly and on time.

Prior to writing this article, the HR department of Toshiba is interested in learning how the results of this study can be used to benefit Toshiba Group. One HR manager shares that previously at Toshiba, where human resources development is mainly conducted through on the job training, offered training focused on rules, regulations, and quality control -- perhaps due to the Japanese cultural influence. There are two new training modules offered to the foreman: leadership development and industrial engineering for foremen. With academic research results, two new training modules on leadership development and industrial engineering for foremen are provided.

Conclusions and Suggestions

In the case of a manufacturing focused company, unlike other types of business, competent human resources in the position of foreman is very crucial. With the new management paradigm, development of foreman competency should be aligned with business vision and mission. The perception of important competencies in a position can be different from different perspectives; from one who performs the job and one in another position who has more understanding on the company's strategic direction.

To adopt competencies based on human resource development, Spencer and Spencer's competency model provides a guideline for examining competencies, which is a good place to start. However, with different organizational environment, unique organizational needs and unique characteristics of the job, searching for information from relevant stakeholders provides a better picture of competencies study.

Besides, to develop competencies for human resource development, not only functional competencies like skill and knowledge, which are easy to notice as important, but also invisible competencies like value, believe, and attitude should not be ignored.

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Corporate Social Responsibility and its interrelation with Customer Relationship Management and Competitiveness in the Restaurant Industry in Guadalajara

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Abstract

The purpose of this paper is to identify the relationship between a set of variables and determine their level of participation in the development of restaurant industry's Competitiveness. For this research we proposed a quantitative approach, based on regression models. 250 questionnaires based on 31 questions and 163 reagents were applied to managers of the Restaurant Industry in Guadalajara, Mexico.

Activities associated with corporate social responsibility and Customer Relationship Management can be taken into account as an approach to develop strategies for this industry in order to guarantee their surviving, development and consequently to support company's competitive goals.

The results were analysed using factor analysis, Cronbach's alpha and subsequently regression models, which indicated that implementation of social responsibilities and CRM actions linked with Knowledge Management, provide appropriated conditions for organizations to develop competitive advantages, benefits and future revenues.

Keywords: Competitiveness, Corporate Social Responsibility, Customer Relationship Management, Knowledge Management.

Paper type – Academic Research Paper

Corporate Social Responsibility

Recently, corporate social responsibility has been taking more importance in the agenda of companies, this mainly as a result of two factors. The first is the recognition of governments to be partially unable to meet the basic needs of its inhabitants optimally, sufficient and general. In this sense, there is great demand from society for the improvement in their conditions of life, which cannot be covered by authorities and as a consequence are cover by private initiatives to satisfy the needs of the population.

The second one is related to the globalization phenomenon, where pressure from international organizations and governments has positively influenced the conduct of companies to behave ethically and to have a positive impact on those regions where they are established. Similarly, companies are collaborating through the imposition of limitations by governments and as well, demanding actions to generate positive impacts in the society.

Corporate Social Responsibility, also known as "corporate social responsibility", "corporate citizenship", "corporate accountability" or "corporate responsibility" is defined as the financial, legal, ethical and altruistic responsibility, which is assumed by a company through the development and implementation of strategies to work with a social cause, (Kelly, 2001; Werhane, 2007; Kima & Reber, 2008) also, it seeks to reduce the negative effects of everyday's activities of enterprises (Dahlsrud, 2008). In this sense, Bronn & Vrioni (2001) agree that CSR is an expression of ethical standards of a company, a reflection of the values that govern the behavior derived from socially responsible and legal systems and an entrepreneurial culture which aims to ensure compliance with social needs. In this regard, Van Der Putten & Dubbink (2009) states that society is also responsible for issuing the principles on which the company will have to act responsibly by attending regulations.

CSR can be classified into two main groups: one group comprises the multidimensional aspect that companies must carry out through social responsibility activities as a part of observing the rules and regulations imposed by the state. While in the second group, the company takes action for the welfare of their clients and society in general, also known as social marketing (Kotler, 1991).

There are different definitions of CSR, however, all authors converge on the idea that its main purpose is to improve the quality of life of society and at the same time it seeks to increase the financial benefits of the company. Hence, a socially responsible company is one profitable company with a CSR agenda equated in importance to other vital activities and also it is aware of the positive or negative impacts on the environment (Dahlsrud, 2008).

Benefits of Implementing CSR

In recent years, there has been a notable increase of aware and better customers whose purchasing decisions are supported by a cost-benefit analysis of the offering products for companies. Another factor that greatly affects the decision-making is a positive image projected through the CSR, which can be translated into a powerful competitive advantage that can differentiate the companies from their competitors thus obtaining the preference of customers (Vrioni & Bronn, 2001). Hence, consumers are benefited from CSR since they obtain higher added value originated from the positive impact on social, health and environment; therefore the customer can reward companies that act ethically by conditioning their purchase (Mohr, Webb, & Harris, 2001; Molteni, 2006)

Finally, it must be mentioned that the costs of development, implementation and maintenance of CSR programs are very expensive and therefore are subject to the financial capacity that the company has (Estallo, Giner, De-la Fuentes & Griful-Miquela, 2007). Similarly, the duration and effectiveness will depend on a correct and consistent administration (Heal, 2005), otherwise, it could origin negative effects to his image and income (Gugler and Shi, 2009; Molteni, 2006).

Competitiveness

Competitiveness is described as the capacity of companies, regions and countries to create higher wealth and generate satisfactory levels of sustainable employment striving to benefit their shareholders and population at the time that they are participating in an international competition (OECD, 1996).

As well, competitiveness is a multidimensional concept divided into distinct stages as mentioned previously: nations, industries and corporations (Ambastha & Momaya, 2004). Porter (1998) considers that international competitiveness is explained from a macroeconomic examination of particular aspects like accessible and reasonably priced employment, abundant raw materials, healthy financial statements, reasonable exchange and interest rates, high-quality administration practices; and through other advantages resultant from a positive trade balance, and an elevate and rising industry productivity. Furthermore, Mohammed (2008) indicates that competitiveness involves the capabilities of a nation to create an environment that endorses the continuous and increasing international trade while improves the quality of life of its population, especially in terms of earnings. Flanagan (2005), also, argues that the most important purpose resulting from competitiveness at the national level must be the human development and enhance the quality of life of its inhabitants.

On the other hand, the second perspective of competitiveness is placed at the industry level, that is defines as the extent of a business sector to satisfy the needs of clients by offering an appropriate mix ratio of goods and services based on attributes and characteristics such as cost, utility and originality. Returning attractive revenues to investors must be a distinctive from a competitive industry, besides the achievement of objectives related with customer's satisfaction (Flanagan, 2005).

At the firm's level, competitiveness is directly related to the performance of the market, where high efficiency is considered the key to success. Once companies have guaranteed their survival, competitiveness depends on the creation and development of new products and services with added value for customers and superior value's return for its Shareholders (Schuller, & Lidbom, 2009). According to the perspective of John Kay (1993), competitiveness is described in four components: capacity for innovation, internal and external strategic relationships, corporate image and strategic assets. In this context, the structure of competition has been extended to tangible and intangible resources that provide an advantage over their competitors (Hamel & Prahalad, 1989)

Moreover, competitiveness also comprises entrepreneurial attitudes such as adaptability, flexibility, superiority, etc., and it is necessary to understand the competitiveness not only as merely productivity but also as a

strength that includes the level of skills developed by an organization, institution or person to participate at equal or superior in the market (Vilanova, et al., 2009).

Several authors have suggested quantitative indicators to measure and analyze the competitiveness, considering factors such as financial; however, other authors also consider important to add intangibles elements (Martin & Stiefelmeyer, 2001). Additionally, Porter suggests that productivity as a good indicator of competitiveness at the firm's level.

Customer Relationship Management (CRM)

Nowadays, enhanced products and services are not enough to compete, it is also necessary to improve and develop relations with the consumer, especially now that their expectations have increased (Puschmann, T., Alt, R., 2001). And despite the academic literature has argued at length the positive effects of managing customer relationships, it has not been until recent years that the CRM has become a need for companies (Pan, SL, Lee, JN, 2003).

For Wright and Ashill (1996), the available market information in a company should increase, considering that the market becomes more or less predictable. Therefore, it can be determined that the Marketing Knowledge will be very useful for business at the time to understand customers and economic environments, allowing firms to make smart decisions, following successful actions and thus maintain a competitive pattern (Kjell, 2002).

In competitive markets, companies invest substantially in the implementation and development of customer relationships (Bohling, Bowman, Lavalle, Mittal, Narayandas, Ramani et al., 2006). Parvatiyar and Sheth (2001) attributed the development of CRM to recent technological changes, especially in innovative interfaces related to customer information, and the philosophy of total quality associated with cost reduction efforts. The authors explain that the main purpose of CRM is to increase the productivity of marketing and increase the value of relationships between consumers and business. It was understood that the CRM is focused on developing and maintaining long-term relationships for mutual and significant benefits for both companies and customers (Buttle, 2001).

While the customer relationship management (CRM) has been defined in different ways (Grönroos, 1995, Morgan & Hunt, 1994; Rigby, Reicheld, & Schefter, 2002, Payne and Frow, 2005, Winer, RS, 2001), common characteristics can be found in all concepts: Using technology to create a dialog that allow companies identify their products and services to attract, develop and retain consumers. Currently there are modern CRM packages that include applications that store information such as finance, inventory and resource planning.

Other researchers, such as Srivastava et al. (1999) proposed the CRM as a management process that identifies the needs of consumers in order to create awareness, build customer relationships and acquire information about the perception of the organization and its products. It can also be said that even in smaller organizations, CRM is characterized by the integration of customer information from various sources through technological resources (Clark, McDonald, and Smith 2002).

In general, CRM focuses on acquiring customers, know them, provide them with services and anticipate their needs (Goodhue, DL, Wixom, BH, Watson, HJ, 2002), but it is also considered as the result of the continuing evolution and integration of marketing ideas, technology and information (Boulding et al., 2005).

It stressed that the integration of CRM requires a strategy or model, an analysis of organizational capacities and the company's willingness to adopt and implement this model. The CRM will require a functional and cross integration of processes, people, operations and marketing skills through information, technology and enterprise applications (Kendrick & Fletcher, 2002, Payne 2001, Payne & Frow, 2005).

In addition, companies need to reorganize their operations and contemplate the customer as the center of all processes and strategic decisions, before acquiring a platform for CRM. Therefore, only when a structure and customer-oriented philosophy has been introduced, the company is ready to implement this system (Petrisans, 1999 and Buttle, 2000; Bona, 2003 and Herschel 2004). The authors Payne and Frow (2006) argue that successful implementation of CRM depends on four factors: organizational changes aimed at CRM, employee commitment, the pre-deployment assessment and management of projects related to CRM.

On the other hand, the CRM might not be successful. Among the main reasons for failure is the lack of strategic planning before implementation (Day, 2000), technology implementation problems and lack of

organizational integration and customer orientation (Maselli , 2001). Moreover, Kale (2004) states that there are seven sins that cause no or negative results of CRM: (1) viewing the CRM Initiative as a Technology Initiative, (2) Lack of customer-centric vision, (3) Insufficient Appreciation of customer lifetime value, (4) INADEQUATE support from top management, (5) underestimating the Importance of change management, (6) failing to re-engineer business processes; and (7) underestimating the Difficulties Involved in data mining and data integration.

Handled effectively, CRM will then be a reaction chain generated based on new strategic initiatives to communicate with customers. It has documented positive effects of its implementation, such as more effective marketing and sooner introductions of products and services to the market (Grant & Schlesinger, 1995; Hill, 1998; Ruediger, Grant-Thompson, Harrington, & Singer, 1997; Dick Lee, 2000). Customers are satisfied because CRM helps companies to differentiate their offerings and companies can improve customer experiences by effectively managing their information and their relationships through various stages (Mithas et al., 2005)

Hypothesis

H1. To higher levels of Corporate Social responsibility, the greater the level of competitiveness.

H2. To higher the implementation of CRM systems, the greater the level of competitiveness

Analysis of Results

The corresponding analysis were realized separately in order to determine the impact of each group of independent variables related with the development and application of CRM activities on the dependent variable “Competitiveness”. The first model, analyzed how company’s competitiveness can be enhanced trough the improvement of products and services taking into account the necessities and customer’s characteristics as a result of CRM system’s implementation. However, for the second model it was necessary to make some changes in order to compare dependent variables, therefore variable competitiveness focuses on the company’s level of sales as an indicator of it. The results are shown below.

Table 1 shows that the reliability obtained by the Cronbach Alpha has a level of 0,707 which indicates that the selected variables are interrelated by 70.7%. As a result, it can be considered that these variables are highly eligible to make statistical studies are presented below.

TABLE 1: RELIABILITY STATISTICS

Cronbach's Alpha	N of Items
.707	8

Source: Own Elaboration

In Table 2 it is described the ability to explain the total variance regarding the dependent variable "Competitiveness". In this case the value of R for the first model, it was demonstrated that the variance of the dependent variable is predicted by the independent variables (CRI2, MPP8 and MPP9). Consequently, the linear relationship between the criterion variable and predictor variables is fairly significant. On the other hand, for model 2 the competitiveness variable predicted by the independent variables (RSG1, RSG4, RSB4) represents low levels of both R and R2, as a consequence the level of error is highly significant proving that there is no close association between selected variables.

TABLE 2: MODEL SUMMARY^B

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.685 ^a	.470	.462	.651
2	.312 ^a	.097	.085	.931

Model 1 a. Predictors: (Constant), CRI2, MPP8, MPP9 b. Dependent Variable: CRI1

Model 2 a. Predictors: (Constant), RSG1, RSG4, RSB4 b. Dependent Variable: FP2

Source: Own Elaboration

At last, Table 3 shows that the ANOVA p-value associated with the value of (F) for model 1 has a uniform level; therefore it is considered statistically significant. As well, it is determined that this case the null hypothesis is rejected. However for the model, the results do not evidence significance; consequently, the null hypothesis is accepted.

TABLE 3: ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	19.661	3	6.554	7.5	.000 ^a
Residual	182.152	210	.867	55	
Total	201.813	213			
2 Regression	78.749	3	26.250	62.	.000 ^a
Residual	88.882	210	.423	019	
Total	167.631	213			

Model 1 a. Predictors: (Constant), CRI2, MPP8, MPP9. b. Dependent Variable: CRI1

Model 2 a. Predictors: (Constant), RSG1, RSG4, RSB4. b. Dependent Variable: FP2

Source: Own Elaboration

Conclusions

According to the results obtained from this research it can be noted that in the case of the restaurant industry in Guadalajara, there is a fairly significant relationship between CRM activities and competitiveness, which enhances the creation of a competitive advantage through the correct supply of products and services as a result of the investigation of customer needs, characteristics and preferences.

Concerning corporate social responsibility, its implementation leads to a slight increase in the level of competitiveness of companies that integrate the local restaurant industry. However, it also was possible to demonstrate that such activities are carried out without continuity and consistency and, as well, companies do not have a properly structured program. Therefore, it can be interpreted that CSR at the restaurant industry in Guadalajara is an activity not equated in importance to other functional activities of the companies and due to the current economic situation implementing it only represents an expense that does not return profits.

Finally, it is important to remark that CRM and corporate social responsibility represent an essential role in the competitiveness of enterprises, as a consequence managers and entrepreneurs will have to incorporate them into their business strategies, align to their core activities and designate them higher investment in order to make use of potential the advantages.

Finally, to lessen limitations, it has been suggested that additional research using samples from other industries or countries in view of the fact that research focuses only on the restaurant industry in Guadalajara,

Jalisco. Moreover, as quantitative data rather than qualitative data were collected, the research does not illustrate the particular work conditions of participants.

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Does Changing Corporate Governance Alone Result in Better Firm Performance?

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Abstract

An important public policy issue actively debated in the financial economics literature is whether firms can increase their value solely by changing one or more corporate governance mechanisms. In this paper, we develop and implement a new approach to examine whether firms choose their governance structure optimally and the effect of governance changes on firm performance. Specifically, we analyze the impact of large governance changes on future firm performance using a differences-in-differences approach. We sort firms based on changes in their governance structure for thirteen different governance measures, focusing on firms that make large governance changes to enhance the power of our tests. We find no significant difference in future performance between firms that have a large increase in governance measures and firms that have a large decrease in governance measures. We conclude that firms choose their governance structures in equilibrium, and changing governance alone does not result in better future performance. These findings are robust to many different specifications, definitions of large governance changes, samples, and definitions of firm performance.

I. Introduction

There has been considerable discussion in the academic literature of managerial agency problems that arise from the separation of ownership and control (see for example, Jensen and Meckling 1976 and Amihud and Lev 1981). A number of corporate governance mechanisms have been proposed to ameliorate this agency problem between managers and their shareholders (see Morck, Shleifer, and Vishny 1988, Jensen and Murphy 1990, among many others). Such studies have found a positive *contemporaneous* correlation between firm performance and various governance measures, which has led to numerous attempts to reform governance by institutional investors, stock exchanges and the Congress. For example, the NYSE and the Nasdaq require board committees to be mostly comprised of independent directors; activist institutional investors have lobbied firms for compensation reform; and the 2002 Sarbanes-Oxley Act vastly increased director accountability. There is, however, little evidence has been provided on whether changing a firm's governance structure in a particular direction can lead to subsequent better firm performance for the general firms and important questions remain on whether firms can improve their performance as expected by simply following the governance prescriptions. Making a causal argument that governance changes in a particular direction can deliver value-increasing effects for all the firms is "jumping the gun," or at the very least, incomplete. As Prendergast (1999, page 19) aptly argues (emphasis added) "... many of the factors relevant for choosing the level of compensation are *unobserved* ... As a result it is difficult to determine whether compensation schemes are *set optimally*, or to claim that the relationship between pay and performance is too low or too high." There is also no consensus on whether even the *observable* factors constitute value-increasing or value-decreasing governance practices.¹ There are few guidelines for empirical specifications because of the absence of formal theoretical models that link firm performance to a firm's governance structure. The issue becomes even more complex when considering the full array of governance mechanisms that firms can jointly and/or independently choose. Results from examining one governance mechanism cannot be extrapolated to the set of other governance mechanisms. While the firm might make seemingly suboptimal choices along one dimension, the governance structure as a whole may be optimal.

However, proposals for governance changes, in many cases based on the significant linear relationship between various governance measures and performance from the literature, are almost always targeted towards

specific governance measure(s) and are imposed on all firms. But as shown by Benmelech and Moskowitz (2010), Hermalin and Weisbach (2006), and Chidambaram and Prabhala (2009), firms and individuals can frequently offset the impact of external regulation by making other changes. Further, the regulations and the offsetting behavior can impose substantial dead weight costs. It is therefore important to evaluate whether changes in one or more governance measures are sufficient to deliver higher firm performance. Our empirical approach is as follows. Based on the simple economic argument that governance proposals implies, we ask whether firms that *change* their governance structure in one direction consistently outperform those that change their governance structure in the opposite direction. Sorting firms based on the governance change alone and examining the future performance of each sample will reveal whether such governance changes alone, without considering other observable and non-observable firm characteristic, results in value increases, as the governance proposals suggest. By contrasting the future performance differences between the samples of firms that change governance in the opposite directions allows us to examine the impact of governance changes controlling for the endogeneity of governance and firm characteristics. Essentially, our approach represents a *differences-in-differences* methodology and helps mitigate endogeneity concerns (Bertrand, Duflo, Mullaiathan 2004). Given that there is no complete model of corporate governance and firm value that helps us understand which variables are exogenous and endogenous, our empirical approach avoids the twin Herculean tasks of finding instrumental variables for each corporate governance mechanism and finding an unexpected exogenous event.

We first determine the governance changes in firms for thirteen different governance measures, three measures based on the board of directors, five measures of pay-performance sensitivity, two measures of shareholder rights, institutional ownership, and CEO turnover. We then sort the firms into those that have experienced a large increase in the governance measure, and those that experience a large decrease in the governance measure. In constructing these samples, we control for abnormal prior performance to control for the problem of reverse causality. We also control for significant corporate events in the firm such as asset sales and mergers to control for governance changes driven by these corporate events.

Our differences-in-differences methodology compares performance between the sub-sample of firms with a large increase in governance measures and the sub-sample of firms with a large decrease in governance measures. We find that governance changes in both directions lead to statistically significant performance changes. However, comparing the performance between the two sub-samples of firms with the opposite directions in governance changes, we find that there is no statistical difference in the percentage of firms with positive future performance, nor is there a statistical difference in the mean and median of future industry-adjusted stock returns in the two sub-samples. The only exceptions seem to be the samples in which firms have large increases in the amount of cash bonus paid to the CEO and the sample in which firms have a large increase in the percentage of shares held by institutions. We find the latter result to be due to “timing” of trades by rather than an incentive to generate better performance.

We interpret our results to imply that firms optimize on a Coasian envelope across various governance measures. Our results are also consistent with prior work that has found each governance mechanism to be endogenously related to firm characteristics (see, for example, Demsetz and Lehn 1985, Smith and Watts 1992, and Himmelberg, Hubbard, and Palia 1999). But different from the literature, our findings *directly* show that simply prescribing a particular change in any governance measure cannot generate expected value-increasing effects for all the firms. Our results also offer evidence in favor of firms being in equilibrium with respect to their governance structure. In addition, we note that our study is over an 11-year period (1992-2002) that is significantly larger than most previous studies. Further, we have concurrently examined a broad set of governance measures rather than focusing on just one or two governance measures as in the prior literature.

One reasonable argument that is often made is that a firm’s prior performance characteristic may influence the impact of governance changes. For example, governance changes can be expected to have a significant positive impact on performance in the sample of firms that experience large performance declines. Or, during good times some firms may use the opportunity to reduce the quality of their governance while others might seek to reinforce good performance by improving governance. We expand our study to examine these arguments by constructing two additional samples of firms. We create an *Abnormally Bad Performance* sample that consists of firms that have experienced large performance declines and an *Abnormally Good Performance* sample that consists of firms that

have experienced large performance increases. Unlike the samples of firms in our main empirical tests, the set of firms in the *Abnormally Bad Performance* and the *Abnormally Good Performance* samples do not vary as a function of the governance measure analyzed. In these samples therefore, we are able to construct a compound *Aggregate Governance Change* measure for each firm. In addition to examining the effect of changes in each of the thirteen governance measures, we also examine the impact of the *Aggregate Governance Change* for each firm in the abnormal performance samples. Once again, we find no statistical difference in the performance of the firms with increases in governance measures and the firms with decreases in governance measures.

We take several additional steps in order to ensure the robustness of our results (results available on request from the authors). We repeat our analysis on all samples (no prior abnormal performance, and abnormally good and bad performance samples) with firm performance defined as industry-adjusted Return-on-Assets, the Fama-French-Carhart four-factor asset-pricing model, and Tobin's Q. Our results hold for each of these alternative performance measures. We also changed the various cutoff points for defining a large governance change, different non-monotonic functional forms on the value-insider ownership functional forms and find no significant changes in our results.

As an alternative to our future performance tests, we conducted event studies to examine the impact of governance changes. Details on a firm's compensation and the board of directors are revealed in the firm's proxy statement. We therefore use the proxy filing date as the event date and examine returns around the proxy filing date. Consistent with our results, we do not find significant abnormal returns around the proxy filing date.

2. Methodology and Data

In this section we describe the data sources, the construction of our samples of firms with large increases in various governance measures and firms with large decreases in various governance measures, and provide summary statistics of the data.

2.1. Research Design

We begin by determining the governance changes in firms for thirteen different governance measures, three measures based on the board of directors, five measures of pay-performance sensitivity, two measures of shareholder rights, institutional ownership, and CEO turnover. In constructing our sample, we control for abnormal prior performance to control for the problem of reverse causality. In our base case analysis, our sample excludes firms that experience extremely good or extremely bad performance changes in order to control for reverse causality. We also exclude firms that undergo a merger, an acquisition, or a CEO change in the two years before and after the current fiscal year (except when examining CEO Turnover) as firms undergoing changes in control experience natural changes in their governance (see Lehn and Zhao 2006).² In parallel empirical tests, we also separately examine firms that have experienced abnormally large performance declines or abnormally large performance increases.

We sort the firms into those that experience a large increase in the governance measure, and those that experience a large decrease in the governance measure, and study the future performance effects in each of these sub-samples. Our classification of the governance changes in the opposite directions is based on the significant linear relationship between various governance measures and performance that the literature has reported. For example, the literature has shown that board independence, pay-for-performance sensitivity, or shareholder rights are positively related to firm performance.

For each sub-sample, namely the sample with a large increase in governance measures and the sample with a large decrease in governance measures, we determine the future industry-adjusted performance and test if the performance is statistically significant. We then test for differences in performance between the sub-samples of firms with the opposite directions in governance changes. If one restricts the analysis to only increases in governance measures or only decreases in governance measures, one might incorrectly conclude that governance changes leads to performance changes. In performing these tests, our hypothesis is that governance changes in a specific direction can have value-increasing effects and deliver better performance than the opposite direction.

While we classify the governance changes in the opposite directions in determining our two large governance change samples, these ex-ante directions are not crucial to our differences-in-differences approach. By comparing the performance of firms that change governance in one direction to the performance of firms that change governance in the opposite direction, we will also be able to identify any other consistent governance impact. In our robustness tests, we also consider other ways to sort firms based on their governance changes and firm characteristics, e.g. we use several different cutoffs for defining a large governance change, examine subsamples of firms with high and low R&D expenses, and differentiate between transient and dedicated institutional investors.

2.2. *Sample Construction*

We use data from CRSP and COMPUSTAT to construct fiscal-year industry-adjusted stock returns. We exclude ADRs and firms that have total assets less than \$100 million. We do not exclude financial firms and utilities to be consistent with earlier research (e.g. Gompers, Ishii, Metrick, 2003). Further, to be included in our sample firms should not fall in the top quartile of industry-adjusted stock returns in the identification year and have industry-adjusted stock returns in the bottom quartile in each of the prior two years, nor should firms fall in the bottom quartile of industry-adjusted stock returns in the identification year and have industry-adjusted stock returns in the top quartile in each of the prior two years (to control for reverse causality).

We use data from ExecuComp, IRRG, The Corporate Library, CD Compact Disclosure and CDA Spectrum to create our governance measures as described in the previous section. Using a random sample of firms we first verify that there are no any coding errors from the firm's Proxy Statements for each previously described governance measure. For each governance variable, we determine the changes in the governance measures from the previous year to the current year for each firm that satisfy the conditions above and for which we have available data. We then select the sample of firms with the changes in each governance measure sorted into the top or bottom 5%,³ i.e., the sample of firms with the largest increases or with the largest decreases in each of the governance measures. We perform these steps separately for each of the governance measures, which results in thirteen different sample pairs consisting of firms with the largest changes in each of the governance measures with the opposite directions.

Table 1 reports the mean and median for each of the governance measures for the sub-sample of firms with a large increase in governance measures and for the sub-sample of firms with a large decrease in governance measures. Note that the governance changes are significant between each pair of the sub-samples with the opposite directions in governance changes in terms of each governance measure. For example, the median increase (decrease) in *Shares* is 1.6% (-2.7%), the median increase (decrease) in *G-Index* is 2(-2), the median increase (decrease) in *Instshares* is 40.8% (-40.8%), and the median increase (decrease) in *Bsize* is 2(-3). The number of firms with CEO turnover is 12.53%, which is in line with the base level of turnover rate of 11.19% in ExecuComp firms (we estimate this as the ratio of the number of total CEO changes to the number of firm-years in ExecuComp).

TABLE 1: SAMPLE GOVERNANCE CHARACTERISTICS

This table shows the mean (median) level of governance characteristics for our sample of firms. Firms are classified based on whether they have an increased governance measure or a decreased governance measure. The table reports the number of firms, the average level of the governance measure in the identification year ($Year_0$), and the governance change from the previous year ($Year_{-1} - Year_0$), for firms with increased governance measures and for firms with decreased governance measures. The sample period is 1992-2002. Median values are shown in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Increased Governance Measures			Decreased Negative Governance Measures		
	# Firms	Level $Year_0$	Change $Year_{-1} - Year_0$	# Firms	Level $Year_0$	Change $Year_{-1} - Year_0$
<i>Pay-Performance Sensitivity:</i>						
Bonus	304	\$3600 (\$2000)	\$1949 ^{***} (\$1177) ^{***}	304	\$715 (\$98)	-\$1425 ^{***} (-\$917) ^{***}
Options	295	3.64% (2.85%)	1.61% ^{***} (1.16%) ^{***}	303	1.95% (1.41%)	-1.39% ^{***} (-0.98%) ^{***}
Ppswealth	290	14.74% (10.22%)	3.79% ^{***} (2.21%) ^{***}	299	13.53% (10.78%)	-5.22% ^{***} (-3.28%) ^{***}
Newoptions	294	1.37% (1.01%)	1.20% ^{***} (0.91%) ^{***}	293	0.20% (0)	-1.47% ^{***} (-1.06%) ^{***}
Shares	301	14.80% (11.23%)	3.05% ^{***} (1.56%) ^{***}	304	13.35% (9.90%)	-4.73% ^{***} (-2.76%) ^{***}
<i>Shareholder Rights:</i>						
G-Index	290	9.87(10)	2.57 ^{***} (2.00) ^{***}	41	8.37 (8)	-2.93 ^{***} (-2.00) ^{***}
E-Index	92	3.16 (3.00)	2.34 ^{***} (2.00) ^{***}	17	0.94 (1.00)	-2.29 ^{***} (-2.00) ^{***}
<i>Board Monitoring:</i>						
Bsize	229	10.48 (10.00)	2.36 ^{***} (2.00) ^{***}	133	9.73 (9.00)	-3.40 ^{***} (-3.00) ^{***}
Boutsiders	178	71.77% (75.00%)	26.08% ^{***} (20.00%) ^{***}	172	56.69% (58.33%)	-15.37% ^{***} (-12.50%) ^{***}
Bmeeting	510	11.15 (10.00)	4.87 ^{***} (4.00) ^{***}	263	6.68 (6.00)	-5.63 ^{***} (-5.00) ^{***}
<i>Other Governance Measures:</i>						
Instshares	139	74.62% (76.28%)	43.71% ^{***} (40.77%) ^{***}	136	28.88% (27.60%)	-42.68% ^{***} (-40.78%) ^{***}
Insiders	365	7.48% (6.91%)	-7.48% ^{***} (-10.42%) ^{***}	319	15.53% (18.21%)	6.77% ^{***} (8.01%) ^{***}
Turnover	755	-	-	4610	-	-

3. Future Firm Performance

We examine the impact of governance changes by examining the industry-adjusted stock returns over the two-year period subsequent to the year the firm experiences a large governance change (i.e., from $Year_{+1}$ to $Year_{+2}$).

We also compare the industry-adjusted stock returns of the sub-samples over a three-year period that includes the current year and the subsequent two-year period (i.e., from Year₀ to Year₊₂). The three-year performance measure explicitly control for the price impact of the governance change in Year₀; if a governance change occurs in the middle of the year and the firm's stock price moved at the time of the event, it would be reflected in the three-year performance measure.

Table 2 shows the subsequent industry-adjusted stock returns for the sub-samples of firms with an increase and with a decrease in each of the thirteen governance measures. We report results for each governance measure separately. The data shows that firms with decreased governance measures have significant negative mean and median performance in the subsequent two-year period for some of the governance measures we examine. For example, the median two-year industry-adjusted stock returns following a decrease in *Ppswealth*, *Shares*, and *Insiders* are -6.91%, -6.91% and -10.48% respectively, all of which are significantly different from zero. However, firms with increased governance measures also show similar negative performance in the subsequent two-year period, although this effect is not significant. For example, the median two-year industry-adjusted stock returns following an increase in *Ppswealth*, *Shares*, and *Insiders* are -3.27%, -2.46%, and -6.57% respectively, although the effect is not significantly different from zero for *Shares*. Further, the percentage of the firms with positive industry-adjusted stock returns is the same for the sample with an increased governance measure and the sample with a decreased governance measure, except for *Bonus* and the *Instshares* measures for which firms with an increase in these measures have a significantly higher percentage of firms with positive industry-adjusted stock returns.

When we compare the performance of the firms with large increases in governance measures with that of large decreases in governance measures,⁴ we find that the performance of the firms is not significantly different within each pair of samples for all the governance measures. These results hold for both mean and median values. For example, the mean (median) two-year industry-adjusted stock returns following a decrease in *Ppswealth* is -3.02% (-6.91%), which is not significantly different from -1.66% (-3.27%) of mean (median) two-year industry-adjusted stock returns following an increase in *Ppswealth*. Further, the results are robust to performance measured over the three-year period rather than the two-year period, except for the mean and median *Bonus* measure and the median *Instshares*, where firms with an increase in these measures have significantly better three-year period (Year₀-Year₊₂) performance, compared to the firms with a decrease in these measures. With respect to *Ppswealth*, *Shares*, and *Bmeeting*, there is also a significant difference for the three-year performance measure. We note however, that firms in the sample that is designated as having decreased these governance measures seem to perform better, which runs counter to those proposed in the literature.

For the performance differences between an increase and a decrease in *Instshares* measure, there is a reversal in sign between the performance differences measured over the three-year window (Year₀, Year₊₂), which is positive with the average return difference of 12.55%, and performance differences measured over the two-year window (Year₊₁, Year₊₂), which is negative with the average return difference of -36.75%. This implies that the performance measure in Year₀ is highly positive for the firms with an increase in *Instshares* (median increase of 40.77%) compared to firms with a decrease in *Instshares* (median decrease of -40.78%). There can be two potential explanations for the association between increased institutional shareholdings and performance. An increase in institutional shareholdings can result in better performance because institutions provide value increasing monitoring services. Alternatively, institutions may have superior information by virtue of being large shareholders and could be "timing" an increase (decrease) in their shareholdings when they know that share prices are likely to increase (decrease). We study this further by examining the change in institutional ownership separately for institutional shareholders that are classified as *Dedicated* institutions (those that hold shares and are likely to monitor) and those that are classified as *Transient* (those that trade in reaction to firm performance) as defined by Bushee (1998). We find that the differences in industry-adjusted stock returns exist only when we examine changes in *Instshares* for the sample of *Transient* institutional shareholders. This result makes it more likely that the difference in firm performance over the three-year window (Year₂-Year₀) for our *Instshares* measure is because of timing by institutional shareholders.

TABLE 2: SAMPLE PERFORMANCE CHARACTERISTICS

This table shows the mean and median of the industry-adjusted stock returns (%) for the sample of firms classified by their governance changes. For each governance measure, firms are classified as having adopted an increased governance measure and a decreased governance measure. Data reported are the average industry-adjusted stock return over the two year period, (Year₊₁ - Year₊₂), and the average industry-adjusted stock return over the three period (Year₀ - Year₊₂), following the identification year. The sample period is from 1992-2002. The table reports the *p-values* for tests of the performance difference between increased vs. decreased governance measures: *t*-test of the difference in the means, the *Wilcoxon* rank-sum test for the difference in the medians, and the χ^2 -test for the difference in the percentage of firms with positive performance. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels respectively.

Governance Measure	Period	Increased Governance Measures			Decreased Governance Measures			Test of Performance Diff: Increased vs. Decreased Gov. Measures		
		Mean	Median	%Neg	Mean	Median	%Pos	Mean	Median	%Pos
<i>Pay-Performance Sensitivity:</i>										
Bonus	Year (+1,+2)	-4.59**	-3.43**	54.3	-3.91*	-5.30***	40.9	0.82	0.46	0.30
	Year (0,+2)	3.27*	4.15*	42.1	-7.21***	-7.04***	35.0	0.00***	0.00***	0.00***
Options	Year (+1,+2)	-3.26	-4.64**	59.6	-1.49	-4.03	43.6	0.63	0.76	0.50
	Year (0,+2)	-0.08	-1.74	54.8	0.98	0.32	50.2	0.75	0.70	0.30
Ppswealth	Year (+1,+2)	-1.66	-3.27*	58.2	-3.02	-6.91***	41.4	0.70	0.25	0.94
	Year (0,+2)	-1.09	-1.73	55.3	5.18*	0.00	49.7	0.06*	0.26	0.29
Newoptions	Year (+1,+2)	0.79	-3.43	56.2	-2.30	-5.25	44.5	0.47	0.69	0.86
	Year (0,+2)	2.06	-0.96	52.7	-0.06	-2.28	45.3	0.54	0.48	0.69
Shares	Year (+1,+2)	-0.29	-2.46	56.2	-1.86	-6.91***	42.2	0.69	0.16	0.75
	Year (0,+2)	-0.97	-1.79	55.4	5.09*	-0.03	49.7	0.06*	0.29	0.27
<i>Shareholder Rights:</i>										
G-Index	Year (+1,+2)	-0.43	0.00	49.3	0.21	-0.11	52.0	0.87	0.94	0.90
	Year (0,+2)	0.11	0.00	49.7	0.09	-3.62	56.0	1.00	0.87	0.58
E-Index	Year (+1,+2)	-6.28	-5.35***	29.6	-4.26	0.99	54.5	0.82	0.38	0.31
	Year (0,+2)	-3.72	-3.92**	35.1	-5.91	-9.71	72.7	0.73	0.51	0.61
<i>Board Monitoring:</i>										
Bsize	Year (+1,+2)	-7.33***	-6.87***	37.2	-4.02	-1.45	55.6	0.34	0.15	0.21
	Year (0,+2)	-4.15**	-6.64***	38.8	-3.36*	-2.70*	56.6	0.76	0.27	0.49
Boutsiders	Year (+1,+2)	-0.80	-7.51	61.2	-2.84	-3.28	43.7	0.68	0.54	0.42
	Year (0,+2)	-3.00	-6.02	58.5	-2.26	-3.52	42.8	0.83	0.44	0.81
Bmeeting	Year (+1,+2)	0.29	-5.12***	57.2	3.10	-1.28	47.8	0.53	0.25	0.26
	Year (0,+2)	1.44	-3.00*	57.4	6.34**	1.47	53.5	0.17	0.04*	0.02
<i>Other Governance Changes:</i>										
Instshares	Year (+1,+2)	-7.95**	-12.12***	66.3	28.80**	5.92	56.4	0.01**	0.01**	0.00
	Year (0,+2)	17.49***	7.24***	42.3	4.94	-5.08	42.6	0.20	0.01**	0.06*
Insiders	Year (+1,+2)	-3.23	-6.57***	57.6	3.23	-10.48*	42.2	0.364	0.448	0.98
	Year (0,+2)	0.23	-3.74	54.9	4.14	-3.91	46.5	0.470	0.675	0.77
Turnover	Year (+1,+2)	-0.86	-3.51**	56.4	-1.82***	-2.98***	43.8	0.602	0.936	0.86
	Year (0,+2)	-0.07	-0.23	56.1	-0.29	-1.51***	45.1	0.859	0.648	0.47

For the *Bonus* measure, the performance difference measured over the three-year window ($Year_0$, $Year_{+2}$) is positive, and performance difference measured over the two-year window ($Year_{+1}$, $Year_{+2}$) is not significant. This implies that the performance measure in $Year_0$ is highly positive for firms with an increase in *Bonus* (median increase of \$1177) compared to firms with a decrease in *Bonus* (median decrease of -\$917). An increase in bonus paid to executives can result in better performance because the prospect of bonus gives executives the incentives to expend effort and increase firm value. However, since we do not observe the ex-ante bonus commitment made by firms, it could also be possible that we only observe cases where firms have experienced better performance and therefore paid higher *Bonus* and do not observe cases where there was an ex-ante commitment to pay a higher bonus, but firms did not do so because the firm's performance was poor. We also separately examined the $Year_0$ performance alone for each of the sub-samples and the results (available from the authors) are similar to the results using the 3-year performance measure.

Our results are independent of assumptions that a governance change in any particular direction is good and a governance change in the opposite direction is bad, although the literature and the governance change proposals can suggest so. What we note is that governance changes in either direction seem to generate similar performance effects and moving in one direction is not better than moving in the opposite direction.

Our empirical methodology tests the impact of a sort on a single dimension, specifically a sort on a particular governance measure, and we do not control for other firm characteristics in analyzing the performance of the two samples of firms. Our findings imply governance changes alone do not capture the impact of governance on firm performance and have important implications for public policy with respect to governance reform in firms. Governance reform is not amenable to simple prescriptions that require cosmetic changes in any particular governance measure. We call for a nuanced view that recognizes the endogeneity of governance and that what constitutes good governance can vary across firms.

4. Abnormal Performance Sub-Samples

One reasonable argument that is often made is that a firm's prior performance characteristic may influence the impact of governance changes. For example, governance changes can be expected to have a significant positive impact on performance in the sample of firms that experience large performance declines. Or, during good times some firms may use the opportunity to reduce the quality of their governance while others might seek to reinforce good performance by improving governance. We expand our study to examine these arguments by constructing two additional samples of firms. Accordingly, we construct an *Abnormally Bad Performance* sample that consists of firms that have experienced large performance declines and an *Abnormally Good Performance* sample that consists of firms that have experienced large performance increases.

Our results for the Abnormal Performance Samples are summarized as follows. Similar as our original sample of firms, we do not find significantly different firm performance between the firms that have increased governance measures and the firms that have decreased governance measures, except for isolated instances. We also find, as before, governance changes in both directions lead to significant performance changes for both the *Abnormally Bad Performance* and *Abnormally Good Performance* samples. Since we use the same sample of firms for all the governance measures in each of these two samples, we can also examine the range of the governance changes that firms implement. We observe that governance changes often go in different directions after extreme performance changes, which suggests that firms change their governance in complex ways. Our results for the main sample and the two *Abnormal Performance* samples present strong evidence against the hypothesis that governance changes in a specific direction can have value-increasing effects and deliver better performance than the opposite direction. Note that these results do not imply that that governance is irrelevant but rather that that firms are endogenously optimizing their governance structure in response to observable and unobservable firm characteristics. Our results are consistent with the strand of the literature that has shown that firms are in equilibrium and that governance changes represent the envelope of value maximizing choices made by firms (see, for example, Demstev and Lehn 1985, Lehn, Patro, and Zhao 2003, Smith and Watts 1992, Coles, Lemmon, and Meschke 2006, Himmelberg, Hubbard and Palia 1999, and Palia 2001). But different from the literature, our findings *directly* show

that simply prescribing a particular change in any governance measure cannot generate expected value-increasing effects for all the firms.

5. Robustness Checks

We perform several additional tests as robustness checks of the results presented in the paper. In this section we discuss these additional tests and their results.

In our research design, we have defined performance as the industry-adjusted stock returns. In our robustness tests, we use three alternative definitions of performance and repeat our analysis. First, we use the industry-adjusted return-on-assets, where industry performance is calculated at the three-digit SIC level including all the firms on COMPUSTAT. Second, we use the intercept from Fama-French-Carhart regressions (Alpha). The Fama-French-Carhart regressions are run using monthly returns and factors obtained from the author's website. Third, we use the industry-adjusted Tobin's Q, where industry Tobin's Q is calculated at the three-digit SIC level including all the firms on COMPUSTAT. We find that our basic results hold when using these alternative measures of performance as well.

We replicate our performance tests by including the year of the governance change in the period over which we measure future performance. Incorporating the year of the governance change allows us to test whether our results arise because the stock market reacts quickly to the potential beneficial effect of governance changes. Including the year of the governance change does not change our results. We find similar results using both industry-adjusted stock returns and industry-adjusted ROA, which makes it unlikely that our results are driven by the possibility that the stock market reacts quickly in anticipation of future increases in accounting performance.

We have also considered alternative ways to construct a sample of firms with large governance changes. First, we have considered governance changes in firms that meet some criteria, e.g. low R&D vs. high R&D firms, and defined large governance increases and large governance decreases in these sub-samples. This addresses the concern whether governance changes in firms with high R&D and in firms with low R&D can be different, perhaps because of differences in their complexity. Second, we have replicated our study using a two-year window to measure governance changes for the case when we use the industry-adjusted stock-returns as the performance measure. We note however that changes over a two-year governance window require us to overlap years over which we measure governance changes and performance changes or incur a substantial time lag between governance changes and performance changes. Third, we have considered other cut-offs of up to 25% in defining what constitutes a large governance change in developing samples of firms with large governance changes. In the case of the G-Index and E-Index, we consider all changes in the index, i.e. we compare the performance of firms with an increase in the G-Index (E-Index) with the performance of firms with a decrease in the G-Index (E-Index). Our results are similar to those reported when we consider these alternative definitions of governance changes.

We have also performed event studies around the proxy filing date for the firms in our samples and do not find significant abnormal returns. It is difficult to find announcement dates for many of the governance measures that we examine and firms potentially disclose a plethora of information on various aspects of governance, compensation, and corporate events, on the proxy filing date, which makes it difficult to interpret the findings of these event studies.

6. Conclusions

Can any particular governance changes alone deliver value-increasing effects for the general firms, as the governance proposals suggest? The absence of formal models for corporate governance incorporating the many different governance choices of firms makes it difficult to test whether governance is optimally chosen. Furthermore, many observable and unobservable factors are likely to be important in determining the choices firms make and empirical tests that link governance levels to performance are subject to the critique that governance changes are thus endogenous. In this paper we develop a differences-in-differences approach to infer the optimality

of a firm's governance choices by using data on governance changes instituted by firms. If firms are not choosing their governance structure optimally, then firms can *change* their governance structure toward "value-increasing practice." In other words, firms that change their governance structure in a particular direction should consistently outperform those that change their governance structure in the opposite direction.

Our findings suggest that the interplay between governance, observable and unobservable firm characteristics, and firm performance, is not amenable to a simple sort on any single governance measure or firm characteristic. Our study is a large sample study based on a broad sample of firms across eleven years and speaks to the average impact of governance on firm performance. It is possible that for some firms, governance changes in a particular direction do lead to better performance. Future research is required to ex-ante identify a sample of the firms and their characteristics, in which such value-increasing effects can deliver.

Our study suggests that there is no simple formulaic approach to governance reform consistent with the arguments made by Brown, Goetzmann, Liang, and Schwarz (2009), Romano (2004) and the Interim Committee on Capital Market Regulation (2006). Very dissimilar changes in governance can lead to similar performance results, suggesting that unobservable firm characteristics such as corporate culture and management philosophy play a role in determining the impact of governance reform. While these results indicate that firms should, and do, try to optimize their governance structure, it is best perhaps to encourage firms to audit their governance choices rather than use externally imposed mandates that can prove to be costly.

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End Notes

¹For example, CEOs who receive a disproportionately large percentage of the compensation to top five executives can reflect entrenchment (Bebchuk, Cremers, and Peyer 2007) or tournament incentives (Kale, Reis, and Venkateswaran 2009). Founder CEOs can decrease firm value reflecting entrenchment as noted by Anderson, Duru and Reeb (2009) and Morck, Shleifer, and Vishny (1988) or can increase firm value. Similarly, there is a debate whether perquisites consumption, such as corporate private jets, reflect agency problems (Yermack 2006) or reflect efficient management (Rajan and Wulf 2006).

² For robustness, we replicate our tests and check all our results for samples without this exclusion of firms with a merger or CEO turnover and find no changes in the general results.

³ Because every firm experiences changes in institutional ownership from year to year and the variance of the changes is high, we define large changes in the *Instshares* measure as the highest and lowest one-percent change in institutional ownership.

⁴ For the *Turnover* measure, we compare firms with CEO turnover and those without CEO turnover.

⁵ Contact the authors for the full list of references.

Theoretical Interfaces for a Coherent Picture of MNCs' role in Global Environmental Governance

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Abstract

The mainstream international business research (IB) has not tackled the question of politics as an important factor influencing MNC operating environment except in a very disunited way. It is understandable, as political environment is only one part of the macro environment where MNCs are operating. Nonetheless, the political questions, especially environmental ones, are becoming more meaningful due to for example climate change and the consequent near future regulation that firms have to confront and find solutions to manage the situation. Corporate social responsibility and business ethics are fields very close to IB but for some reason IB has not been able to draw from these for building coherent picture of the meaning of politics for MNCs. Also political sciences (global political economy and political philosophy) have started to recognize corporations as important actors in environmental policymaking. This paper plots these fields to find possibilities to fill gaps in IB research.

Introduction

Today the global socio-political environment in which companies operate is substantially shaped by increasing understanding of depth of environmental problems. The situation is tried to be governed through national and global environmental politics. In this situation multinational corporations (MNCs) 'drift' into participating in creating and executing environmental politics. The perspective of corporations' power in international environmental policymaking should more strongly take into account that corporations have become part of civil society and not being separate from it. This growing role is widely questioned in various fields. In the time of trends towards wider political collaboration, how does the global society see MNCs' role in it? Business research (here more precisely international business research, IB) has not taken standing, at least not a clear one, in this discussion. However, there are discussions that could be used to advance the research also in field of IB.

This paper concentrates on exposing how other selected fields of research have theoretically conceptualized this novel role of companies and how those approaches could advantage IB. Thus, this paper is by nature theoretical, finding relevant new perspectives from political sciences, especially fields of *global political economy* and *political philosophy*. Research in global political economy have concentrated to the question by studying corporations as political actors among others (e.g. Clapp, 2005; Newell, 2008a; Kelleher 2006; Pattberg and Stripple, 2008; Auer 2000). Political philosophy discusses the wider background with stress on e.g. justice and authorities (e.g. Parker and Pearson, 2005; Wijnberg, 2000 Singh and Carasco, 1996). In societal environmental decision-making model of democracy requires extension that discusses institutional roles, legitimacy, power relations, representativeness and participation justification of decision-making and especially MNCs' role in it. To this the discussed fields have more or less answered, albeit in very different ways that are able to deepen our understanding of MNCs in socio-political environment.

Thus, this paper explores theoretical interfaces of these different fields interested in corporations as political actors in order to clarify how the position of MNCs is today understood on academic discussions and what could be gained with drawing elements from other fields' theorizings to IB. This discussion paper is, by nature, a combined literature review and thus, a search for research gaps and untapped possibilities to fill them. First, I make a short review on 'mainstream' IB research and the lack of its political emphasis. After that, I discuss how corporate political activity (CPA, most commonly used term in business research considering the meaning of political environment and corporations in it) has been discussed in research and which are the main subthemes or upper

topics that raise questions of CPA. As a result, I outline the possibilities of IB research for learning from other fields and utilizing the existing research especially for IB purposes especially theoretically but also for new empirical approaches. The paper does not suggest that CPA even should be in the centre of IB research but that its meaning is today minimal and does indeed earn more attention in order not to lose important discussions totally to other fields of research. Multidisciplinary approaches and novel research problems could be one refreshing answer for IB research that is struggling to keep its position in business research that today has to understand the corporate-society relations more profoundly.

IB Research and the Political Dimension

Traditional IB Research and Its Gaps

At the present moment the ongoing discussion on the meaning of IB research has led into a situation where IB research is trying to find and establish its core competences, that is, own focus. The discussion has revealed the fact how IB research is fractured in various theory traditions and polarized in two very distant main subfields: to cross-cultural studies and to strategic and economics based studies. The research on macro-environment is not non-existent in IB research. It is in fact the focus of institutional analysis. Institutional approaches however are a mixed bunch of subjects and focuses. When discussed on general level of IB research, the institutional approach is often discussed very superficially as it is difficult to be situated in only standing among the wide field of IB research. (Brannen and Doz, 2010; Buckley and Lessard, 2005.) These facts complicate the search for IB's contribution to corporate political activity (CPA) research which has not been able to take clear standing for example in its relation to institutional approaches which, however, are crucially important when studying the political environment.

The mainstream IB research has somewhat established fields that dominate the research. Internationalization processes, networks and strategies connected to them still have major role in answering the crucial IB questions. These fields are also stigmatized strongly by positivist and quantitative characteristics. In this kind of research political aspects appear as studying the national political contexts of target countries and sometimes home countries. (Cf. Andersen, 1993; Johanson and Vahlne, 2009; Fletcher, 2008; Andersson et al., 2002.) So does this fairly narrow understanding in mainstream IB research give an extensive picture of all political aspects of MNCs' operations and especially on global level? Supposedly, the meaning of political aspects is understood, as it arises every now and then also in the mainstream research. The political dimension belongs in research to somewhere in crossroads of multidisciplinary research agenda that cannot be in the centre of IB research especially if 'the big question in IB research' is formulated as Peng (2004) does: 'What determines the international success and failure of firms?' Obviously, politics is not the main target when considering this question.

For the reasons mentioned above, IB research has not been able to capture the complexity of political operational environment. This crosses both economics and cross-cultural perspectives understanding the political context mostly in ways that can be easily measured, directly causally explained and in the separated in home country – target countries sectors. The 'A' journals tyranny and weak traditions of critical or alternative research in IB fields certainly have not encouraged new scholars diverging from those established perspectives and fields. (Cf. Brannen and Doz, 2010.)

Peng (2004) argues that globalization is not in the core of IB research. If this is accepted, the lack of incorporating global politics in IB research is understandable. Global politics seem to belong to one of those research topics that is shared by various social sciences but is not in the core of any. However, this approach can give much to IB research as it strengthens the multidisciplinary of IB research by bringing in fields such as global social sciences and other fields of business research (see e.g. Newell, 2008a). Bringing other disciplines into IB research does not weaken the core but instead can offer interesting approaches to more and more complex questions in IB as the world globalizes and environmental problems are becoming more acute.

A foothold for political analysis of MNCs' actions could be found in the fact that IB theories have received critique of their inability of handling the contexts. Politics is an essential part of history, culture and societal emergence of institutions and thus define both explicitly and implicitly operational environment of firms on global

and national level. The societal level analysis of for example formal and informal institutions becomes even more important in the age of globalization as these factors can have significant effect on strategic choices of a firm (lobbying activities, interest group relations etc.). It must be also noticed that in fact institutions are the basis of all economic activities through existing business systems. In practice society influences business systems by government or state dominance in shaping economic environment and regulatory systems. (See e.g. Redding, 2005.)

New Openings

Political aspects in IB are background or context factor in various fields inside the research but not explicit or even clearly defined when discussed. However, various other fields have brought the question more openly into discussion and opened it through themes such as business ethics, corporate responsibility and environmental questions.

The research on MNCs and their political activities and especially actual political outcomes seem to be in significant amount in other hands than those of IB researchers. The role of CPA questions has grown due to corporate responsibility (CR) discussion which is closely tied to interest group and network discussions. Also political sciences have tackled it through globalization, power relations and democracy aspects. CPA also appears strongly in strategy research which could be one of the important links to IB research. Unfortunately in IB strategy research political questions often are just analysed through for example political risk analysis. (Wilts, 2006; Keillor et al., 1997; Jakobsen, 2010; Niebling and Shubik, 1982; Alon and Herbert, 2009.)

Accordingly, it appears that discussion of CPA is growing on other fields of research and of course in public debate and even in half-scientific literature (Matten, 2009). Is it that other fields have been able to bring the questions of socio-political environment explicitly out where IB research has had to hide them in order to be able to focus on 'more relevant' questions concerning MNCs? Has this interesting question about MNCs been hijacked by other disciplines such as management and organization studies and political sciences? At least partly but it does not count out the possibilities of grasping the question in future. (Hadjikhani, 2000.)

Detomasi (2008) argues that corporate responsibility initiatives and its development have been strongly influenced by political institutional structures and effects of globalization. In the age of globalization firms cannot enter the global world without carrying some conceptions, ways of actions and values with them when acting internationally or globally. The effects of globalization are often positive for firms but when for example global environmental problems have to be solved the multinationals must take a new standing because of their significant economic and also political power. (See e.g. Parker and Pearson, 2005; Clapp, 2005; Singh and Carasco 1996.) This is one important link that IB has partly consciously delimited outside its scope.

The major problem of identifying CPA as a wider and more crucial question in IB or also other business research is the large fragmentation of perspectives among countless different fields. For example Getz (1997) identifies already nine basic social science theories discussing the question. According to her, the research has centred to answering questions who, why and how but the scope of time and space have been much less examined. For example these theories could give a wider picture of CPA but as they are rarely utilized together the picture given by CPA research is often only partial. Another relevant option would be to concentrate on much deeper analysis of certain cases even without trying to draw a bigger picture.

CPA research literature however is multiform, rich and numerous. Still for example the analysis of actual political outcomes and long-term effects has been in 'offside'. (Hillman et al., 2004.) This is one of those things why for example corporate responsibility discussion seems to have taken over in crucial parts of CPA. On the other hand, Hadjikhani (2000) claims that the political behaviour of firms has not gained notable attention. He might mean exactly the fact that the political actions are often understood very narrowly or analysed in their full scope (i.e. e.g. the actual socio-political outcomes). Mantere et al. (2007) also notice that misdirected CPA research is unable to identify the moral questions of firms' political activities. This can be also a practical problem if the understanding of political actions and corporate responsibility do not confront. This is strongly due to the fact that CPA research is often driven by a demand from business practitioners.

For example Newell and Levy (2006) are alleging that corporate political power must be analyzed through combining analysis of prevailing material conditions, organizational forms, and discursive practices and give up

concentrating to only state-centric thinking in creating global environmental governance (Newell & Levy 2006: 174–177). But are power relations somehow too delicate issue for IB researchers to touch even when many other fields have been able to produce even very critical research on firms in societies? Do business research and especially IB research leave the whole field of corporations' influence on surrounding societies to other fields? (E.g. Schuler, 2008; Barley, 2010.)

Process for Learning from Other Fields

The idea of finding new directions for a research field from other fields is not exactly original. However, business research, especially IB research has not been able to systematically learn from fields that could have much to give in order to build more coherent understanding of MNCs in a complex global political environment. Thus, I propose a systematic search for overlaps in themes from fields that I have identified as most fruitful sources of new theoretical and also empirical perspectives for business studies. In Fig. 1 is presented the idea in a very simplified form. I propose that the process could simply start from the already identified gaps in corporate political activity research. My focus in this paper is environmental politics because of its significantly global nature and complexity in dimensions. It is also good example as it has been one of the pathbreaking areas where corporations have had to explicitly participate in policymaking in national and global level through their own corporate responsibility programs but also by participating in negotiations and agreements which shape their operational future (e.g. McCormick, 2006; Charkiewicz, 2005; Bernhagen, 2008; Vormedal, 2008; Bled, 2009).

The above presented critique leads easily to the notion of deficiency of business research to understand the context it operates with comprehensively. Political science, to be exact global political economy and the research on international relations, offers keys to this lack. (See e.g. Hillman et al., 2004.) Further, to analyse the whole picture more profoundly to be able to contribute to popular discussions on business ethics and corporate responsibility, the analysis can continue by drawing from ethical perspectives, namely philosophy of politics and ethics. By this process, the paper suggest that IB could better analyse the operational network and multiple-way effects of corporate political activities in its own networks of stakeholders.

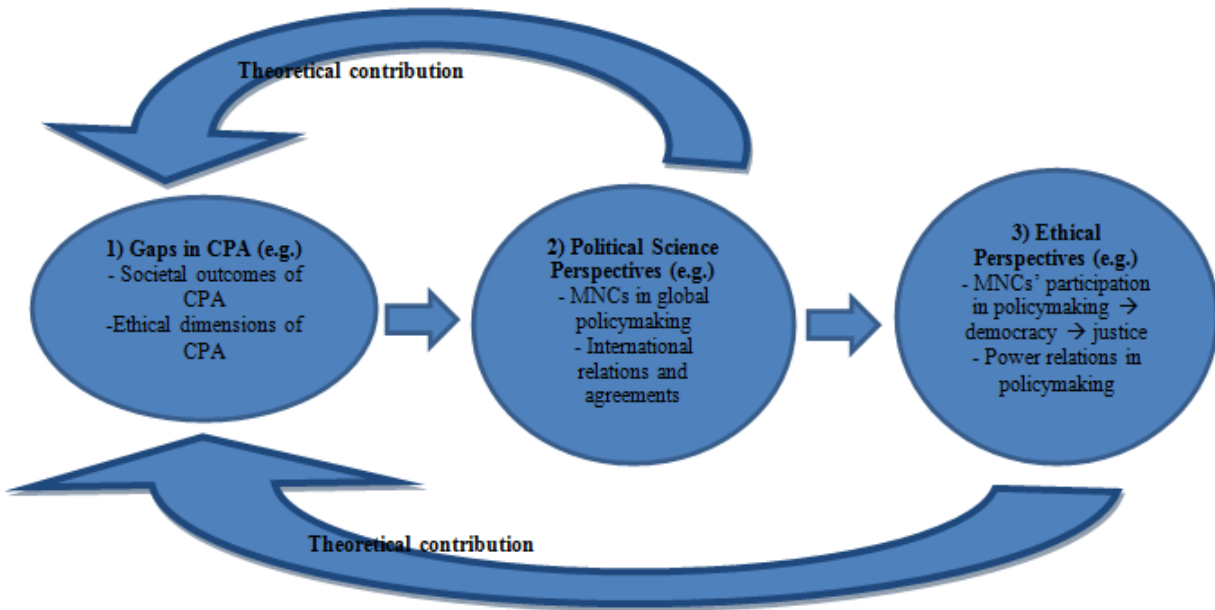


FIG. 1: SIMPLIFIED DESCRIPTION OF PROCESS OF LEARNING FROM OTHER FIELDS

Political Sciences Meets Business Research

In this section I present some perspectives from recent discussions in political sciences. These perspectives have obvious linkages to the interests of IB research and thus, could offer new insights for studying the relations of corporations and politics especially in the area of environmental questions. My focus is in aspects that have not been in the centre of IB research but could give fruitful new dimensions to study the nature of MNC: Ethical aspects of CPA, societal and institutional outcomes of CPA.

In their article, Mantere et al. (2007) claim for bringing in an ethical perspective in studying CPA. Business ethics and corporate responsibility discussions have long traditions in examining corporations as morally responsible actors in societies. They can be considered as relatively critical approaches in business studies but not anymore in a long time as really marginal. Thus, it is surprising how little IB has drawn from these widely discussed perspectives. Analysis of morales behind CPA and its meaning to liberal democratic societies have already been explicitly raised up in for example corporate citizenship discussion. This discussion has been able to combine political analysis to business studies and as the main representative of global business research, IB should certainly take its standing there. (See also Moriarty, 2008; Bazin, 2009.)

The traditional and most straightforward view of MNCs' relation to politics is tied to the ambiguous concept of 'lobbying'. Through lobbying MNCs are not only trying to build a certain kind of reputation but also directly influence decision-making by offering information on issues under decision processes. Lobbying and lobbying strategies are connected to corporations' stakeholder and network relations. In environmental issues lobbying seems to be crucial for various societal actors, also others such as non-governmental organizations (NGOs), as different political interest groups have very diverse goals and values connected to the certain issue. Corporations may seem the situations as political risks for business. (Gullberg, 2008; Holtbrügge et al., 2007; Jakobsen, 2010.)

However, the institutional field of global politics is much more complex than above described picture. The international business networks for example are already by nature somewhat politically biased because of their cross-border relations. Actors in those networks are tied to dealing with different political environments. In addition within last one or two decades businesses have started to network more closely with also other than business actors. Thus, non-market actors are knowingly brought from 'stakeholder' role into the business networks. Example of this is co-operation with NGOs. (Falkner, 2003; Pattberg 2005; Welch and Wilkinson, 2004; Hadjikhani et al., 2007.) As in situation of for example lobbying from business network perspective in global politics seems quite straightforward strategically fairly simple process, then close co-operation with other actors complicate the situation. Systematic theoretical and empirical work is nearly absent in this area. Combining institutional views and network approaches with research on international relations and corporate responsibility approach could offer valuable prospects to the formation of institutional environment of businesses.

If business researchers, and most importantly businesses themselves, are willing to admit the political power and responsibility of market-oriented actors in global political arenas, there are also some fundamental questions to be asked. What is actually environmental politics, is it governing the nature or something else? Who are the accepted participants in decision-making and who are left outside or to uncertain position? And perhaps, most importantly from the perspective of IB, what kind of position are businesses ready to take when considering the relation of markets and natural environment? All these questions come down to the political role of multinational businesses. (Newell, 2008a, 2008b; Auer, 2000; Pattberg and Stripple, 2008.)

In changing and globalizing world multinational corporations are in position where they not only operate in markets but also in natural environment that is territory for also people living in it and enjoying or suffering of its good or bad state. Understanding this new position is the common denominator for perspectives I have suggested above. (E.g. Steurer et al., 2005; Englander and Kaufman, 2004; Rondinelli, 2007.) The societal and ethical analysis of global businesses is a rising theme in various research fields. IB would have a lot give to the discussion by combining the perspectives to more traditional approaches as MNCs are the core competence of it. Understanding this when designing the theoretical backgrounds in future studies but also taking new perspectives in empirical analysis of CPA, IB could gain much itself too.

Conclusions and Discussion

Corporate political activities are indeed not in the centre of IB research. They maybe even should not be but now the political aspects of multinational corporations' are in position where they are mentioned incidentally or pruned to a form where they are analysed only for example as a risk of entering new markets. However, I argue that the attention to the whole scale of CPA has not been identified by IB research but it should be more coherently understood and gain certain status.

When MNCs are facing new challenges in a globalizing world the international business research has amazingly little tackled these questions in the mainstream. Even when political questions would not be brought into the centre of IB research it could benefit from learning from other disciplines actively discussing the issue. There is already strong links to organizational theories and strategy research and thus, the leap would be easy to widen the perspectives that way.

The existing research on CPA can be situated in the following fields of research: strategy (especially political strategy), institutional theories (formal and informal institutions, here especially global institutions but also national ones) and stakeholder and network approaches. Concentrating on actual political outcomes and political relations' long-term meaning for MNCs are still almost non-existent. The offering of these fields was briefly discussed with an objective to concentrate especially to themes in those fields that are already in the area of IB or at least close to it.

The research gaps presented in this paper show the unfortunate shallowness of (IB) corporate political activity research. Considering the examined literature at least following issues have gained amazingly little attention: Studying the actual political outcomes of CPA, utilizing multiple approaches in order to create a more coherent picture of CPA, studying the ethical and responsibility issues of CPA and overall building a strong tradition

around the CPA discussion. These gaps are not impossible to be filled even in frameworks of mainstream IB research if the traditions just are willing to yield to 'unfamiliar' areas. We have already seen this shift happening partly but there are still strong counterforces based on the characteristics and traditions of IB research.

This paper has aimed at offering a systematic approach for opening the 'IB mind' to other fields of research and daringly setting the research questions in order to breaking the moulds should not be in general anything new in research. Also increasing the amount of case studies and comparative studies that are by nature multidisciplinary could reveal interesting new streams.

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CSR for channel relationships in the food sector: Evidence from Italian SME manufacturers *

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Abstract

This paper is focused on the relationships between large retailers and small-medium enterprises (SMEs) in the food sector. A supplier perspective was adopted in the analysis of the large retailers' role, by considering how CSR policies adopted by retailers affect manufacturers organization and strategies.

The analysis has been based on a quantitative empirical research focused on the food sector, as a sector in which traceability, supplier's coordination and control are critical to ensure the development of ethical supply chains. In the survey, a questionnaire was addressed to a sample of 89 Italian SME manufacturers to investigate the primary factors influencing retailer-supplier relationships in those cases in which CSR policies by large retailers are adopted.

A limited diffusion of systematic and structured systems for CSR emerged among firms that have not developed significant relationships with large retailers.

1. Introduction

In the last two decades, economic development has increased firms' opportunities to achieve their economic goals, without respect to ethical and social values. As a result, in most countries, an increasing independence of products, capital and labor markets has been permitted to maximize profits, in turn, weakening the introduction of an internationally accepted rules system.

In Europe, this phenomenon has encouraged an endogenous response from society, with the emergence of new needs, for a more balanced process in creating value. Above all, more-educated and consciousness consumers are expressing their need for more transparency in production processes and supply chain operations. This issue has been investigated in many studies (Dagnoli, 1991; Shaw and Clarke, 1999; Shaw and Shui, 2001; Caselli, 2003; Maignan and Ferrel, 2004; Sciarelli, 2007).

Today, aware consumers are not only interested in new products, but they also require more information about manufacturers, labor conditions under which products are assembled, and how production systems impact the environment and economic growth of the local communities along the entire supply chain (Strong, 1996; Shaw and Clarke, 1998, Harrison *et al.*, 2005).

As consumers are becoming more responsive to ethical behaviors, they are also more aware of product evaluations (Macchiette and Roy, 1994; Hemingway and Maclagan, 2004) and their motivations are increasingly related to the need of personal and social benefits (Freestone and McGoldrick, 2008). Consequently, companies are becoming more ethical and socially responsible, by developing methodologies and tools linked to Corporate Social Responsibility (CSR) initiatives.

The literature illustrated a positive correlation between CSR policies and business performance (Balabanis *et al.*, 1998).

Recently, the importance of CSR has increased in all economic sectors, including retailing. In this sector, large international retailers are investing relevant resources to cope with consumers' ethical needs (Whysall, 2000; Pepe, 2003; Jones *et al.*, 2005). Key international retailers have begun to offer ethical products, and thereby, consolidate their approach to CSR through assortments related to sustainable development, fairness, and the distribution of value

among all subjects within the supply chain.

Consumers seem to be less critical of retailers, than they are of large manufacturers. In many cases, they perceive retailers as only partially responsible for the activities along the supply chain of products and tend to reserve more trust toward retailers' behaviors. Nevertheless, some retailers are becoming known as socially irresponsible companies, such as Wal-Mart (De Man, 2005; Wilson, 2005) and Benetton, with the latter being accused of child exploitation in Turkey in 1998 (Body *et al.*, 2005). At the same time, the low level of public awareness of CSR initiatives has illustrated the challenge that companies face in building a positive reputation. Companies that identify themselves as CSR leaders will enhance their reputation (De Man, 2005).

Retailers are often channel leaders and can control various activities in the supply chain. As a result, they appear more capable of adopting active roles in sustaining and leading international supply chains following a CSR approach. The most innovative retailers have capitalized on this opportunity and have managed their assortments and marketing policies by considering the extra-economic values in all the activities of supply chain partners.

This article offers an overview of the main drivers of CSR initiatives in which large retailers are leaders. A suppliers' perspective was adopted in the analysis of the large retailers' role, by considering the point of view of small-medium enterprises (SMEs) in the food sector. The primary objective of the analysis was to identify the key CSR issues along the large retailers-led supply chain.

Literature on key issues related to retailer-led channel relationships was considered (Baily, 1987; Davidson, Sweeney and Stampfl, 1988; Shuch, 1988; Packard, Winters and Axelrod, 1996; Musso, 1999). Afterwards, a quantitative survey was conducted, focusing on the grade of diffusion of CSR practices among SME manufacturers and the main factors influencing retailer-suppliers relationships within a retailer's CSR approach.

The quantitative survey regarded Italian small and medium sized manufacturers in the agro-food sector that were involved as suppliers in international supply chains led by large retailers. The choice of the food sector was due to the more sensitive ethical consumer issues. These issues require retailers to place priority in the adoption of CSR practices within such products.

2. The role of large retailers for CSR in international supply chains

CSR has recently become a new corporate buzzword, as well as an emerging field of competition among companies. CSR is an enlarged concept of responsibility, depending on a general evolution of "values" linked to the relationship between a business organization and its environment. For companies, this means responsibility to consumers, versus that of its shareholders, with the latter also related to the maximization of profit and assets.

In the literature, several studies have been concerned with corporate ethics and corporate responsibilities. Some of them investigated the importance of ethics in the purchasing and selling activities of industrial companies (Redelius and Bucholz, 1979; Dubinsky and Gwinn, 1981; Trawicket *et al.*, 1988; Wood, 1995). However, few studies have explored the importance of ethics in the buyer-seller relationships of retailer companies (Dickerson and Dalecki, 1991; Arbuthnot, 1997; Musso, 1999).

More recently, the boundaries of the classic concept of business ethics have enlarged, entering the wider realm of CSR and sustainable development. Indeed, the expression "sustainable development" synthesizes the three dimensions of the problem: *thesafeguarding of the environment, the respect for human rights, and the fairness in the redistribution of value among all subjects of the supply chain.*

Many authors have also focused on CSR within supply chains, primarily in relation to industrial, multinational corporations. Many of the corporations of interest were leaders of wide and complex supply chains (Carter, 2000; Park and Stoel, 2005; Mamic, 2005; Maloni and Brown, 2006; Amaeshiet *et al.*, 2008; Gonzalez-Padronet *et al.*, 2008). Some contributions have considered CSR in the national and international marketing activities of retail companies (Nicholls, 2002; Pepe, 2003; Jones *et al.*, 2005; Risso, 2007).

In regard to CSR, *the supply chain represents a focal point to adopt strategies related to the concept of responsibility and evaluate them.* Indeed, in those supply chains where it is necessary to manage all processes and relationships under the coordination of a channel leader, it is significant to understand the specific role of each

player and the general action conducted by all supply chain members. In particular, the retailer's role becomes relevant when its large dimension and its capability to influence consumer choices bring it to a position of a channel leader. Large retailers can play a predominant role in controlling the sustainability of both the production and distribution processes of their products. They frequently become guarantors of the entire value chains, particularly those of their own brand products that directly reflect their corporate image. As retailers are close to consumers and obtain information about them, they also have the ability to better understand the final demand and activate retail marketing tools based on local needs, as well as extra-economic needs. In this way, retailers are the first to face requests from consumers for more ethical and responsible approaches to managing products. At the same time, they are able to play an active role in influencing consumer behaviors toward ethical and social issues.

The increasing consumers' sensitiveness to the concept of sustainability has encouraged innovative retailers, particularly those from advanced countries within Europe (mostly in the United Kingdom), to adopt a CSR for managing their assortments (Freestone and McGoldrick, 2008). The retailers' involvement in ethical issues began in the 1990s, with organic products and Fair Trade food assortments. These CSR principles were then applied to beauty, personal care, handmade and clothing products (Balabanis, Phillips and Lyall, 1998; Harrison, Newholm and Shaw, 2005). In other sectors, operators also developed dedicated financial services (ethical and ecological funds) and eco-tourism initiatives.

By the adoption of CSR in managing assortments and related supply chains, retailers can more quickly and effectively, achieve the following goals:

- market differentiation (Piacentini *et al.*, 2000);
- enhanced word-of-mouth and the reduction of expensive marketing investments (Pepe, 2007);
- customer and worker loyalty (Pepe, 2003);
- eligibility for inclusion into a stock-market index that includes only those companies deemed to be socially responsible.

CSR policies have strategic and organizational implications within internal processes, but the CSR also requires paying attention to the behaviors of all partners involved in the product supply chain, especially those of the own brand products. Food-retailers insert CSR principles in the supply chain into the following ways:

- modifying and improving relationships with suppliers;
- exerting control, and in some cases, adopting vertical integration strategies;
- cooperating with existing CSR based supply chains (mainly for organic and Fair Trade products).

According to this approach that is recommended to be followed by retailers, *traceability*, means the ability to track any food, feed, food-producing animal or substance used for consumption through all stages of production, processing and distribution, becomes an important control tool.

Traceability is linked to a legal framework and is a way of facing potential risks that can arise in the food production and logistic processes to ensure that all food products in the European Union (EU) are safe (reg. UE 178/2002, D. CEE 2001/18, Dir. CEE 1760/2000, d.lgs. 155/97). In addition, traceability permits targeted withdrawals and the provision of accurate information to the public, thereby controlling each partner in the products supply chain. In particular, traceability systems are a technical tool to monitor each step of the supply chain, a managerial system to reduce costs, and an intervention system, in cases of non-compliance.

Traceability issues are more critical in international supply chains and relationships with SME suppliers. In international supply chains, there are two main reasons for this: the first is related to the need of warranties on the quality of products coming from countries with different legal frameworks, therefore focusing on product safety and the use of chemical components; the second concerns labor conditions that apply to employees in less-developed countries, the fair distribution of value among suppliers and the environmental impact of the production processes.

In regard to relationships with SME suppliers, there are some critical aspects to consider. In particular, it is very hard for SMEs to respect CSR policies. There are many reasons for this (Grayson and Dodd, 2007):

- the application of conduct codes can be excessively onerous (in reality, or as perceived by the firms);
- SMEs may have less of a direct advantage in CSR policies;
- SMEs have less time and fewer resources to invest in CSR processes, with more immediate business priorities;
- knowledge of CSR practices is limited and there are problems in training human resources;
- and
- external supports to firms are inadequate.

Recent studies have argued that for SMEs, CSR activity is more difficult, because entrepreneurs do not have the experience to help them to evaluate and manage key factors for CSR (Murillo and Lozano, 2006a; 2006b; Lepoutre and Heene, 2006; Williamson *et al.*, 2006). Despite such difficulties, large retailers are increasing their standards of safety, security, environmental sustainability and working conditions in the supply chains. In addition, SME suppliers must respect large corporation wishes to maintain relationships (Musso, 1999; Grayson and Dodd, 2007; Pepe, 2007; Pepe *et al.*, 2008).

3. Empirical research and methodology

To investigate the CSR approach within retailer-led supply chains, a quantitative research was conducted in 2008, in order to increase our understanding of SME manufacturers in their relationships with large retailers. The quantitative study focused on the food sector, as a sector in which traceability, supplier's coordination and suppliers control are critical to ensure the development of ethical supply chains.

A questionnaire was addressed to SME manufacturers to investigate the primary factors influencing retailer-supplier relationships in those cases in which CSR policies by large retailers are adopted. Data were collected through telephone interviews with 89 Italian SME manufacturers in the food sector (Tab. 1)¹.

The 89 interviewed SMEs were part of a panel used in an earlier study (Pepe *et al.*, 2008). Interviews were conducted with entrepreneurs, sales managers and marketing managers.

TAB 1 – FOOD SMES PANEL DESCRIPTION

	N. of firms interviewed
N. Food SMEs	89
Exporter	81
Suppliers of large retailers	89
- Italian retailers only	45
- International retailer only	3
- Both national and international retailer	41
Geographic area: North Italy	33
Center Italy	26
South Italy	30

The questionnaire focused on general issues related to supply relationships and specific issues with the CSR. General issues were divided in three main categories: market dynamics, export strategies and relationships with large retailers. The CSR section related to the awareness of CSR phenomena, CSR implications in business processes, CSR tools and instruments.

Among the 89 enterprises interviewed, 30 responded to the section regarding CSR. To extend the sample, in

2009, the relevant questions on CSR, were re-submitted to the 59 firms that did not answer the CSR section. 29 of them provided information on the policies they adopted, while 30 confirmed they did not adopt any CSR initiative. As a result, the total number of usable questionnaires for the CSR related issues analysis rose from 30 to 59.

The questionnaire was planned on the basis of three research questions that emerged from the literature review.

The first research question referred to the importance of the CSR in functional areas of the firm and in relationships with large suppliers:

RQ 1: What is the grade of diffusion of the CSR practices among SME manufacturers in the food sector.

The second research question was related to the aims of the CSR activities for firms. In particular, it comprised of: factors that stimulate firms to adopt CSR activities, requirements to manufacturers from large retailers, expected characteristics of CSR systems, and guidelines for CSR activities.

RQ 2: How spontaneous were choices to adopt CSR activities, and what subjects/needs did they address.

The third research question focused on the systems used to manage CSR activities (e.g., quality control and traceability of products, environmental rules, security, and ethical codes). In particular, it was directed to verify whether CSR activities were developed through formal practices or through an informal approach to ethical behaviors.

RQ 3: How formal/informal was the approach to CSR practices.

All research questions were analyzed together with some linked variables: firm dimension, weight of sales to large retailers on turnover, degree of internationalization, and age of the firm. The questionnaire was semi-structured with items referring to the previously mentioned research questions. A five-point Likert scale was used for the evaluation of single items (1 = low importance to 5= high importance). Responses to open ended questions were classified and a dichotomous scale of 0/1 (0 not relevant, 1 totally relevant) was used for each item. The measurement instrument was developed using a combination of existing scales. Data analysis was conducted by a SPSS statistical tool.

3. Results

Results from the quantitative study were analyzed with a cluster analysis to identify the specific categories of manufacturers inside the sample, as the results of the empirical study illustrated a prevalence of inhomogeneous behaviors. K-Mean methodology was applied, which allowed a minimized inertia within single groups and between clusters. The number of the singled-out cluster was 3 that resulted after a series of tests that revealed it to be the value that returns the clearest differences.

The variables used to divide the sample into more homogeneous groups included: overall turnover, export turnover, importance of national large retailers as customers of the manufacturer (as a % of turnover) and the importance of international large retailers as customers of the manufacturer (as a % of turnover). Tab. 2 illustrates the variables that contributed to defining the clusters within the sample. F-test revealed that turnover, the importance of national retailers in turnover, and the importance of international retailers in turnover were the more significant variables.

TAB. 2 – ANOVA ANALYSIS WITH DIFFERENT SIGNIFICANCE LEVELS

	Cluster	Error	F	Sig.
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	Mean Square	df	Mean Square	Df		
Turnover	16,916	2	2,770	86	6,108	,003
Export turnover	4,275	2	1,807	76	2,366	,101
Importance of national large retailers	23797,128	2	208,918	74	113,906	,000
Importance of international large retailers	6682,549	2	73,808	67	90,539	,000

F-tests should only be used for descriptive purposes here, because the clusters were chosen to maximize the differences between the cases in the different clusters. The observed significance levels were not corrected for this, and thus, cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Differences in the means between clusters were due to the variance in responses and to the different consistencies of the single clusters (Tab. 3).

TAB. 3- NUMBER OF UNITS PER CLUSTER

Cluster	Number of interviews	Number of answers received on the CSR section
1	24	16
2	51	29
3	14	14
Total interviews	89	59

Cluster 2 was more numerous, with 51 respondents that answered the questionnaire. Among them, 29 responded to the CSR section of the questionnaire. Cluster 1 had 24 units with 16 people that responded to the CSR section, while Cluster 3 had 14 units, where all people responded to CSR section. The respondents in Clusters 1 and 3 were more interested in responding to the CSR section. Indeed, 100% of the firms in Cluster 3 responded to the CSR section, with 2/3 of the respondents in Cluster 1 and 56,8% in Cluster 2.

Data on the importance of large retailers in turnover was not available from all the manufacturers. Considering their insignificant number, missing values were treated as with the option “exclude cases pairwise” that permits the assignment of single cases based on the distances from the variables without missing values.

In Cluster 1, turnovers revealed an average value between 10 and 20 million euros, export turnover had an average value between 5 and 10 million euros, sales to national large retailers had an average weight of 71,45% (Tab. 4), and sales to internationally large retailers had an average weight of 4,78%. In Cluster 2, average turnover was between 5 and 10 million euros, the same as export turnover; sales to national large retailers had an average weight of 15,51%, and sales to internationally large retailers had an average weight of 5,7%. Cluster 3 showed an average turnover between 21 and 40 million euros, an export turnover between 5 and 10 million euros, sales to national large retailers had an average weight of 27,25%, and sales to internationally large retailers had a weight of 35,2%.

The three clusters were differentiated from each other mainly by overall turnover and weight of large retailers (both national and international). Cluster 1 had a distinctively higher weight of national large retailers on turnover and a lower weight of international retailers. Manufacturers in Cluster 1 were mainly between 10 and 20 million in terms of overall turnover. Cluster 2 was characterized by fewer sales to large retailers and a smaller size of firms than Cluster 1 (mean of 5-10 million turnover). In Cluster 3, firm size was higher (mean of 20-40 million turnover) and large retailers were more important to turnover, particularly international retailers (35,2% on total turnover) as

compared to Italian ones (27,25%).

TAB. 4 – WEIGHT OF LARGE RETAILERS ON TURNOVER BY CLUSTER

Cluster	Weight national retailers %	Weight international retailers %
1	71,45	4,78
2	15,51	5,70
3	27,25	35,20

As far as RQ 1 was concerned (which is the grade of diffusion of CSR practices among SME manufacturers in the food sector), Tab. 5 illustrates the importance attributed to such factors by distinct firm areas. Evaluation on importance of CSR practices was asked in a Likert scale from 1 (low importance) to 5 (high importance). Means and standard deviations were calculated for each of the three clusters of firms. In Tab. 6, an indication on the initiatives conducted by the manufacturers in the same areas is illustrated. Rates vary from 0 (no activities) to 1 (activities conducted). Means and standard deviations were calculated for each cluster.

All enterprises considered quality products, traceability, labor conditions and bi-directional communication with consumers as fundamental issues. Less importance was given to support to the local community and to the development of practices for corruption contrasting. Comparing evaluations on the importance of CSR and the initiatives conducted, a consistent approach to CSR development emerged regarding all internal and external fields considered. Cluster 3 results revealed a more active support to the local community and to corruption contrasting activities compared to the other clusters. However, these two factors were considered less important than others.

TAB. 5 – MANUFACTURERS' EVALUATION ON IMPORTANCE OF CSR PRACTICES BY CLUSTERS OF BUSINESS ACTIVITIES AND RELATIONSHIPS

Cluster		Product quality and traceability	Labor conditions	Communication (bi-directional) to consumers	Environmental impact of production	Ethical standards	Regular and complete information on products	Support to local community development	Practices for corruption contrasting
1	Mean	4,38	4,25	4,31	4,06	4,25	3,69	3,25	2,38
	Std. Deviation	0,50	0,86	0,60	0,85	0,45	0,79	1,57	1,59
2	Mean	4,76	4,59	4,03	3,79	3,83	3,48	2,86	2,52
	Std. Deviation	0,58	0,68	1,35	1,26	1,36	1,27	1,19	1,33
3	Mean	4,93	4,57	4,64	4,86	4,43	4,29	4,36	4,00
	Std. Deviation	0,27	0,51	0,63	0,36	0,85	0,73	0,74	1,04
Total	Mean	4,69	4,49	4,25	4,12	4,08	3,73	3,32	2,83
	Std. Deviation	0,53	0,70	1,06	1,08	1,09	1,08	1,34	1,48

TAB. 6 – INITIATIVES CONDUCTED FOR CSR DEVELOPMENT BY CLUSTERS OF BUSINESS ACTIVITIES AND RELATIONSHIPS

Cluster		Product quality and traceability	Labor conditions	Communication (bi-directional) to consumers	Environmental impact of production	Ethical standards	Regular and complete information on products	Support to local community development	Practices for corruption contrasting
1	Mean	0,88	0,75	0,81	0,50	0,69	0,38	0,31	0,13
	Std. Deviation	0,34	0,45	0,40	0,52	0,48	0,50	0,48	0,34
2	Mean	0,76	0,72	0,66	0,55	0,41	0,28	0,21	0,00
	Std. Deviation	0,44	0,45	0,48	0,51	0,50	0,45	0,41	0,00
3	Mean	0,93	0,79	0,71	0,86	0,79	0,86	0,57	0,07
	Std. Deviation	0,27	0,43	0,47	0,36	0,43	0,36	0,51	0,27
Total	Mean	0,83	0,75	0,71	0,61	0,58	0,44	0,32	0,05
	Std. Deviation	0,38	0,44	0,46	0,49	0,50	0,50	0,47	0,22

Referring to RQ 2 (how choices to adopt CSR initiatives were spontaneous and what subjects/needs did they address), results revealed that firms aimed at protecting themselves from potentially negative effects (in terms of company image) that result from malfunctions in CSR related fields. In Tab. 7, rates were given on a dichotomic scale 0/1 (0 no influence, 1 influence). The CSR was developed by firms after requests from large retailers and consumers. In this way, product assortments can be perceived as more valuable. Less importance in terms of influencing factors was attributed to relationships with supply chain partners and to internal relationships.

As evidenced by Cluster 3, regarding larger-sized firms, more importance was given to reasons related to brand image construction and protection, as well as to the need to respond to consumers' requirements. On the opposite side, the response to large retailer requirements was indicated as no more a primary reason because relationships with large retailers are in most cases well developed by Cluster 3's firms. Hence, they don't need to increase CSR involvement as a tool to better develop relationships with large retailers.

TAB. 7 – REASONS THAT STIMULATE FIRMS TO ADOPT CSR INITIATIVES AND ACTIVITIES

Cluster		Brand image construction and protection	Requirements from large retailers	Requirements from consumers	Increasing product offer value – "Ethical value"	Equalization with supply chain partners	Internal relationships improvement
1	Mean	0,88	0,94	0,69	0,88	0,63	0,75
	Std. Deviation	0,34	0,25	0,48	0,34	0,50	0,45
2	Mean	0,82	0,86	0,82	0,75	0,71	0,54
	Std. Deviation	0,39	0,36	0,39	0,44	0,46	0,51
3	Mean	0,79	0,50	0,71	0,43	0,71	0,57
	Std. Deviation	0,43	0,52	0,47	0,51	0,47	0,51
Total	Mean	0,83	0,79	0,76	0,71	0,69	0,60
	Std. Deviation	0,38	0,41	0,43	0,46	0,47	0,49

Confirmation of this comes from Tab. 8, where firms' awareness regarding large retailers' requirements is analyzed in a Likert scale (1 = low, 5 = high) (all the 89 firms in the sample responded). Large retailers tend to require, at first, high levels of reliability from suppliers (total mean rate 4,59), as well as conformity to hygiene and security standards (4,57), and the quality levels of products and services offered (4,46). Price/value comes after such factors, with a rate of 4,31.

TAB. 8 – REQUIREMENTS TO MANUFACTURERS FROM LARGE RETAILERS*

Cluster	Quality levels of	Quality/price	Supplier	Conformity to	Reputation of	Level of human
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		products and services offered	(value) of product offer	reliability	hygiene and security standards	supplier	resources of supplier
1	Mean	4,42	4,29	4,67	4,63	3,92	3,79
	Std. Deviation	0,78	1,04	0,56	0,77	1,32	1,18
2	Mean	4,39	4,34	4,48	4,59	4,04	3,87
	Std. Deviation	1,06	0,92	0,76	0,96	1,24	1,31
3	Mean	4,79	4,21	4,86	4,43	3,50	3,08
	Std. Deviation	0,43	1,12	0,53	1,09	1,38	1,31
Total	Mean	4,46	4,31	4,59	4,57	3,93	3,73
	Std. Deviation	0,91	0,98	0,69	0,92	1,28	1,28

* Responses from 89 manufacturers.

Tab. 9 synthesizes the main points that should characterize a CSR system, according to the perspective of the firms. In a dichotomic scale 0/1 (0 not relevant to the presence in a CSR system, 1 necessary to a CSR system), all the firms of the sample indicated a necessity of the presence of measures for continuous improvement of environment sustainability; most (mean 0,98) indicated that voluntary character is necessary, as well as the presence of results measurement. High importance emerged also as regard to quality and reliability of all business processes (not only manufacturing), independence from stakeholders, as well as the presence of public and institutional support. All these points received a mean indication between 0,90 and 0,69. The character of cost saving was recognized as not necessary by almost all the manufacturers (mean rate 0,36).

Larger firms and those more related to international large retailers (Cluster 3), ascribed major relevance to the voluntary character of CSR systems, and considered the presence of results measurement systems to be less necessary. Such firms, with a more advanced approach to management and control of business processes, tend to consider such points as not characterizing, as they are regularly part of management criteria. At the same time, all of them considered a voluntary nature as a necessary characteristic of CSR systems.

TAB. 9 – EXPECTED CHARACTERS OF CSR SYSTEMS

Cluster		Continuous improvement of environment sustainability	Voluntary Nature	Presence of results measurement systems	Quality and reliability of all business processes	Independence from stakeholders	Public and institutional support	Notexpensive, cost saving
1	Mean	0,94	0,94	0,94	0,88	0,75	0,56	0,31
	Std. Deviation	0,25	0,25	0,25	0,34	0,45	0,51	0,48
2	Mean	1,00	0,89	0,96	0,75	0,79	0,75	0,36
	Std. Deviation	0,00	0,31	0,19	0,44	0,42	0,44	0,49
3	Mean	1,00	1,00	0,71	0,93	0,93	0,71	0,43
	Std. Deviation	0,00	0,00	0,47	0,27	0,27	0,47	0,51
Total	Mean	0,98	0,93	0,90	0,83	0,81	0,69	0,36
	Std. Deviation	0,13	0,26	0,31	0,38	0,40	0,47	0,48

CSR activities were mainly addressed to consumers and large retailers, as most of the sample indicated in a 0/1 dichotomic rate (Tab. 10). Consumers received a mean rate of 0,94, while retailers 0,88. In addition, other stakeholders were frequently considered as addressees of CSR activities. Among them, there were employees and suppliers (respectively 0,83 and 0,76 rate), stockholders (0,74), local communities (0,68) and institutional subjects (0,68). Less important were trade unions (0,57). Firms of Cluster 3 revealed more attention placed to all stakeholders, including trade unions. Firms whose relationships with large retailers were more developed (Cluster 1 and 3) paid more attention to local communities.

TAB. 10 – ADDRESSEES OF CSR ACTIVITIES

Cluster		Consumers	Large retailers	Employees	Suppliers	Stockholders	Local communities	Institutional subjects, Authorities	Trade Unions
1	Mean	0,81	0,81	0,81	0,75	0,63	0,81	0,31	0,56
	Std. Deviation	0,40	0,40	0,40	0,45	0,50	0,40	0,48	0,51
2	Mean	1,00	0,86	0,75	0,71	0,79	0,52	0,74	0,36
	Std. Deviation	0,00	0,36	0,44	0,46	0,42	0,51	0,45	0,49
3	Mean	1,00	1,00	1,00	0,86	0,79	0,86	1,00	1,00
	Std. Deviation	0,00	0,00	0,00	0,36	0,43	0,36	0,00	0,00
Total	Mean	0,94	0,88	0,83	0,76	0,74	0,68	0,68	0,57
	Std. Deviation	0,23	0,33	0,38	0,43	0,44	0,47	0,47	0,50

Items regarding RQ 3 (how formal/informal is the approach to CSR practices) emphasized a general orientation towards the limited formalization of processes related to CSR (Tab. 11). In particular, formal models were widely adopted for quality and traceability management and for safety inside manufacturing plants. In the first case, orientation to control quality and technical efficiency prevailed, in the second, the choice was less voluntary: in most cases, formal rules were adopted according to laws on safety and health.

In regard to social, ecological and ethical values, less involvement in process formalization was revealed. Moreover, the smaller the size of the firm, the more informal was the approach.

TAB. 11 – FORMALIZATION OF PROCESSES FOR CSR IMPROVEMENT

Cluster		Quality and traceability management	Safety management inside plants	Management of environmental impact	Social and ethical values management
1	Mean	1,00	0,94	0,50	0,50
	Std. Deviation	0,00	0,25	0,52	0,52
2	Mean	0,96	1,00	0,61	0,39
	Std. Deviation	0,19	0,00	0,50	0,50
3	Mean	1,00	1,00	0,64	0,86
	Std. Deviation	0,00	0,00	0,50	0,36
Total	Mean	0,98	0,98	0,59	0,53
	Std. Deviation	0,13	0,13	0,50	0,50

All the interviewed firms, except for some smaller ones that were part of Cluster 2, adopted quality control and traceability certification systems (Tab. 12) that were typical in the food sector. Less use of standards emerged for environmental impact controls and for safety control systems inside industrial plants, with a mean indication of adoption in a dichotomic scale 0/1 of, 0,68 and 0,43, respectively. Less use of certification standards was observed regarding social and ethical value management (mean 0,31), even if several firms with significant sales to large retailers, both national and international (Clusters 1 and 3), tended to adopt them more frequently.

TAB. 12 – CERTIFICATION SYSTEMS ADOPTED IN CSR AREAS

Cluster		Quality and traceability management	Management of environment impact	Safety management inside plants	Social and ethical values management
1	Mean	1,00	0,89	0,38	0,20
	Std. Deviation	0,00	0,33	0,50	0,42
2	Mean	0,92	0,50	0,42	0,07
	Std. Deviation	0,27	0,51	0,50	0,26

3	Mean	1,00	0,82	0,50	0,64
	Std. Deviation	0,00	0,40	0,52	0,50
Total	Mean	0,96	0,68	0,43	0,31
	Std. Deviation	0,19	0,47	0,50	0,47

5. Discussion

It is beyond a doubt that, for retailers, fair trade criteria application considerably affects supply chain relations. CSR practices can influence the entire structure of the buying network, as well as the quality of the relationships among partners and their behaviors.

For smaller suppliers, the level of cooperation is increasingly important, as it contributes to long term relationships. A large retailers' power is more often used, not to obtain better economic conditions (lower prices, longer payment terms), but more frequently to address smaller suppliers in improving their efficiency, innovation capability and organizational structure. What's more, a cultural change is stimulated and a systemic approach tends to be followed more frequently. This also happens at the international level with the involvement of a variety of subjects that contribute with their competencies (in terms of logistics, finance, and certification) to increase the level of integration among supply chain partners, and local and international institutions. Non-economic subjects were more frequently involved in supporting the introduction of socially responsible principles in international sourcing.

In some cases, the introduction of CSR-related standards was just a window dressing tool to improve company images of consumers and stakeholders. In most cases, however, there was an effective impact on all procurement processes. The introduction of products related to Fair Trade principles allowed for the enforcement of the level of responsibility along the entire supply chain, involving all the subjects at different stages towards a higher degree of transparency and efficiency. In particular, the following points come out:

- emphasizing cooperative issues (stimulated or, in most cases, necessarily required by larger retailers), supported by the commitment to share knowledge, capabilities, information and innovation;
- attenuation of the hierarchic perspective in buying relationships and the reduction of margin-compression effects for smaller suppliers as a consequence of power imbalances; at the same time, more support is provided by retailers to SME manufacturers to evolve toward more efficiency and higher quality levels;
- more space for shortening supply chains, more direct relationships between manufacturers, retailers, and consequently, more effectiveness within the network, cost savings, more rapid and adequate adjustments in the product offer by suppliers and in retailer assortments;
- more individually and socially respectful principles in all activities, including supply chain relationships, communication, logistics and service management;
- opportunities to pursue a relationship development model in which all involved subjects can benefit, including smaller partners inside the supply chains; among such partners there are, at the international level, farmers from developing countries.

As a consequence, all of these points support a virtuous circle that can be a stimulus for the strengthening of less unbalanced and more sustainable international supply chains, mostly where SME manufacturers are involved. The larger retailers' role in sustaining CSR principles (in all the related fields) along the supply chain is fundamental. A wide awareness of CSR among SME manufacturers was observed. All CSR related activities were more frequently adopted by smaller manufacturers, wherein larger retailers placed a significant weight in their sales and when the retailer acted as a channel leader. In this case, retailers' requirements for the adoption of CSR were a primary stimulus for structuring CSR activities and adopting specific standards.

In cases where large retailers were less relevant as customers for manufacturers, or where large retailers were less advanced (such is the observed case of national retailers for Italian manufacturers), CSR-related activities began to be adopted as well, but more informally and with less use of standards, formalized processes and certification systems (excluding those related to quality control and traceability, which are widely used in the food sector). For

other SME manufacturers and those less involved in relationships with large retailers, CSR was not seen as necessary, as it is considered a possible field for the differentiation of market positioning.

In general, it is possible to state that a large retailers' approach to CSR focuses on:

- developing traceability systems along the supply chain to gain accurate information and control at every stage. The objective is product quality and safety improvements on the one side, and a transparent responsibility of all the supply chain partners on the other side. This result is consistent with previous literature in this field (Pepe, 2007);
- increasing the number of products bought from smaller suppliers at the national and international levels and developing stable relationships with them to make relationship specific investments possible;
- following a more CSR-sensitive perspective in all marketing activities to: enforce brand-mix identity with socially-ethical responsible characteristics; apply social, ethical and ecological principles to all key activities of retail business; and improve the company's image in the consumers' perceptions. Similar results emerged from recent studies (Risso, 2007; Gupta and Prirsch, 2008);
- expanding interaction areas, both at the national and international level, with local actors (both public and private) that could support the company in developing activities related to social, environmental and ethical issues.

6. Conclusions and implications for future research

The increasing diffusion of CSR principles among large retailers, particularly in the food sector, is stimulating a progressive change in the entire supply chains and their members, including smaller manufacturers and intermediaries. In the case of Fair Trade products, a typical area developing CSR, retailers supply chains were strongly influenced by retailer-led CSR initiatives. Such involvement of retailers increases with their own brand products, in which a retailers' brand image was more directly associated to product characteristics in the consumer perception. This is a field in which global retailers are now basing a renewal of their image, acting in contrast with a negative reputation coming from their excessive power along their supply chains. In several cases, such power has been seen by consumers and stakeholders as a potential danger for more weak suppliers, such as those from Southern hemisphere and for the environment. Fair trade assortments, as well as organic products and "green" packaging, can be used by retailers as tools to enrich and diversify their offerings, propose new values and, at the same time, maintain power and control within the supply chain.

Consumer perceptions allow retailers to assume a central role as a guarantee for control over the safety, equality and ethically correct practices along the supply chain. The more consumers are aware of ethical and sustainability issues, the more retailers can play a coordinating role to ensure a transparent supply chain in which the value produced is equally distributed among all participating subjects. International retailers are quickly responding to this change, promoting initiatives as a result of increasing public demand for more sustainability in economic activities and trade. Small Italian manufacturers in the food sector have responded to such changes by adapting to the requirements of retailers. As the study emphasized, those more involved in relationships with large retailers have reached a higher level of consciousness in CSR relevance and, above all, are more capable of managing CSR activities by adopting standards and certification systems. Those with a lighter weight of large retailers in sales (they are also smaller) revealed a delay in adopting more advanced criteria for CSR management.

The analysis has pointed to some areas of research that can be further developed. A limited diffusion of systematic and structured systems for CSR emerged among firms that had not developed significant relationships with large retailers. Since retailers' role is critical to stimulate a diffusion of CSR practices and culture among manufacturers, it is important to analyze these firms in more depth. Further research should deepen the motivations for retailers to develop CSR systems and to extend them to smaller suppliers in the supply chain, focusing on the expected advantages and disadvantages. Moreover, a comparative analysis should be conducted with the manufacturers of other EU countries to verify the similarities and differences, also considering the specific characteristics of the industrial structure of each country.

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For a full list of references, please contact the author(s).

* This article is the result of a common research activity between the authors. Nevertheless, single sections can be attributed as follows: Sections 1, 2 and 5 are attributed to Fabio Musso, Sections 3, 4 and 6 to Mario Risso.

¹The panel was composed of 46% firms with overall turnover of less than 5 million euro, 18% with turnover between 5 and 10 million, 9% from 10 to 20 million, 10,1% from 20 to 40 million, 5,6% from 40 to 60 million, and 11,2% over 60 million. 87,6% of firms in the panel were exporters, among them, 71% had an export turnover of less than 5 million. 59,9% of the panel had less than 30 employees, 15,7% from 30 to 50 employees, 10,1% from 51 to 100, and 14,6% had over 100 employees.

Corporate Governance and Audit Function: An Indian Perspective

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Abstract

A major part of the debate on corporate governance centers on the pivotal role played by auditors in ensuring financial propriety. If auditors' report plays a significant role in corporate governance mechanism, engaging independent statutory auditors would certainly strengthen accountability. The present paper is motivated by such a viewpoint, as it develops a model to explain audit qualifications for select listed Indian companies. It also explores the oversight role of audit committees in enhancing audit quality. The findings provide evidence that the occurrence of audit qualifications is associated with return on assets and audit fees. The type of audit firm and accounting committee diligence do not affect auditors' propensity to qualify their opinions. The paper provides practitioners and researchers valuable insight into the extent to which a qualification could be expected based on publicly available data. It concludes by proposing a case for reforms in realm of reporting and auditing procedures.

Introduction

Lately, the issues and concerns relating to audit as well as the role of external auditors as endorsers of company systems, procedures, controls and records has been called into question. The auditors' report plays a significant role in corporate governance mechanism as it minimizes information asymmetry risk by attesting to the reliability of a company's published financial information, thereby safeguarding the interests of investors and other stakeholders (Peel & Clatworthy, 2001). If auditors are unable to endorse a financial statement wholeheartedly, they must qualify their opinion, or state that they are unable to express an opinion, or express an adverse opinion. The audit committee, further, has a particularly important function in monitoring the quality of disclosures made by auditors independent of their audit clients (Turley & Zaman, 2004). They approve the accounting practices adopted by the company and monitor their reliability as well as compliance with the required regulation.

As a consequence of the financial crisis and ongoing concerns about quality of accounting information, the auditing profession has been at the center of the policy debate and focus of considerable academic research. Against this milieu of changing priorities and perceptions, understanding the role of auditors' opinion as it pertains to reporting efficacy is an important aspect within the larger context of governance for two reasons. First, the occurrence of audit qualifications in published corporate audit reports is directly related to the concept of audit quality (DeAngelo, 1981; Carcello, Hermanson, & McGrath, 1992; Dye, 1993). Secondly, corporate financial reporting and auditing has been under the spotlight of regulators as there has been an increasing demand for greater transparency and quality in corporate financial communications (Dopouch, Holthausen, & Leftwich, 1987; Bell & Tabor, 1991; Laitinen & Laitinen, 1998; Ireland, 2003).

Until very recently, studies in auditing and audit committees were almost exclusively associated with the western part of the globe. Yet, their role in transitional and emerging economies is possibly equally important (Healy & Palepu, 2001). Recent events in India too have put the spotlight on reporting and governance practices of the Indian companies. The paucity of knowledge about the role of auditors in specific and corporate governance in general for a country trying to achieve double digit economic growth is a cause of concern. The present paper attempts to discern the extent to which combinations of financial information with non-financial variables influence auditors' opinion on the company's financial statements. Through an analysis of selected companies, this paper attempts to shed light on the question of whether that audit report contributes significantly towards 'effective governance of modern corporations'. It aims to contribute to the existing literature in two ways. First, to the best of my knowledge, this question has not been empirically tested using both financial and non-financial measures in India. Second, the paper goes beyond merely documenting the reporting efficacy by presenting the nature of audit qualifications raised by statutory auditors. The findings of the study will hopefully provide practitioners and

researchers valuable insight into the extent to which a qualification could be expected based on publicly available data in the context of Indian business.

Literature Review

The literature found to be relevant to the present paper includes accounting and governance studies examining the auditors' opinion decision and demand for audit quality.

Auditors' Opinion Decision

A wealth of auditing and accounting literature tries to explain that both financial and non-financial factors affect the audit opinion decision. Dopouch, Holthausen, & Leftwich (1987) developed a probit model to prove that the most significant variables in predicting qualifications were the current year loss, industry rate of return, and change in the ratio of total liabilities to total assets. Keasey, Watson, & Wynarczyk (1988) showed that the likelihood that a company receives a qualified audit report increases with large audit firm, small number of directors, leverage, and lag between the financial year-end and audit report date. Krishnan & Krishnan (1996) considered audit opinion models by incorporating economic trade-offs that arise in the auditor's litigation risk, the extent of outsider ownership, the relative importance of the client in the auditor's portfolio of clients, and future growth as important factors in the audit opinion decision. In modeling the auditor's opinion decision for financially distressed companies, Mutchler, Hopwood, & McKeown (1997) concluded that qualitative variables involving good and bad news items had no incremental explanatory power relative to financial variables. Laitinen & Laitinen (1998) showed that the likelihood of receiving a qualified audit report is higher with low growth rate, low equity to total assets ratio, and small number of employees. In another study, Spathis et al. (2003) suggested that receivables to sales, net profit to total assets, sales to total assets and working capital to total assets are useful predictors of audit qualifications. Similarly, Caramanis & Spathis (2006) showed that the occurrence of audit qualifications was associated with only financial metrics such as operating margin to total assets and the current ratio.

Prior studies have also found that auditor's going-concern assessments are related to company's financial condition, company size, dividend payout, default status, audit firm choice, and audit fees (Arnold et al., 2001; Lenard et al., 2001; Reynolds & Francis, 2001; Ireland, 2003; Spathis, 2003). According to Casterella, Lewis, & Walker (2000) auditors are less likely to issue a modified opinion when the financial prospects of the company are ambiguous and when auditors are faced with incentives to delay or avoid issuing a modified opinion.

Audit Quality

Governance theory and empirical evidence suggests that there is a greater demand for audit quality when agency costs are high (Bar-Yosef & Livnat, 1984; DeFond, 1992). Some authors take the perspective that an auditor should evaluate the corporate governance structure of its clients and incorporate such evaluation in their audit planning and in the associated risk. The reasoning is that an inappropriate governance structure might be a risk factor for the auditor and even sometimes a reason for refusing a particular risky client (Cohen & Hanno, 2000; Cohen, Krishnamoorthy, & Wright, 2002; Bédard & Johnstone, 2004).

Extant research also provides evidence that stronger audit committees may demand a higher quality audit and be willing to ratify higher audit fees (Abbott et al., 2003, 2003a, 2003b; Carcello & Neal, 2003b; Raghunandan & Rama, 2003). Further, the audit committee independence, financial expertise, diligence, meeting frequency affected audit committee members' propensity to support the auditor's position (DeZoort, 1998; DeZoort & Salterio, 2001; Carcello & Neal, 2000, 2003a; Abbott et al., 2002; DeZoort, Hermanson, & Houston, 2003; Ng & Tan, 2003; Agrawal & Chadha, 2005; Carcello et al., 2006; Goodwin-Stewart & Kent, 2006; Bronson, Carcello, & Hollingsworth, 2009). Additional analyses reveal that independent and diligent audit committees were more likely to engage an industry-specialist auditor (Abbott, Park, & Parker, 2000; Beasley & Petroni, 2001). Through a survey of 300 finance directors and 307 audit engagement parties, Beattie, Fearnley, & Brandt (2000) revealed that audit

committees generally reduce the level of negotiation between auditors and finance directors, and in majority of cases the same leads to changes in financial statements.

There are some preliminary evidence on increasing importance of the auditor and audit committee independence in the governance of companies in India (Sarkar&Sarkar, 2010). The results of a survey of Indian listed companies show that formation of the audit committee is slow and their composition lacks independence (Al-Mudhaki& Joshi, 2004). Simon, Ramanan, &Dugar (1986) tested an audit fee model to establish that audit fee was responsive to auditee size, complexity, risk profile, and auditor size. A few studies have also compared audit fee models in India with Pakistan (Hossain& Taylor, 2000; Ahmed &Goyal, 2005) as well as Bangladesh (Hossain& Taylor, 2000) to indicate some consistency across markets in respect of generic variables identified as core determinants of the level of audit fees. In general, discerning underlying factors differentiating companies receiving audit qualifications from the ones that do not is of paramount importance. However, the lack of knowledge about how audit profession provides a check on the information aspects of the governance system constitutes a real problem. The results presented in this paper has addressed this gap in literature and extended understanding on two fronts- develops a model to explain audit qualifications for a select listed Indian companies as well as evaluates the role audit committees can play in enhancing audit quality.

Propositions

Extensive review of the extant literature has resulted in the formulation of two propositions.

P1. Corporate financial and non-financial information can be used to predict audit opinion.

P2. Audit quality can be enhanced through effective oversight function of the audit committee.

Research Design

Sample Selection and Data Sources

From the 100 companies comprising the BSE 100 Index¹ as of March 31, 2010 a sample was selected comprising 59 companies. Following common practice in previous literature, 17 companies from the financial sector were excluded from the sample. Another 13 companies were not included as they belonged to the public sector and their performance is influenced by a large number of social obligations which might have been difficult to justify. Data for another 10 companies were not used since their financial accounting years ended other than March 31, 2010. Finally, one company was not used for data availability problems. From the 59 companies in the sample, 29 have received a qualified and 30 a clean audit report. The term audit qualification refers to ‘qualified opinion’, ‘adverse opinion’, ‘disclaimer of opinion’ and ‘critical observations’ in the present study. Further, audit quality is defined as the probability that the auditor will both discover and report a breach in the client’s accounting system.

The data sources were the annual reports of the companies, corporate database (PROWESS) maintained by the Center for Monitoring the Indian Economy (CMIE), and the reports filed by companies with the BSE (<http://www.bseindia.com>) as part of the listing requirements.

Variable Selection and Description

The variables used in this study were derived through a review of prior literature.² From the review of the literature a set of 18 financial and non-financial variables were initially identified. The exploratory principal component analysis with varimax rotation was conducted to identify fewer yet meaningful variables. The analysis resulted in extraction of seven variables - four financial metrics, one audit committee attribute and two audit engagement measures - which provide meaningful and non-overlapping information.³

The financial soundness of a company is represented in its financial statement variables. Several researchers have used financial metrics to formulate audit opinion expectations.⁴ Aspects of corporate financial performance were measured through return on assets (ROA) defined as operating margin to total assets. Solvency of the company

has been assessed both for short-term (receivables to sales or RECTURN) and long-term (leverage or LEV). Leverage was calculated as long-term debt to total assets. Furthermore, liquidity (LIQ) has been measured as the ratio of current assets divided by current liabilities. The proxies for governance include two categories, each incorporating individual variable(s) depicting specific attributes pertaining to audit committee (audit committee diligence) and audit engagement (audit fees and audit firm type). Audit committee diligence (ACDIL) connotes the attendance of independent non-executive directors in audit committee meetings in the year. Audit fees (AFEES) consists of all fees necessary to perform the audit or review in accordance with the Auditing and Assurance Standards (AAS). Lastly, the audit firm type (AFIRMTYPE) is a dummy variable that equals one when auditors are the Big four audit firms i.e., Deloitte Haskins & Sells, Ernst & Young, KMPG, and PricewaterhouseCoopers.

Framework of Analysis

Multivariate analyses were used to test whether there is an association between predictor variables and the auditor opinion decision. First, logistic regression analysis was applied to test the ability of various combinations of the variables to correctly predict the audit opinion. Second, the OLS regression analysis was used to find whether there is a relationship between the predictor variables and the number of qualifications in audit reports. The probability of a qualified opinion conditioned on predictor variables using a logistic regression approach on the sample was estimated using the following model:

$$\text{Prob}(\text{QUALIF}_i) = b_0 + b_1\text{LIQ}_i + b_2\text{RECTURN}_i + b_3\text{LEV}_i + b_4\text{ROA}_i + b_5\text{ACDIL}_i + b_6\text{AFEES}_i + b_7\text{AFIRMTYPE}_i + e_i \quad (1)$$

Prob(QUALIF_{*i*}) takes on the value of 1 if company_{*i*} receives a qualified audit opinion, and zero otherwise. The coefficients b₀, b₁, b_{*j*} are the parameters to be estimated, and e_{*i*} is a disturbance term. The coefficients on dummy variable AFIRMTYPE_{*i*} were expected to be positive. For the coefficients on LIQ_{*i*}, ROA_{*i*}, and ACDIL_{*i*} and AFEES_{*i*} it is expected that they would be negative and as for RECTURN_{*i*} as well as LEV_{*i*} to be positive.

The OLS regression approach was used to explain the magnitude of the number of qualifications (TQUALIF_{*i*}) as a function of predictor variables. The average number of qualifications (TQUALIF_{*i*}) was 0.81 with minimum 0 and maximum 3. The linear model as shown below uses the outcome variable in the number of qualifications in an audit report (TQUALIF_{*i*}) and the predictor variables were the same as in logistic regression.

$$\text{TQUALIF}_i = b_0 + b_1\text{LIQ}_i + b_2\text{RECTURN}_i + b_3\text{LEV}_i + b_4\text{ROA}_i + b_5\text{ACDIL}_i + b_6\text{AFEES}_i + b_7\text{AFIRMTYPE}_i + e_i \quad (2)$$

Further, to gauge the financial reporting quality of reported accounts of companies, Auditors' Report on Financial Statements was examined. As per the provision, auditors are required in their report to answer any of the statutory affirmations in the negative or with a qualification.⁵ Auditors also need to give reasons for any qualification in their report.⁶ This gives an additional insight into the books of accounts of the sample companies. Further, to determine whether companies responded to audit qualifications, an analysis was made of the previous year (financial year ending March 31, 2009) auditors' report of the companies. To identify companies complying with the corporate governance norms as stipulated under Clause 49 of the Listing Agreement, the Certificate of Corporate Governance Compliance as issued by the statutory auditors of the company were also scanned for the financial year 2009-10.

Descriptive Statistics

Table 1, presents three panels of descriptive information for the sample companies. Panel A provides means, medians, standard deviations, and maximum and minimum values for the key variables. The average company had liquidity of 2.84 times. There were companies with zero to leverage as high as 99.72 percent. The average company had a receivables turnover of 0.32 times. In terms of performance, the mean return on assets was 15.73 percent with

a maximum value of 60.74 percent and a minimum value of -2.58 percent. In terms of audit committee functionality, the average attendance of the independent non-executive directors in the audit committee meetings was 84 percent. The external auditors were paid on an average Rs. 2.09 million as audit fees. Panel B shows the results of difference of means tests between companies with qualified and non-qualified report. Companies with qualified audit report represent 49.0 percent of the sample. The average shareholding, in general, by insiders (i.e., promoter and promoter group) was higher for companies with non-qualified *re* qualified opinion hitherto not significant. On the other hand, the institutional and non-institutional investors have marginally higher shareholding in companies that received auditors' qualifications. On an average, companies with qualified *vis-à-vis* non-qualified audit report were older yet smaller both in terms of assets and sales. Companies with qualified audit reports show lower liquidity, receivables turnover and profitability (net profit margin and ROA) though not significant. The qualified groups of companies have higher values for leverage and risk. As regards the audit committee characteristics it is evident, albeit insignificant, that the number of independent directors on the audit committee of qualified groups was higher, while the attendance per year lower. The *t*-tests show statistical differences at the 0.05 levels between two groups of companies on both audit and non-audit fees. Companies with auditors' qualification were paying substantial higher fees than ones without qualifications. Panel C provides a simple correlation matrix for the variables in the sample. There is a negative correlation between total qualifications and liquidity, receivables turnover, ROA and audit committee diligence, while a positive correlation exists with leverage and audit fees. The association between total qualifications and audit fees is significant at the 0.05 levels.

TABLE 1: DESCRIPTIVE DATA FOR COMPANIES WITH QUALIFIED AND NON-QUALIFIED AUDITORS' REPORT

<i>Panel A: Summary Statistics for the Full Sample(n = 59)</i>						
	Mean	Median	Std. Deviation	Maximum	Minimum	
Liquidity (times)	2.84	2.11	2.40	13.53	0.46	
Receivables turnover (times)	0.32	0.22	0.31	1.41	0.03	
Leverage (%)	78.56	93.49	30.54	99.72	0.00	
ROA (%)	15.73	13.80	10.45	60.74	-2.58	
Audit committee diligence (%)	84.00	85.00	11.00	100.00	56.00	
Audit fees (in Rs. million)	2.09	1.96	1.13	5.72	-0.69	
<i>Panel B: Difference of Means Tests</i>						
	Auditors' Opinion		<i>t</i> -Statistic			
	Qualified	Non-Qualified				
Number of companies	29	30				
Insider ownership (%)	43.49	50.38	-1.38			
Institutional ownership (%)	33.56	32.06	0.37			
Non-institutional ownership (%)	19.24	17.94	0.50			
Age (years)	41.38	40.07	0.17			
Total assets (in millions)	20,143.27	22,754.87	-0.28			
Net sales (in millions)	13,068.41	14,610.04	-0.22			
Liquidity (times)	2.69	2.99	-0.48			
Receivables turnover (times)	0.27	0.36	-1.19			
Leverage (%)	80.66	76.51	0.52			
Risk (Beta)	1.13	1.11	0.19			
Net profit margin (times)	1.03	2.50	-0.98			
ROA (%)	13.68	17.71	-1.49			
Audit committee independence (%)	87.69	86.00	0.40			
Audit committee diligence (%)	83.93	84.43	-0.17			
Audit fees (in Rs. million)	2.44	1.75	2.44*			
Non-audit fees (in Rs. million)	2.09	1.32	2.49*			
<i>Panel C: Correlation Data</i>						
TQUALIF	LIQ	RECTURN	LEV	ROA	ACDIL	AFEES

TQUALIF	1.00						
LIQ	-0.07	1.00					
RECTURN	-0.09	0.33**	1.00				
LEV	0.09	-0.16	-0.02	1.00			
ROA	-0.23	0.06	-0.43**	-0.41**	1.00		
ACDIL	-0.10	-0.03	0.09	0.08	-0.07	1.00	
AFEES	0.32*	-0.01	-0.14	-0.26*	0.12	0.12	1.00

Note: *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

Generally, bigger audit firms (e.g., Big 8, Big 6, and Big 5) have been identified in the literature as higher quality auditors due to their technical expertise in detecting earnings management and further have shown a higher probability of reporting errors and/or irregularities once detected. Panel A and B of Table 2 show the number of client companies for both the Big four and non-Big four audit firms. Additionally, Panel C shows that 20 of the 35 companies audited with Big four audit firms received a qualified audit report ($\chi^2 = 2.198$, $p < 0.138$). The χ^2 statistics indicate that the type of the audit firms (Big four vs. Non-Big four) does not affect the association for a qualified audit report.

TABLE 2: AUDIT FIRM TYPE

Audit Firm	Number of Client Companies ^a	Auditors' Opinion	
		Qualified	Non-Qualified
<i>Panel A: Big 4</i>			
Deloitte Haskins & Sells	19	19	
Price Waterhouse	6	6	
BSR & Co. ^b	5	5	
S.R. Batliboi & Associates ^c	6	6	
<i>Panel B: Non-Big 4</i>			
A.F. Ferguson & Co.	1		1
Anupam Bansal & Co	1		1
Brahmayya & Co.	1		1
C.C. Chokshi & Co.	1		1
Chaturvedi & Shah	6	6	
Dalal & Shah	3		3
Dharmesh Parikh & Co.	1		1
Ford, Rhodes, Parks & Co	1		1
G.P. Kapadia & Co	1	1	
Goel Garg & Co.	1		1
Khimji Kunverji & Co.	1	1	
Lovelock & Lewes	2		2
M.P. Singh & Associates	1		1
M.S. Krishnaswami & Rajan	1	1	
MGB & Co.	2		2
N.M. Rajji & Company	3	2	1
P.S. Subramania Iyer & Co.	1		1
P.V.R.K. Nageswara Rao & Co.	1		1
Rajendra & Co.	1	1	
R.G.N. Price & Co	1		1

S.B. Billimoria& Co.	1		1
S.S. Kothati Mehta & Co	1		1
S.V. Ghatalia& Associates	1		1
Shah & Co.	1		1
Sharp &Tannan	2		2
Singhi& Co.	1		1
SNK & Co.	1	1	
Thar& Co.	1		1
V. SankarAiyar& Co.	1		1
Walker, Chandio& Co	1		1

Panel C: χ^2 Statistics

Audit firm type	Big 4	$\chi^2 = 2.198$	20	15
	Non-Big 4		9	15

Note: ^aThe same company may be counted more than once owing to the appointment of more than one audit firm; ^bMember firm of KPMG; ^cMember firm of Ernst & Young

Results and Discussion

Factors influencing Auditors’ Opinion

In order to test for any interaction effects between the predictor variables, multivariate analyses were performed. The objective was to develop a model(s) using the metrics identified as predictor variables. As discussed earlier, two models were developed, one for logistic regression and one for linear regression. Table 3 reports the results for the logistic regression model. According to the results, the overall percent of correct classification is 80 percent. The relationship between the outcome and the predictor variables is significant ($\chi^2 = 14.535, df=7, p < 0.05$). The $R_L^2 = 29.1$ percent (pseudo R^2), indicates a medium strong relationship between outcome and the predictor variables. The results indicate that only two variables with significant coefficients were included in the model. The ROA has an increased probability of being classified with firms with a qualified report ($\beta = -11.195; p < 0.05$) and this ratio has a negative effect. This implies that firms with low ROA have an increased probability of being classified with firms with a qualified report. The AFEES has an increased probability of being classified with firms with a qualified report ($\beta = 0.731; p < 0.05$) and this ratio has a positive effect. It implies that there is a higher probability of firms with a high AFEES receiving a qualified audit report.

TABLE 3: LOGISTIC REGRESSION ANALYSIS OF QUALIFIED AND NON-QUALIFIED AUDIT REPORTS

Variable	β	SE	p
LIQ	0.090	0.145	0.509
RECTURN	-2.801	1.486	0.060
LEV	-0.316	1.3021	0.808
ROA	-11.195	5.714	0.048
ACDIL	-1.516	2.746	0.581
AFEES	0.731	0.337	0.030
AFIRMTYPE	-0.086	0.658	0.898
Constant	2.342	2.945	0.426
Model χ^2	14.535		0.042
Pseudo R^2 (percent)	29.1		
Classification accuracy (percent)	80.0		

The impact of financial metrics, audit committee attribute and audit engagement measures on the number of qualifications (TQUALIF) was tested using OLS regression analysis (Table 4). The model is significant, $F(7,51) = 2.227, p < 0.05$, and explains 23 percent of the variation in the number of qualifications (Adjusted $R^2 = 0.234$). The

two variables with significant coefficients are ROA and AFEES. Companies receiving higher numbers of qualifications tend to have lower ROA ($B = -3.294$, $p < 0.05$), and higher AFEES ($B = 0.345$, $p < 0.01$). The results suggest that the number of qualifications is dependent upon profitability and the amount of audit fees.

TABLE 4: OLS REGRESSION ANALYSIS OF TOTAL NUMBER OF QUALIFICATIONS

Variable	B	SEB	β	ρ
LIQ	0.010	0.055	0.024	0.860
RECTURN	-0.588	0.493	-0.186	0.238
LEV	0.220	0.469	0.068	0.641
ROA	-3.294	1.536	-0.348	0.037
ACDIL	-1.348	1.104	-0.153	0.227
AFEES	0.345	0.123	0.392	0.007
AFIRMTYPE	-0.098	0.275	-0.049	0.724
Constant	1.789	1.094		0.108
Adjusted R^2 (percent)	23.4			
F Statistics	2.227			0.047

Overall, results of both the logistic and OLS regression analysis clearly indicate that ROA and AFEES are the major factors distinguishing the two groups of companies. The evidence from the remaining variables is mixed and not significant. The results support the widely accepted conjecture that companies having declining earnings were more likely to receive an audit qualification than other companies (Dopouch, Holthausen, & Leftwich, 1987; Sundgren, 1998). However, the results refute the findings that no significant association exists between auditors' opinion and audit fees (Craswell, Stokes, & Laughton, 2002; De Fond, Raghunandan, & Dubramanyam, 2002; Caramanis & Spathis, 2006) but support the 'quality differential argument' to audit quality (Palmrose, 1986).

Reasons for Auditors' Qualification

An examination of the audit reports reveals that auditors seldom qualify or comment negatively on the accounts. There are only a few instances where without qualifying the auditor mentions sections of accounts where its view is in divergence with that of the company. It is customary for the qualifications to be made by using certain expressions such as 'subject to' or 'except that'. As evident from Table 5, an audit qualification may vary from using inappropriate accounting methods to inadequate disclosure and scope limitation. The analysis of the previous year (2008-2009) auditors' report revealed that same/similar qualifications appeared in 52 percent of the cases. It seems that past qualifications were as yet not resolved due to some reason(s). Such findings put a serious doubt on the efficacy of audit committees as a mechanism of internal governance. A strong audit committee should have stimulated improvements in financial reporting and strengthened the credibility of corporate reports. Thus, as documented by Cohen, Krishnamoorthy, & Wright (2002), the potential for audit committees to enhance the quality of the financial reporting process has still not been fully realized. Further, the Auditor's Certificate on Corporate Governance was qualified for four sample companies, three out of which had also received qualifications on financial statements implying poor governance practices as well.

TABLE 5: NATURE OF AUDITORS' OPINION ON FINANCIAL STATEMENTS

Nature of Audit Opinion	Number of Companies (%)
Non-compliance with Accounting Standards	
<i>AS-9 on Revenue Recognition</i>	2 (3.39)
<i>AS-22 on Accounting for Taxes on Income</i>	1 (1.69)
<i>AS-30 on Financial Instruments: Recognition and Measurement</i>	1 (1.69)
Inappropriate use of funds	7 (11.86)
Default in payment of loan/interest to debenture holders, banks and/or financial institutions	3 (5.08)
Directors paid remuneration in excess of the limits specified in the Companies Act, 1956	1 (1.69)

Interest on loans granted to companies covered in the register maintained under Section 301 of the Companies Act, 1956 overdue	4 (6.78)
Regularity of principal payment unascertainable due to the grant of interest-free loans to companies covered in the register maintained under Section 301 of the Companies Act, 1956	2 (3.39)
Inadequate internal control systems	1 (1.69)
Certain fixed assets records not updated	1 (1.69)
Adequacy of certain purchases in excess of Rs. 5 lakh not established	4 (6.78)
Credit for a claim on a contract taken while not accounting for liquidating damages	1 (1.69)
Amounts withheld by customers carried forward as recoverable in books	1 (1.69)
Non-provision of proportionate premium on redemption of Foreign Currency Convertible Bonds since considered as a contingent liability	1 (1.69)
Claim for benefit in respect of which no provision was made by transfer from the Special Reserve Account, as the tax relief was withdrawn with retrospective effect	1 (1.69)
No tax liability recognized in the reduction-cum-arrangement scheme between MCX-SX and its shareholders	1 (1.69)
Provision for diminution in investments due to continuing losses made by certain subsidiaries as well as joint ventures	1 (1.69)
Delay in depositing statutory dues with authorities ^a	8 (13.56)
Commit or an attempt to commit fraud/theft	8 (13.56)

Note: ^aIncluding provident fund, or employees' state insurance, sales-tax, wealth-tax, income-tax, customs duty, excise duty, cess and others.

Conclusions and Implications

A major part of the debate on corporate governance centers on the pivotal role played by auditors in ensuring financial propriety. If audit report contributes significantly towards effective governance of modern corporations, engaging independent statutory auditors would certainly strengthen accountability. The present paper is motivated by such a viewpoint, as it endeavors to unravel the underlying factors that differentiate companies with qualified *re* non-qualified opinion in the context of Indian business. It also explores the oversight role of audit committees in enhancing audit quality.

The findings provide evidence that the occurrence of audit qualifications is associated with return on assets and audit fees. The type of audit firm (Big four vs. non-Big four) and accounting committee diligence (governance proxy) do not affect auditors' propensity to qualify their opinions. An examination of the audit reports reveals that auditors seldom qualify the accounts reiterating the fact that audit committees' oversight role is about non-operational. Moreover, companies with corporate governance qualifications were also found deficient on financial reporting and disclosures.

Results of the present study should be interpreted with caution due to certain limitations. First, the sample constitutes the shares of top hundred companies being traded on the BSE with an acceptable track record. Second, the data has been collected from databases like Prowess. The validity of the results drawn primarily depends on the nature of the database. Further, the information relating to audit committee characteristics were as mentioned in the corporate governance reports which are a part of the annual reports. It was assumed that the companies are reporting fairly to the regulators and the stock exchanges. Finally, a longitudinal research design would have allowed for a more rigorous analysis. Notwithstanding these limitations, the study is timely and relevant given the renewed interest in the relationship between auditors and audit committees. The present study contributes to accounting and governance research by examining variables that can best differentiate cases of audit opinion. The proposed methodological framework could be of assistance to practitioners for assessing the likelihood of qualified audit reports for businesses in India.

The findings undoubtedly steer a case for reforms in the audit system and process in India. A pan-industry reporting and auditing procedures involving a series of action steps is thus advocated. First, the registration, empanelment as well as audit assignments for all listed companies should be handled by a systemic regulator. Second, independence of the statutory auditors could be ensured by appointing joint auditors, rotating the auditors

after a specific term, and also prohibition of certain non-audit assignments. Lastly, an integrated accounting and taxation administration platform would foster better oversight and enforcement. Correct accounting information endorsed by credible statutory auditors would certainly serve as a critical governance constraint limiting management's ability to manipulate accounts.

Whereas, the present paper focused exclusively on the reporting quality of selected sample companies, future research could extend the study over a longer time span and to a larger sample. Another prospective area for research could be of a qualitative kind that takes into account the auditor's skills and abilities, the social contract and the auditors/auditee contract. Finally, alternative methods for identification of audit opinion decision can be used, such as discriminate analysis, multicriteria analysis, and neural networks. These extensions may aid in identifying those criteria that can best discriminate cases of audit opinion

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Endnotes

¹ BSE-100 was launched in January 03, 1989 and was previously known as the BSE National index. The base year for this index is 1983-84 with base index value fixed at 100 points. The index has 100 companies with varying weightages and balanced industry representation.

² See for e.g., DeAngelo (1981); Mutchler (1985, 1986); Keasey & Watson (1987); Keasey, Watson, & Wynarczyk (1988); Hopwood, McKeown, & Mutchler (1989); Koh & Killough (1990); Hirst (1994); Krishnan & Krishnan (1996); Laitinen & Laitinen (1998); Sundgren (1998); Kleinman & Anandarajan (1999); Casterella, Lewis, & Walker (2000); Reynolds & Francis (2001); Craswell, Stokes, & Laughton (2002); DeFond, Raghunandan, & Dubramanyam (2002); Ireland (2003); Spathis (2003); Spathis, Doumpos, & Zopounidis (2003); Caramanis & Spathis (2006).

- ³ All the eigen values were positive i.e., the correlation matrix was of full rank. Further, the predictor variables under investigation did not suffer from serious degree of multicollinearity.
- ⁴ See for e.g., Kida (1980); Dopouch, Holthausen, &Leftwich (1987); Krishnan & Krishnan (1996); Mutchler, Hopwood &McKeown(1997); Laitinen&Laitinen(1998); Sundgren(1998); Francis & Krishnan (1999); Reynolds & Francis (2001); Lennox (2000, 2005); Craswell, Stokes, & Laughton (2002); Spathis(2003); Spathis, Doumpos, &Zopounidis(2003); Caramanis&Spathis (2006).
- ⁵ According to Para 20 of the AAS 28, '*The Auditor's Report on Financial Statements*' issued by the Council of the Institute of Chartered Accountants of India (ICAI), the opinion paragraph of the auditors' report should clearly indicate the financial reporting framework used to prepare the financial statements and state the auditors' opinion as to whether the financial statements give a true and fair view in accordance with that financial reporting framework and, where appropriate, whether the financial statements comply with the statutory requirements.
- ⁶ Para 29 of AAS 28 cites that an 'unqualified opinion' should be expressed when the auditor concludes that the financial statements give a true and fair view. An auditors' report is considered to be modified when it includes (a) matters that do not affect the auditors' opinion and (b) matters that do affect the auditors' opinion including 'qualified opinion', 'disclaimer of opinion', as well as 'adverse opinion' as put down under Para 31.

The cooperatives between economic and social excellence

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Abstract

The cooperatives should face two aims: the respect of the cooperative principles of democracy, mutualityⁱ and solidarity and their pursuit in line with the economic effectiveness principle. In order to represent efficaciously the social and the economic impact of the cooperatives actions, the evaluations of the outcome produced should bear in mind both dimensions above-mentioned. The aim of the paper is to hypothesize a comprehensive evaluation model that allows to estimate the cooperative excellence (Mazzoleni, 1994).

The methodologies adopted are the case study (Yin, 1981, Eisenhardt, 1989) and the triangulation of the informations – collected by a questionnaire - within every single case (Jick, 1979). The emerging model will be made up of two parts representing the social and the economic excellence in turn divided in “internal” and “external” variables depending on the stakeholder considered. In the second part of the paper the model will be tested on four Italian cooperatives.

Introduction

In order to fully understand the link between social and economic excellence in the cooperatives the idea of excellence here considered must be remembered. Furthermore, it seems opportune to mention some business economics principles to better determine the position of the cooperative in the economic world and to highlight their distinguishing marks.

People pursue various aims; the orientation to these aims generates needs. People, in order to satisfy needs, develop economic activity of economic goods production and consumption (Airoldi et al., 2005). Therefore, the economic activity carried out by people to people, has as ultimate aim, the satisfaction of heterogeneous and changeable needs. To completely fulfill these needs a long-time perspective is fundamental.

The pursuance of that activity is realized within human societies, in particular inside institutes as family, companies, public administration and not for profit organizations (Airoldi et al., 2005). Human societies, juridically and substantially divided but referable to the whole human society, pursue the common good of their members. The “common good” is a good functionally for all, a product of the cooperation; it is the collective answer to singular and plural demands.

Every company presents features shared by all institutes, common features between the companies and “personal” features. Among these the strategic view has a prominent role. The strategic view is defined by Vittorio Coda as “the deep identity, the hidden and invisible part of the strategic paint, it stays behind the concrete choices” (Coda, 1995). The strategic view is the variable determining the strategic development and it heavily influences, frequently implicitly, the whole corporate behavior. Looking toward the strategic view and its centrality in the corporate life, it is possible to understand the importance of the cooperative values in a long-term perspective (durability).

One of the strategic view key points is the role assigned to the profit. The cooperative world puts people before profit but it does not forget that the profit creation is infeasible in a durability view. Hence, unlikely a cooperative will fall in the exaltation of the profit trap and in the consequent focusing on the short-term view. The motivations on the basis of the cooperative movement, the overlapping between shareholders and stakeholders and the legislation that oblige a limited profit distribution avoid the risk that profit is considered as the primary and only aim of the company.

In the co-operative organizations, the risk that Vittorio Coda defines as “declassing of the profit role” can appear more realistic, (Coda, 1995) therefore, in front of social primary importance such as mutual aims, reaching

suitable levels of profit can be considered residual. A company without an adequate remuneration for capital and work compromises its autonomy and the real possibility to pursue the institutional goals it was firmly founded on.

The lack of economic stability, interconnected by not synchronous to the institutional stability (Airoldi et al., 2005), inevitably leads to one of the following solutions:

- The organization ceases to exist;
- Another institute absorbs the unstable organization;
- One or more subjects settle the losses regularly and the original organization remains formally active, but the subject of the organization changes substantially and the initial autonomy is definitely compromised. (Airoldi et al., 2005).

In light of what is illustrated, it is clear that one of the unavoidable elements to accomplish institutional goals is adopting a long-term view, but it is just as clear that a company cannot solely direct itself to a simple profit maximization. This, cannot appear as an objective able to insure the survival of the company, (Mazzoleni, 1996). Although the institute has prevailing economic business, the company is the centre where the expectations of different subjects flow and it is so represented by an organism where three dimensions (economy, society, politics) overlap with each other indissolubly. (Mazzoleni, 1996).

Therefore, to evaluate a co-operative company, it is relevant to take into consideration the moral values context at the base, the basic strategic direction and the ability to last during changing times and by the presence of an ideal of excellence that is pervasive in the entire organization. (Mazzoleni, 1996).

It can be useful to illustrate the variables of economic, social and competitive order that bring to company success in order to highlight how reaching company goals requires a circular procedure and necessarily inclusive of the different expectations that flow into the company. Therefore, the social dimension should be considered as a strategic variable inescapable in the long-term.

Institutional goals cannot be taken back to only one model with simple generalization and they cannot even be hammered out to the exclusive maximization of profit but they have to translate into “*a sort of economic deferred utility since it generates conditions of legitimacy in action and it brings consensus of its activity to the community*” (Matacena, 1990).

The close connection between economic goals and social ones assumes even more importance in the co-operative businesses as it is part of the motivation of the foundation of the movement itself. Co-operatives are born from the wish of a group of people to jointly satisfy the common needs of every component of the same group: work, purchases or distribution of goods at the best condition in the market, etc. It is clear how the typical objectives of one cooperative, declined in the three so called pillars: mutuality, solidarity and participation are not antithetic to the production of long-term gains. The co-operative tries to obtain a profit on the market since as a company, it has to pursue an objective of economic self-sufficiency (the ability to reach a financial income and monetary stability) (Mazzoleni, 1996).

The interweaving and overlapping of elements that compose the economic situation of the co-operative, just reinforce the concept of unitary tendency of the economic situation defined by Carlo Masini as *the whole of individuals for the interest of which the institute exists and is governed: these individuals, who are the holders of the economic and institutional interests, are part of the economic organisations* (Mazzoleni, 1996). The unitary result of the company, in its complex can satisfy interests of different people; consequently even the economic subject is bound to be unitary. *The unity and the uniqueness of the economic subject allow the company to carry out general management unity and general command unity*, thus allowing the prerogatives of an economic government.

The coincidence between capital givers and workers, that characterizes production co-operatives and work, reinforces the unity of the economic organization and poses the base for profit pursuit as a long-lasting element not conditioned by the typical short-term investor purpose. The same reasoning can be made for other types of mutualistic co-operatives taken in consideration.

The great strength that elapses between economic, social and environmental dimension has become object of study mostly starting from the end of the nineties when the theory of Corporal Social Responsibility (CSR) was being affirmed. Many companies started recognizing the value that was being created pursuing economic and social objectives at the same time (Mazzoleni, 2005)ⁱⁱ.

At the light of what is written, we can clearly see some indissoluble but not exclusive topics coming that tie the co-operative system; effectiveness, efficiency, long-term orientation and corporal social responsibilityⁱⁱⁱ. The moral values context at the base of the cooperative system imposes a long-term direction, there is, only one option for the completed satisfaction of the requirements brought by the members. It naturally directs the company to look for a continuous dialogue with its own stakeholder, first of all the partners who can be workers, clients and suppliers at the same time.

Therefore, this research wants to evaluate if and how cooperative of different sectors can combine economic performance reaching excellent results in a long-term perspective. Even the concept of excellence, just like the concept of CSR, cannot be ascribable to just one widely shared definition. It is therefore necessary to clarify which will be the definition used as a point of reference. A company can consider itself to be excellent when it pursues two orders of objectives at the same time: economic and social (Mazzoleni, 2005). As already mentioned, the concept where the social dimension is “one of survival” is a shared opinion. It is clear how the present idea of excellence has to necessarily be characterised as a bi-dimensional concept. (Mazzoleni, 2005). Using other definitions of excellence, more directed on the topic of economic performance, (Stadler, 2007) does not appear suitable to supply a holistic evaluation of the cooperative phenomenon.

With specific regards to the cooperative system, it is worthwhile separating the concept of social excellence into three “pillars” that summarise the main cooperatives sanctioned by ICA^{iv} in 1995: participation, mutuality and solidarity. These three characteristics should be recognizable in every cooperative founded on management democracy, on the limitations of objective gain, on the satisfaction of member needs and on the extension of the impact to subjects not part of social companies. A “good” co-operative needs to be able to combine such management rules with the permanence in the market and with financial and management autonomy.

At this point, it is necessary to investigate further a joint agreement among the “pillars” of the cooperation and the elements that determine the importance. Only through a clear representation of institutional references that characterize strategic orientations and the way the cooperative companies operate, is it possible to understand the base on which research, for the inclination for excellence, can lean on, in these types of businesses.

We can say that the DNA of the cooperation comes directly from the principles whereby these companies abide to, in order to be defined co-operatives. The guiding lines to direct how business works, come directly, even if mediated in time, from principle statements established by Rochdale’s “equitable pioneers” (Mazzoleni, 1996; Desroche, 1979).

These principles are updated by International Co-operative Alliance (ICA) and today they define the behaviour laws and the criteria for all the co-operative organizations.

There are seven reference principles which approximately describe the characteristics of every co-operative, as follows:

- voluntary and open membership;
- democratic members' control;
- members' economic participation;
- autonomy and independence;
- education, training and information;
- co-operation among co-operatives;
- concern for community.

In this paper we will not evaluate every single principle in-depth, however, it is useful to highlight how the references which the cooperation must adhere to, if interpreted at system level, appear to be as orientations that can influence management directly (limited interest on capital, residue distribution) as well as operative procedures with evident outcomes on how the co-operative organizations work. This means that the co-operative principles direct the companies that institutionally adhere to the co-operative movement by bringing them to move and giving them natural importance to particular interests such as collective ones and adapting management, organizational and communication systems etc. able to “democratically” involve their own members and generating collaboration among companies with the same institutional characteristics.

The “pillars” are the direct result of the principles.

- Democracy, carried out through free compliance and member economic and decision-making participation;
- Mutuality which offers members economic and extra-economic conditions useful to satisfy needs;

- Solidarity that is revealed through participation and initiatives directed toward the common good and the reference territory and even outside of the direct reference context.

The co-operative principles justly find citizenship with reference to the Stakeholder theory (Freeman, 1984) when the need of the co-operative company to satisfy the interest of vast categories is highlighted.

This is firstly true for the members that are on the same level in virtue of the appearance of the business and without any differences of rights tied to conditions of proprietary nature. At the same time, the reminder of solidarity found in the co-operative principles open the way to behaviour that tend to satisfy social instances, and even if not explicitly, ecological or environmental ones broadly speaking.

The strategic address that brought the co-operative system to cover an important place in the supply of products and services comes from a declared will on the part of these companies and of the entire co-operative movement to take on an active role in the economic social system.

The cooperative movement has confirmed its will to be trained by businesses that satisfy needs not by the normal procedures of supply managed by the market or according to departments institutionally delegated to the public administration.

The “social” mission that the cooperative system has ended up asserting and protecting is wanting the companies to adhere to this institutional system and to affirm the principle of leadership of the co-operative system which puts at the centre the needs of the people and tries to satisfy them through “alternative” ways, different from the standard classical economic models.

According to this interpretation key, it seems evident that for co-operative organizations the aims to reach are meant to explicitly satisfy objectives both of economic and social nature, defining profit as a durability point and placing attention to the interests referable to all stakeholders. By trying to connect the “pillars” of cooperation with those classically referable to the companies, we can highlight those that can be defined as excellence factors as reference, for cooperative companies, that see the coexistence of economic and social drives. This leads us to define the elements useful to create a “cooperative excellence matrix”.

The matrix of co-operative excellence can be represented to identify the elements that constitute the base for the excellence economic dimension, that, in synthesis, can be defined by highlighting the parameters able to synthetically picture the degree of economic-financial performance obtained by the co-operative.

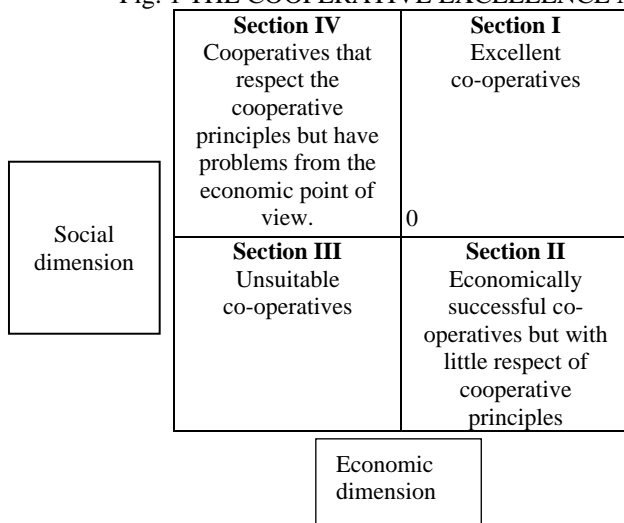
These indicators are referred to the ratios of profitability, solidity, liquidity and development whose aim is to clarify the ability of the company to reach goals on the economic and financial front. The possibility to express efficient evaluations through these indexes has to go through the ability to compare results obtained with other companies presenting the same institutional form and, later, with companies operating in the same contexts and sectors. In the case of co-operative organizations, the consideration of the analysis and comparison phase comes from the need to proceed with reference to the sectors belonging to the investigated companies, as well as with respect to the effects that the institutional form determines on the analysed indexes.

The construction of the excellence matrix then goes through the analysis of the “social” performance of the business - that is - what we can define as the social dimension of excellence. The reference parameters to create indicators suitable to represent this aspect in the life of the cooperative go back to the “pillars” above defined.

This way the social dimension is investigated through indexes able to explain the ability of the company to offer conditions of life, members' personal satisfaction, to begin to realize interventions able to satisfy the needs and demands of the local community and the environment or in general directed to satisfying the collective needs (of the community without direct reference to ones territory). Finally, the social dimension can be investigated through the ability to clarify how member involvement and participation takes place in the life of the cooperative, of the members, of the workers. It means defining political strategies, operative choices, setting objectives and research through which the company can aim to pursue its own results.

The so-defined matrix puts the single co-operatives in sections and can follow their evolution in time. In detail, and synthetically, it is possible to see the typical situations where to position co-operatives with reference to the figure below where the first section shows in ordinate the ability of the co-operative organization to move according to the movement leading principles, an in abscissa the levels of management performance obtained.

Fig. 1 THE COOPERATIVE EXCELLENCE MATRIX



The excellence section is the first where you can find companies showing a high inclination toward respecting co-operative norms in presence of very positive economic-financial indicators. (this, of course happens by keeping in mind what was said above, concerning the different assessments to adopt on the indicators with reference to the industry where the co-operatives operate). At the extreme opposite – III Sector - we have the companies that can be associated to a non-coherent behavior with regards to what is required by the co-operative system added to the inability to reach adequate management results.

In the other two sections, the prevalence of the behavior can “reward” the adhesion to the pillars of the cooperation without associating sufficient economic-financial performance, or, vice versa, the achievement of good management results accompanied by the inability (or scarce will) to stay within the guiding lines traced by the international co-operative alliance.

Placing the co-operative organizations within the four sections allows to highlight where the single companies required more investments between the social and the economic ones, and, if studied in time, they can highlight the effects and the outcomes that strategic, management and economic interventions, etc. have determined, by varying the positioning of the different co-operative organizations.

The representation of the results achieved and their variability in time highlights the effect that is determined for the cooperative following the different choices tied to the direct protection of the co-operative rules, but mostly it shows where the company needs to insure its possibility to last in time autonomously and safeguarding the company vocation of economy.

It turns out to be fundamental that these considerations should be accompanied by careful analysis not only qualitatively but mostly in relationship to the influences applied by the department where the co-operatives operate; in relation to the company mission, besides the normal limitations/opportunities that need to be highlighted with reference to the markets, the economic and social environment of reference.

Methodology

The methodology adopted in the development of this paper is the analysis of case studies belonging to different co-operative sectors. Often, the case study methodology is considered a younger brother in the family of research methods relative to social sciences (Miles, 1979), however, different authors, that support the opposite, consider case studies as a totally reliable method in the field of all social sciences, therefore including business economics.

An in-depth examination through the case study is the most appropriate choice *when the object of investigation are interrogatives such as “how” and “when”, when researchers have little control on investigative elements and when the phenomenon, object of investigation is strictly interrelated with some contexts of real life (Yin, 2002).*

In this work the focus is directly correlated to “whether” the cooperatives are able to reach excellence at the same time in both the economic and social field and therefore the methodology of case study particularly appears to be suitable. The sample analyzed is random, in order not to previously influence the analysis results. The only discriminating factor is belonging to different co-operative sectors.

The analysis will benefit from the use of quantitative and qualitative data, and the combination of the results of these two types of data typologies. In effect it seems to be the most suitable one to supply a detailed picture of the realities taken under examination and it does not conflict in any way with the methodology of the case study as established by Yin (1981).

As far as the analysis of the businesses singled out as heterogeneous both at the industry level and dimensional, the instrument used was a questionnaire that requires both qualitative and quantitative information to be filled out.

Once the data is collected, some re-elaboration has been carried out finalized for the evaluation of the two dimensions, object of the present study: effectiveness-efficiency and sociality. The score assigned to the economic dimension was extracted from the budget data presented and relative mostly to the last three year period; the quantification inherent to the social dimensions comes from the combination of data gathered relatively to the ones defined as “pillars of cooperation”: democracy, mutuality and solidarity. As foreseen by the illustrated matrix, the social and economic dimensions have the same weight and, within the sociality, democracy, mutuality and solidarity, they contribute respectively by a third.

As far as the economic dimension is concerned, the total score is given by five elements and equally weighted:

- capitalization rate (three year period 2007-2009);
- difference between Production Value and Production Costs (three-year period 2007-2009);
- social capital (ten year period 2000-2009);
- reserves (ten year period 2000-2009);
- earnings (ten year period 2000-2009).

The score relative to participation is composed by evaluations inherent to the participation and to the quantitative and qualitative characteristics of the members' group. Most of the weight was attributed to the quantitative items relative to the number of members and to the presence in the meetings, both evaluated in a three-year perspective.

Other points considered have been the presence of women and citizens migrating in the social companies and in the board of directors and discretionary evaluation on the part of the researchers, of the training activities in order to improve the assessing and decision-making abilities.

Mutuality, making up one third of the score relative to the social dimension, is evaluated by considering eight items. Firstly the distribution of the returns in the last three fiscal years (2007, 2008, 2009) is evaluated positively and it demonstrated at a quantitative monetary level which are the advantages for the members of the cooperative. Such a parameter is attributed a value equal to half of all the score relative to mutuality; the other seven points analysed are the benefits different from the returns and weight about 7.40% each.

The last variable composing the social dimension, is solidarity: in this case the score is attributed to equal to 12.5% for every item with the exception of the percentage relative to the donations toward the community that has a total weight equal to 37.5% and it is evaluated on a three-month basis. As a significant threshold of donations, 0.45% of the donations on the gains was adopted, that is, the average value of the donations of the private companies as registered by the Observatory of Private Donations in 2005.

Result analysis^v

Caseificio Alfa – Farmers cooperative^{vi}

The co-operative was founded in 1978 in the province of Piacenza to guarantee the process of milk transformation supplied by the farmers members. The co-operative strong point is the “Grana Padano cheese” produced from transformation of the milk provided by the 24 members of the Piacenza area.

The co-operative is constantly growing. In 1979, the year of the official beginning, 20 thousand quintals of milk were being made and by the end of the year 2000 that amount reached to 124 thousand quintals. High attention is placed on quality, since “Grana Padano cheese” is a certified product and has to respond to certain requirements that guarantee quality, goodness and safety. There are ten employees and workers in the cooperative in all. Presently the main activity is making “Grana Padano cheese”, but the organization is taking into consideration the hypothesis to get organized with other co-operatives to reach the great distribution.

As for the Alfa cooperative, there are good results from the economic point of view, considering the difficulty to operate in the dairy and cheese sector, while from the point of view of sociality; it is opportune to carry out some evaluations. About 90% of the business farming members participate to the assemblies during the year. However, the co-operative does not offer other initiatives to increase or support participation, nor does it evaluate the degree or level of participation. The members however, are “external” subjects to the co-operative (mostly if we compare it to a co-operative of Production and Work). There is no business training or co-operative courses offered. From the self-help point of view, the dairy does not distribute rebates, nor does it offer particular benefits to the members. From the external solidarity point of view, the cooperative makes donations and it sponsors other organizations, and besides this, very little is done from the point of view of collaboration with other cooperatives, training and information.

Alfa is positioned in Section II, registering an economic result of 62,2 point and a negative social result of -62,81 point.

Beta – Cooperative of Production and Work

The Beta co-operative, operating in the province of Brescia, has a long tradition in the field of machinery making. For years it has been the reference make in the sector of farming towing machines, modifying its production in the past 15 years towards compactors and recycling containers. The birth of the cooperative goes back to the ‘80s when the former private company was taken over by the same employees following a crisis of two year strikes and a strong involvement on the part of the territory.

This story, the important role played by the founding members, by their initial participation of the community to the life of the company, made it possible for the co-operative to take root in the territory and stimulate active participation among members.

Presently, the members' group of the co-operative is composed of 36 people. From the economic point of view, in spite of the turnover and the production value, we have registered slight increases in the four year period (+0,81% e +6,41%), the operating income decreased slightly (- 592,76%), and this is due mainly to the market crisis that reflects an increase of costs not equivalent to an increase of sales. In spite of this, thanks to the funds put aside that took place in the preceding years and to the basic philosophy that guides the company, the co-operative managed to avoid laying off its employees guaranteeing them a work place.

From the point of view of the respect of the co-operative principles, Beta is particularly careful to the growth of its own members, and offers a range of training and information courses well accepted by the members' group. There is a high number of meetings per year (4/5), way above the level required by the norms. The mutuality is guaranteed mostly by offering a safe work environment; the only criticisms can be made for the fact that this is also addressed to the non-members, making it hard to notice the real health care benefits. The principle of solidarity can be interpreted as a “collaboration among co-operatives” since Beta has chosen co-operative financial partners therefore supporting the system.

In the matrix, the co-operative can be positioned in Section I, with a good sociality (+26,71 points) and with a scarce cheapness. (+2,2 points). Its position is very low from the economic point of view, even if positive, it has shown a negative trend in the past few years.

Gamma – Cooperative Bank (Banca di Credito Cooperativo – BCC)

The Banca di Credito Cooperativo Gamma was founded 115 years ago and operates in the province of Brescia. It is the result of many mergers that starting from 1970. The Cooperative Credit Banks – originally called Rural Credit Bank – were founded between the end of 1800 and the beginning of 1900 with the aim to allow little loans among the rural population, in particular farmers and artisans to gain access to credit. This was inspired by the Church. After about a century they still have their distinctive identity of cooperative and local banks. Presently, the BCC Gamma operates with 30 branches and counts over 7.000 members in its social company.

As far as research is concerned, BCC had a downturn in the past four year period with a decreasing capitalization and profit rate. Nevertheless, the social capital, the number of members and the reserves are increasing constantly. The economic situation is strongly influenced by the crisis that hit the entire market, the companies and savers. From the social point of view, BCC guarantees great results from the self help point of view as well as solidarity, offering profitable conditions for its own members and significant participation in its territory. The topic of participation is a bit more critical, the average participation to the assemblies is quite low. BCC falls into Section I, with a effectiveness and efficiency score of (+60) and sociality (+47,4) positive.

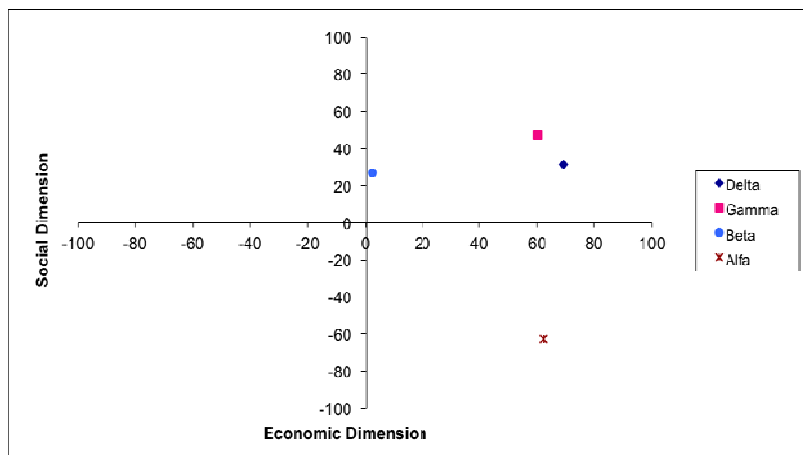
Delta – Consumer cooperative

Delta was founded in 1973 with the objective to supply oil products to farming companies and to all other consumers for their business, in an area comprising 4 provinces: Brescia, Mantova, Cremona, Bergamo and Lodi. During the years, the cooperative passed from a simple group made up of farmers to a company counting 2.200 members in the entire region. Besides its member farming companies, it supplies industries and haulers, and it has the objective to safeguard consumers of oil products. Its commitment guarantees quantity and quality of fuels, assuring continuous supply protecting from speculation even in periods of product crisis and shortage, economic savings coming from competitive prices and profits to members. The cooperative guarantees technical assistance, supplied by experts, to optimize the use of fuels and lubricants.

From the economic point of view, the cooperative registers excellent results, guaranteeing a positive trend in years. From the sociality point of view, the cooperative has good results in terms of mutuality (distribution of profits and conditions that are really advantageous on the market for the members). It operates on the territory as market price controller and has some collaborations with non-profit companies, while the participation of the members is medium-low. In the matrix, Delta cooperative falls in Table I, with an economic result of 68,87 points and a social result of di 31,13points.

Below is the matrix with the positioning of the four case study analyzed.

Fig. 2: CASE STUDIES POSITION IN THE COOPERATIVE EXCELLENCE MATRIX



The best cooperative positioning is of Delta and Gamma, where the consumer cooperative excels particularly as far as economic results and BCC for the social results. The Work&Production cooperative, Beta cooperative, even if under Section I risks to go to Section IV with those who respect the cooperative principles but have economic difficulties. Alfa, the farm cooperative, in spite of good economic results, should apply some opportune strategies to improve sociality and respect for cooperative principles.

Conclusions and future developments

Evaluation of results is one of the most relevant points faced by business economics. When analyzing value on types of businesses that combine economic and social requirements, the topic becomes even more complex to treat and develop empirically. With the present study the researchers have presented an evaluation instrument usable for different types of cooperatives that combine their business with being company with moral issues typical of the cooperative system. This first-time model, subject to future improvements, has demonstrated a high level of applicability. It is worthwhile pointing out that the paper would like to demonstrate and try this instrument, and having chosen four cooperative cases completely different as far as their activity, market, dimensions and history. There was no specific comparative aim in reading the results and the matrix.

The positioning of each company, in addition, can be partially motivated according to the typology considered: it is almost natural to register a higher participation in Work & Production cooperative where the members are workers who live the business daily; with respect to co-operative farms or consumption cooperatives where the members automatically carry out their business and interact with the cooperative more for instrumental aims. The use of the matrix can be very useful to compare one's own positioning in time or with respect to similar companies as far as business and dimensions. Finally, the matrix itself has to be functional to consistent strategies, that allow the cooperative to evaluate actions of repositioning in the matrix's table to reach Section I, represented by economic and social excellence.

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END NOTES

ⁱ In the paper the word “mutuality” refers to the specific feature of co-operative firms that operate in order to satisfy the needs of their members.

ⁱⁱ CSR, according to the following text “Promoting a European framework for Corporate Social Responsibility” Green Paper presented by European Commission), is “*going beyond compliance and investing “more ” into human capital, the environment and the relations with stakeholders*”.

ⁱⁱⁱ Not all literature agrees with that it is a competitive benefit to identify innovation and continuous search as basic elements to create a company that is able to last autonomously in time. For example see Stadler, C., Four Principles of Enduring Success, *Harvard Business Review*, July-August 2007. The contribution of the four key principles of long-lasting success are identified thusly: exploiting instead of exploring; diversifying the activity; learn from mistakes; careful attitude toward change.

^{iv} For further information see www.ica.coop

^v The value scale relative to the two analysed dimensions goes from –100 to +100.

^{vi} The name of the analysed companies have been changed for reasons of privacy.

The cooperatives between economic and social excellence

Corporate governance structure and the impact on the generation of competences in human resource management and financial performance

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Abstract

In the present paper we study the impact of corporate governance structure in human resource management and financial performance in the Colombian context. For this purpose, it will analyze the concept of corporative governance. Later, we will be discussed two streams that study both the structure of corporate governance as the behavior of managers, the agency theory and stewardship theory.

We find that the structure of corporate governance and distinctive capabilities of human resource are positively related to company performance, but this not explained the attitude steward of the CEO and collaboration systems.

1. Introduction

In the present paper is a first step of a comparative study that includes Mexico and Colombia. In this first approach addresses the issue of corporate governance structure and its impact on human resource management and financial performance in Colombia, which starts playing the theme of the corporate governance in Colombia, and then study the theories that have studied the corporate governance; the agency theory and stewardship theory and then analyze the research that has been done on these theories and their relationship with the variables already mentioned above. For after studying data from a survey of 40 Colombian companies that are listed as the 5.000 most important companies of the country by the *Revista Dinero* in 2008.

1.1. Colombian Context

The corporate governance in Colombia is based on analyzing the codes of conduct established in this country and being supported by the assumption that the corporate governance activities are inherent in financial reporting to allow society, the state, and shareholders to ensure their confidence in the management of companies (Cano, 2002).

As for the structure of corporate governance in the Latinamerican context in wish predominate the family business and therefore have different governance systems of the them used in Anglo Saxon countries, for example, the separation of ownership and control by the American companies will not occur in our context, given the high influence of shareholders on the board of directors and the president (Cano, 2002). The reasons for this concentration of ownership may be because the external monitoring institutions aimed at monitoring the agency are just beginning to be established (Khanna and Palepu, 1999). Another reason for what companies' concentrate ownership is for reason the culture of a society, that is, the set of shared beliefs that determine the behavior of individuals (Smircich, 1983). These cultural elements are socially created and therefore we can not be assumed that the structure of corporate governance is entirely a product of rationality and the explicit design of the individual. For Hernandez (2005), resistance to sell or transfer ownership beyond the family is deeply accepted Colombian business

culture. According to *Revista Dinero* (1999, cited by Hernandez: 146) in 1999 nearly 80% of large companies were family businesses that had been adjusted to the new modern management environment

2. Theoretical Framework

This section will discuss the theories that underpin this research, first discussed the concept of corporate governance, understood as a system by which business corporations are directed and controlled through the distribution of rights and responsibilities different participants in the corporation such as the board of directors, managers, shareholders and stakeholders. Later the two streams will be discussed studying both the structure of corporate governance as the behavior of managers, the agency theory and stewardship theory. In the first study of agency problems that arise when the director of the company has superior information and acts as a selfish trader can exploit the resources of the company for its own benefit, which would otherwise be the owner (principal) of the company who would. Agency costs can be low, if there is a close alignment between the interests or identity of the owners and directors. Stewardship theory is another perspective, which shows the advantages and disadvantages of the form of control of the company. This theory proposes that leaders and business executives aspire to high goals in their jobs given by high levels of self-motivation, responsibility and achievement, as well as protecting the organization through a collectivist behavior. Under this theory, managers are not simply selfish economic agents, act selflessly for the benefit of the organization and stakeholders (Miller, Le Breton - Miller, 2006).

2.1. Concept of Corporate Governance

The Organization for Economic Cooperation and Development defines corporate governance as (OECD 1999, cited in Clarke, 2004): The system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, as the board of directors, managers, shareholders and other stakeholders, explaining the rules and procedures for corporate decision making, and provide the structure and foundation of the establishment of objectives, the means to achieve and ways to monitor their implementation.

One of the key concepts of corporate governance is of the stakeholders which refers to the study of all stakeholders, whether internal or external, that are positively or negatively affected by the operations of the company, from a human point of view, ethical or social, without losing sight of the goal of maximizing the benefits to the organization.

For Freeman (1984) stakeholders are individuals or groups who can affect or be affected by the purposes and business success, however, several scholars have suggested that this definition is too broad, because the final analysis all social players are directly or indirectly affected by the actions of the company. What has given rise to different classifications of stakeholders, has suggested that there are primary and secondary, according to the degree of impact on the organization in terms of achieving its mission and objectives of the company (Clarkson, 1995, cited by Mitchell et al., 1997). Others have suggested that the stakeholders are all parts that are positively or negatively affected by the operations of the company those involve risks and therefore gain or lose by the results of corporate activities (The Clarkson Centre for Business Ethics School Joseph Rotman Management, University of Toronto, 1999, in Principles of Stakeholder Management, 2002).

For Mitchell et. al. (1997), are classified as voluntary or involuntary the first are those with a degree of risk, whether they have invested large sums of money, personnel, technology or other resources in the enterprise. The second are those who are interested in the business because their actions affect them, although it had no intention of doing so.

The relationship between the company and internal stakeholders (employees, managers and owners) is defined by formal and informal rules developed through history. While shareholders may fund managers, they rely on employees to create strategies. External stakeholders are equally important and are related to: consumers, suppliers, competitors and special interest groups are also considered for formal and informal rules. Finally, local

governments and communities together the formal and informal rules that businesses have to operate (Freeman, 1994; Post et al., 2003, cited by Clarke, 2004).

2.2. Agency Theory

The agency theory says that ownership in large companies is diversified across multiple shareholders who transfer authority in making decisions to CEO in order to achieve optimum business performance. The fact that shareholders have a small equity stake results in a difficult access to information on actions taken by its managers (Berle and Means, 1932, cited by Davis et. al., 1997, Jensen and Meckling, 1976), control is costly and information is costly to obtain, especially for a person.

For this reason there is the possibility that CEOs pursue their own goals even to the detriment of the interests of shareholders. The separation of ownership and control is the main problem to avoid possible opportunistic behavior of CEOs that could affect security on the investment return of shareholders (Jensen and Meckling, 1976). Williamson (1985) defines opportunism as an effort to make profits through the dishonesty in transactions. This can take two forms: the strategic concealment of information (which gives the agent a benefit) and the inability to obtain a commitment of responsible behavior during execution.

The agency problem arises when the welfare of a person depends on another: the agent is the person who acts and the principal is the person that affects the action. One major problem for investors is that CEOs can pursue their own goals, even at the expense of obtaining lower profits for owners. In any negotiation between two parties establishing a relationship of agent and principal, which is characterized by the existence of a hierarchical relationship, which can be established through a formal or informal. One party has possession of an asset or senior administrative role, the principal, the other party manages the assets of a company, which is called "agent" The key feature of this relationship is the asymmetry of information, the agent has more information about the daily operation of the organization and the primary has only generic information, thus incurring high costs to monitor the actions of the agent (Jensen and Meckling, 1976).

This is given by the absence of contracts made in full, therefore, identifies some actions that the principal can do to narrow differences to their interests, which are based on systems and incentive to incur costs monitoring to limit the aberrant activities opportunistic agent.

In particular, this model promotes the use of independent power structure is, that does not match one person in the position of CEO and chairman of the board of directors of a company, in order to avoid opportunistic behavior of managers (Jensen and Meckling, 1976).

Moreover, the agency problem has been widely criticized, as it faces a problem between managers and owners only and the shareholders are not the only ones affected by the activities of the company but also find all the stakeholders (groups interest), which are also affected by the organization, therefore arise stewardship theories such as described below.

2.3. Stewardship Theory

Stewardship theory is a model opposite to that established by the agency theory; the model holds that the interests of CEOs are aligned with the interests of the principal, in contrast to the selfish motivations that supports the agency theory. According to this theory, the CEOs seek to balance the interests of shareholders and interest groups, stakeholders, and therefore try to make decisions in benefit all of them.

Davis, et. al. (1997), determine the characteristics of behavior that should have the perspective managers stewards who are motivated to act proactively and to be collectivism, which has a high value compared to an individualistic and selfish actions. Due to the high need for growth and achievement, psychological motivations, the manager appreciates the value of collaboration using their initiative to promote success, establishing bonds of trust with them. This has a positive attitude towards group harmony by avoiding conflict or confrontation.

For all the above we can say that with a stewardship structure, internal stakeholders such as managers and the employees develop a high identification with the company while generating value and commitment to the

organization, and both the manager and investors (shareholders) have a motivation to self-realization, that thanks to general manager looking for the involvement of all members of the organization of your employees, managers and investors seek to generate investment and ensuring long-term yields at the cost of short yields term.

3. Literature Review

In this section we develop the assumptions underlying each hypothesis, will start with stating that the separation of ownership and control results in better performance, then analyze how the attitude of the CEO (steward type) can build capacity distinctive human resource management and employee collaboration.

3.1 The structure of Corporate Governance, Stewardship and Company Performance

As already mentioned, the agency theory assumes that the separation of owners (principal) and CEOs (agents) increases the attitude of the latter to take actions that do not maximize shareholder wealth (Jensen and Meckling, 1976). However, to Fama and Jensen (1983), the separation of ownership and control within the firm reduces agency costs and thus leads to high performance, which implies that the chairman of the board is different from the CEO.

In stewardship theory, The CEOs are inherently trustworthy and not prone to divert company resources (Donaldson and Davis, 1991). It is believed that CEOs are good stewards for the primary and will be effective in setting strategies to increase shareholder wealth. The duality between ownership and control encourages flexibility in the workplace and reduce conflicts between the board and management, which lead to high levels of returns to shareholders (Davis, 1997).

Both theories of agency and stewardship reflect two types of leadership in any organization. According to Said, Yaacob, and Ismail Awang (2009), one of the strongest debates about corporate governance is the question of whether the general manager of the company should also be the chairman of the board of directors. The general manager who heads the organization's decisions while the president of the board is responsible for working for the council, ensuring that all essential matters on the agenda, the council monitor and supervise the rectification of strategic initiatives director of the company and oversee the hiring, firing, evaluation and compensation of the CEO of the company.

Therefore there must be evidence that the duality of corporate governance brings better returns for the firm (Finkelstein and D'Aveni, 1994; Martinez, 2004), but there is also research that shows otherwise (Daily and Dalton, 1994; Judge, Naoumova and Koutzevol, 2003) and others that the results are mixed and inconclusive (Chowdhury and Geringer, 2001) so we feel the need to further analyze these structures using best practices. From this follows the first premise:

Premise 1: In companies with duality in the control generate better business performance.

With this premise the following hypotheses emerge:

H1: Companies with dual control structures generate behaviors steward of the director general.

H2: Companies with dual control structures generate good financial performance.

3.2. Stewardship and the Effects on Human Resource Management and Firm Performance

The evolution of governance models, presented by stakeholder theory and stewardship theory, extends the company's obligations beyond shareholders, this based on the assumption that the company has responsibilities to society and a variety of ethical and moral obligation (Caldwell, Karri and Vollmar, 2006).

The role of leadership in human resource steward type in the governance of the organizations has received increased attention in the post-Enron era (Caldwell et. al., 2007, Hernández, 2008). Caldwell et. al. (2010) describes the stewards CEOs, as leaders who have a complex set of obligations to stakeholders. These obligations achieve long-term wealth to achieve the benefits of all stakeholders and highlight the obligations of the company with society.

The success of the strategic management of human resources involves the design and implementation of a set of policies and practices that ensure that employees share knowledge, skills and abilities that contribute to achieving the objectives of the organization (Huselid, Jackson and Schuler, 1997).

Becker and Huselid (2006: 902) note that the intangibility of human resources is essential to achieve a sustainable competitive advantage, which depends on whether the leader of a company understands how to integrate people into the achievement of organizational goals. Supangco (2006), mentions that successful human resource practices in organizational capacity building help the organization to adapt to changes in a global environment, these practices provide the necessary infrastructure to enable the organization to create value in the market.

If we consider human capital as part of unique and valuable knowledge of the employees, they will be relevant features to generate a sustainable competitive advantage. The value of knowledge reflects the power to improve efficiency and effectiveness of the firm, exploiting market opportunities and / or neutralize potential threats, while the unique knowledge helps to differentiate from competitors

As Barney and Wright (1998) suggest, a resource creates value by lowering costs or differentiating the product/service in a way that the company can charge a high price, then a valuable knowledge will generate high returns in growth markets with rate benefit to consumers on their associated costs. For López Cabrales et. al. (2009) define the value to the extent that human capital provides low cost or an increase in the characteristics of the goods or services that matter to consumers.

However, some authors note that the resources of a company should not only be valuable and unique, to provide superior performance, it is also necessary to have an appropriate organizational structure to achieve an advantage of these resources (Barney and Wright, 1998, López Cabrales et. al., 2009). Goffee and Jones (2001, cited by Caldwell, 2006) mention that leaders must build relationships with employees to develop a sense of commitment in a competitive global market. This brings systems management practices of human resources, called collaborative or partnership/alliance (Lepak and Snell, 1999; López Cabrales, et. Al., 2009; Martinez Lucio and Stuart, 2005). The literature also emphasizes the importance of working in groups or teams to raise awareness of the unique and valuable members of the organization (Nonaka and Tekeuchi, 1995, Lepak and Snell, 1999, cited by López Cabrales, et. al., 2009). In the collaborative system, the ability to work as a team are necessary to move any selection process and these skills are the focus of training initiatives. In sum, the evaluation process and compensation provided complete with a criterion group (Helleloid and Simonin, 1994; Lepak and Snell, 1999). Therefore, the design teamwork is to generate a competitive advantage in the organization.

As we can see there is a paucity of empirical studies on the relationship between human resource management and corporate governance, which creates an opportunity for research to define the type of relationship. So you can give the following premise.

Premise 2: In companies with CEOs steward attitudes generate collaborative and distinctive capabilities in human resource management.

From this premise, our next hypotheses emerge

H3: Attitude steward of the CEO generates distinctive capabilities.

H4: Attitude steward of the CEO generates collaboration with employees.

H5: The employee collaboration creates distinctive capabilities.

H6: The distinctive capabilities produce good financial performance.

4. Methodology

In the present study will be used simultaneous equations models, using single equation methods that are most used because they may be less sensitive to specification errors. To make the sequence analysis, it must be the dependent variables are: distinctive capabilities (CD) and financial performance (DF). On the other hand, the independent variables: duality in the control (DC), stewardship attitude (ST) and collaboration (C).

To measure the relationships are presented in the following model equations:

$$CD = \alpha_1 + \alpha_2 ST + \alpha_3 C + \varepsilon_1 \quad (1)$$

$$DF = b_1 + b_2 DC + b_3 CD + \varepsilon_2 \quad (2)$$

$$ST = \gamma_1 + \gamma_2 DC + \varepsilon_3 \quad (3)$$

$$C = \alpha_1 + \alpha_2 ST + \varepsilon_4$$

(4)

As control variables we take the company size, family background (in case of family businesses) and the structure of the board.

We use the recursive OLS model equations taking as an assumption that the errors (ε) are not correlated with the dependent variables, in other words to the equation (1) has only independent variables on the right side of the equation and so therefore uncorrelated with the error term ε_1 , therefore this equation meets the basic criteria MCO. In equation (2), which contains a dependent variable (CD), as an explanatory variable along with other non-stochastic independent variable, you can also apply OLS as CD and ε_2 are uncorrelated, which is the same case of Equation (4).

For the conduct of the investigation we developed a questionnaire with items derived from the hypothesis, appropriate for a Likert scale (1932; in Hayes, 1999), often called grading method combined. This scale is also a widely accepted technique with which the participant indicates the amount of agreement or disagreement you have with a variety of statements about a particular attitude object. For this survey takes the instruments developed by López Cabrales, et. al. (2009) and Rodrigo and Arenas (2008). To measure the financial performance variables take the sales, assets, ROA, available at the National University of Colombia (see Annex).

For variables distinctive competencies, attitudes stewardship and collaboration is making a set of items to measure them. It is part of a population where it operates a set of variables and it tries to find several factors that could reveal the deep structure of that reality. For this, all the variables that form a factor must be correlated and yet be relatively independent of the rest. To validate the study used the Cronbach alpha resulting in 0.98, so one can assume that the factors have a good level of reliability.

5. Analysis of results

When estimating the equation $CD = \alpha_1 + \alpha_2 ST + \alpha_3 C + \varepsilon_1$ (Table 1). We can see that both α_2 and α_3 of model 1 are not significant, it has a very low R^2 , but we estimate the F-test and accepting the model achieved an overall significance level of 85%, so that reject the null hypothesis that the coefficients are zero, in other words, the whole stewardship and collaboration variable explained the distinctive capabilities of employees, and that has a positive relationship with both variables. By running the model with only the control variables firm size (Model 2) had an explanatory power of almost 90% the other control variables did not have significance level, so can be concluded that when the company have high levels of collaboration within it will develop distinctive capabilities in the employees, we can also conclude that larger companies will have higher levels of distinctive capabilities of employees and they can explain the generate plans for collaboration. Also applied the White test to verify that there is not heteroskedasticity, for the models 1 and 2, and we conclude which is rejected, because exist up to 50% and 75% critical value respectively. This is done to test the hypothesis 5, but considering that it has low levels of significance, is achieved partially test the hypothesis 3, given the non significance of the coefficient and globally acceptable levels.

Table 1: Estimated equation $CD = \alpha_1 + \alpha_2ST + \alpha_3C + \varepsilon_1$

	Constant	ST	C	R ²	F	Control variables
Model 1	-1.101836 ee = (0.502148) t = (-2.194246) p - value (0.0346)	0.195312 (0.173111) (1.128247) (0.2665)	0.275810 (0.197888) (1.393769) (0.1717)	0.085785	1.735942 Prob(0.190280)	
Model 2	-1.401058 ee = (0.527276) t = (-2.657164) p - value (0.0117)	0.223229 (0.170606) (1.308449) (0.1990)	0.337805 (0.197893) (1.707005) (0.0964)	0.145282	2.039712 Prob (0.125622)	Company size
Model 3	-0.805218 ee = (0.698706) t = (-1.152441) p - value (0.2567)	0.185189 (0.175352) (1.056102) (0.2980)	0.284848 (0.200106) (1.423484) (0.1632)	0.095326	1.264446 Prob (0.301135)	Structure of the board of shareholders
Model 4	-0.816571 ee = (0.948659) t = (-0.860763) p - value (0.3987)	0.223847 (0.202513) (1.105346) (0.2810)	0.424866 (0.334194) (1.271316) (0.2169)	0.103928	0.850531 Prob (0.481192)	Family background

In Table 2, we can see that the equation $DF = b_1 + b_2DC + b_3CD + \varepsilon_2$, in model 1 the coefficient b_2 does not have an acceptable level of significance, but it has a b_3 90% confidence, and with the F-test and accepting the model achieved an overall significance level of almost 90%, there is a relationship in the distinctive capabilities of the employees of the company, so we can say that in companies where further develop these skills, they will have better financial performance. By running the equation with variable structure control of the board of shareholders (Model 3), we can see that the model remains overall significance nearly 90%, and the same relation of signs, but not so with the other control variables as the models 2 and 4, which lowered its overall significance to 85 %, but still b_3 has a significance level of 90% with of these two models. Thus we can say that the capabilities of employees explain up to 90% the performance of the company, but the control dual structure and distinctive capabilities explain the performance of the company, but the variable structure of dual control individually does not explain the financial performance, based on this information we can accept hypothesis 6 and in part the hypothesis 2.

We applied the White test to verify that there is no heteroskedasticity, we found that heteroscedasticity is rejected in Model 1 to 25% of critical value in Model 2 is that there is heteroskedasticity, 3 and 4 we can conclude that no exists a critical level of 5%. For equations $ST = \gamma_1 + \gamma_2DC + \varepsilon_3$ and $C = \square_1 + \square_2ST + \varepsilon_4$ not managed to find statistically significant so poor that fail scenarios 1 and 4. Therefore, we can not accept the assumptions 1 and 4 (Table 3 and 4).

Table 2: Estimated equation $DF = b_1 + b_2DC + b_3CD + \varepsilon_2$

	Constant	DC	CD	R ²	F	Control variables
Model 1	7.380.764 ee = (0.569344) t = (1.296.363) p - value (0.0000)	0.377401 (0.660081) (0.571749) (0.5710)	0.270181 (0.128471) (2.103.055) (0.0425)	0.111327	2.254.931 Prob (0.119495)	
Model 2	7.347.774 ee = (0.625656) t = (1.174.411) p - value (0.0000)	0.372491 (0.670228) (0.555767) (0.5819)	0.266825 (0.132551) (2.012990) (0.0519)	0.111802	1.468.542 Prob (0.239900)	Company size

Model 3	7.863.004 ee = (0.689579) t = (1.140.261) p – value (0.0000)	0.307894 (0.658069) (0.467875) (0.6428)	0.250922 (0.128570) (1.951.641) (0.0590)	0.147689	2.021.600 Prob (0.128760)	Structure of the board of shareholders
Model 4	7.677.786 ee = (0.665095) t = (1.154.390) p – value (0.0000)	0.406898 (0.663152) (0.613581) (0.5435)	0.244157 (0.132311) (1.845.334) (0.0735)	0.130223	1.746.736 Prob (0.175400)	Family background

Table 3. Estimated equation $ST = \gamma_1 + \gamma_2 DC + \varepsilon_3$

	Constant	DC	R ²	F	Control variables
Model 1	-1.623433 ee = (0.632853) t = (-2.565.261) p – value (0.0144)	0.349330 (0.756404) (0.461829) (0.6468)	0.005581	0.213286 Prob (0.646837)	
Model 2	-1.451887 ee = (0.679467) t = (-2.136.803) p – value (0.0393)	0.360976 (0.761350) (0.474126) (0.6382)	0.019483	0.367601 Prob (0.694893)	Company size
Model 3	-1.374703 ee = (0.800918) t = (-1.716.409) p – value (0.0944)	0.327121 (0.765038) (0.427589) (0.6714)	0.012665	0.237301 Prob (0.789945)	Structure of the board of shareholders
Model 4	-1.281.297 ee = (1.381.037) t = (-0.927779) p – value (0.3632)	0.111615 (1.267.326) (0.088072) (0.9306)	0.000437	0.005027 Prob (0.994987)	Family background

Table 4. Estimated equation $C = \beta_1 + \beta_2 ST + \varepsilon_4$

	Constant	DC	R ²	F	Control variables
Model 1	-1.224174 ee = (0.360573) t = (-3,395,076) p – value (0.0016)	0.065834 (0.141508) (0.465235) (0.6444)	0.005664	0.216443 Prob (0.644419)	
Model 2	-0.987207 ee = (0.406856) t = (-2,426,429) p – value (0.0202)	0.045620 (0.141531) (0.322333) (0.7490)	0.044605	0.863721 Prob (0.429916)	Company size
Model 3	-1.393933 ee = (0.526302) t = (-2,648,545) p – value (0.0118)	0.071498 (0.143581) (0.497964) (0.6215)	0.011006	0.205879 Prob (0.814857)	Structure of the board of shareholders
Model 4	-1.611056 ee = (0.529240) t = (-3,044,091) p – value (0.0043)	0.088303 (0.143290) (0.616256) (0.5415)	0.031763	0.606898 Prob (0.550375)	Family background

Conclusions

Based on empirical and theoretical studies are reviewed argue that the structure of corporate governance can positively affect the functioning of the company itself is generating capabilities to improve its financial performance. By contrast the agency theory and stewardship of six hypotheses were raised which could accept only proposals (1) and (2), of which explain the hypotheses 2, 3, 5 and 6, although with reservations since the coefficients (α_2 , b_2 ,) have no significance but the overall significance F test fails to pass the significance level for models 1 and 2 of equation (1) and equation (2) must be in all the models have acceptable levels of significance between 85% and almost 90%. We can also conclude that there is a positive relationship between attitude steward of CEO and collaboration in the generation of distinctive capabilities of human resources.

Rejection of equations (3) and (4) and therefore the hypothesis 1 and 4, given the low explanatory power of the equations, so there is no relationship whatsoever between the duality of the overall direction and attitude steward of the CEO and this in turn has no relation to employee collaboration. These results should be viewed with caution since it is a small sample of one of the main limitations of the study also to apply a perception survey of risk managers to evaluate only positive things about the organization so that suggests future research to other types of study as may be case studies in depth interviews with a group of companies of this sample.

Therefore we can conclude that in the Colombian context of corporate governance structure does not explain the behavior of the CEO, and neither collaboration systems existing within the company, but one can say that the attitude steward and collaboration have a positive impact in the generation of capabilities in the human resource and lead to better financial performance.

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Annex

Measurement model

Finance performance

Sale, assets, ROA, Relationship ebitda/sales

Corporate governance structure

1. Is this a family-owned company?

- a. Yes
- b. No

If your answer to the previous question was "Yes" go to the next question. If you answered "No" go to question 2.

1.1. The current CEO is the founder?

- a. Yes
- b. No

1.2. How did he do founded it?

- a. Its own assets.
- b. With a state loan agency.
- c. With a bank loan.
- d. Through angel investors.

1.3. If it is a family business, is there separation between capital and the family patrimony?

- a. Yes
- b. No.

2. Is there a board?

- a. Yes
- b. No

2.1. The shareholders are mainly family members?

- a. Yes
- b. No

2.2. Is the company's general director the chairman of the board?

- a. Yes
 - b. No
-

Factor 1. Attitude Stewardship (López - Gamero et. al., 2008)

S1. The top management's behavior inspired continuous improvement un all members of the organization

S2. Te CEO ensures that workers continually develop skills in line with projection of the organization.

S3. There is a positive attitude of the CEO to provide strategies and activities for that the people in addition to contributing their time they'll generate their best effort

S4. Decision making is rational, technical and participatory

S5. Decision making is articulated in strategic business units.

S6. The administrative controls are applied consistently and regularly reviewed in their design.

S7. The CEO looks that HR practices are aligned with corporate culture.

S8. The company creates an environment where people have the opportunity to learn, grow and develop.

S9. The CEO ensures that workers continually develop skills in line with the projection of the organization.

S10. In the company there exist mechanisms for feedback.

S11. In the company there is a basic attitude concerning the possibility of growth and diversification.

S12. In the company there is a positive attitude towards the possibility of strategic alliances.

Factor 2 Distinctive capabilities in the human resources (Lepak and Snell, 2002)

DC1. All members of the organization know mission and share the objectives of the company

DC2. Employees have skills that contribute to the development of new products, services and/or opportunities.

DC3. Employees have the ability to create innovations.

DC4. Employees have the skills necessary to maintain high quality of products and/or services.

DC5. Employees have skills that are able to provide exceptional customer value.

DC6. The employees have skills that are developed through work experience.

DC7. Employees have skills that are difficult to imitate or replicate by competitors.

DC8. Employees have skills that are not available to our competitors.

Factor 3. Collaboration (Lepak y Snell, 2002).

C1. It generate cross-functional teams and networking within the company

C2. Training activities focus on building interpersonal relationships.

C3. There are performance evaluation methods that assess teamwork.

C4. The methods of performance evaluation are focus on the skills of employees to work with others.

C5. In the selection process assesses the ability to collaborate and work together.

Building Capabilities for Sustainability of Foreign Multinational Enterprises in China

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Abstract

This study is about the perceptions of thirty Chinese executives who are working for twenty foreign multinational enterprises in China through five years of field work in China, Japan and the U.S. Only three out of twenty corporations became really committed to building a “holistic and integrative” sustainable development programs in China because of the moral consciousness of their leaders. The recommended strategies for building capabilities of sustainability of foreign multinational enterprises in China include: increase innovation and localization, change the poor consumers to be producers, enhance the capacity of selected local suppliers, develop collaborative capacity with internal employees and external stakeholders, use a public-private platform to lobby the Chinese government, deepen organization learning process, and develop an internal culture of human flourishing based on sustainability concept.

Introduction

Chinese government and Chinese entrepreneurs since 2005 are more open to practices than can generate good capital through protecting the local environment and labor and expecting foreign multinational enterprises to exemplify these practices (China Entrepreneurs Survey System, 2007; Synato, 2010). Under the Chinese government’s principle of sustainable development, corporations are expected to approach economic growth, social progress, and environmental protection in a “holistic and integrated manner” (National Development and Reform Commission of China, 2009). However, many studies have showed that some foreign multinational corporations used their “corporate social responsibility (CSR)” activities or their “sustainable development programs” to mask their labor and environmental abusive programs in developing countries, including China (Abdul-Gafaru, 2009; Gugler & Shi, 2008; Harney, 2008; Murdoch & Gould, 2004; Lam, 2007, 2009a, 2001c; Lee, 2006; Lund-Thomsen, 2008; Philipp, 2009; Rondinelli, 2006; Rosoff, 2004; Sum & Ngai, 2005; Stiglitz, 2006; Yu, 2006). The recent suicide of twenty young Chinese workers and numerous workers’ strikes in 2010 show that many foreign multinational enterprises (MNEs) do not implement their industries’ code of conduct well.

Since China is one of the few countries that can be resilient to the recent international financial crisis, will the increasing power of the Chinese government push foreign corporations to adopt more “holistic” corporate social responsible programs (CSR)? This paper will assess whether foreign corporations’ corporate social responsibility programs contribute to sustainability (i.e., manage social progress, environmental protection, and economic development in a “holistic and integrated manner”). This paper recommends some strategies for building capabilities of sustainability of foreign MNEs based on the reflections of three major cases (A, B, C) in China.

Research Methodology

This article is based on the author’s extensive literature review, five years’ field work in China, Japan, and the U.S., and personal *reflections*. She uses the process model of organizational sensemaking explaining how Chinese managers, who are working for foreign multinational enterprises in China think, discuss, and act with their key stakeholders and the world (Basu and Palazzo, 2008). During her five years of field work in China, she interviewed thirty Chinese executives from twenty different foreign multinational enterprises which are classified as global corporate citizens (Logdson & Wood, 2005). Research was conducted in Beijing (2006, 2008, 2009, 2010); Shanghai (2006, 2010); Hangzhou (2010, 2007), and Chongqing (2006, 2007, 2009). The data for the perception of the corporate social responsibility practices of foreign multinational enterprises in China by Chinese executives were

collected through semi-structured, in-depth personal interviews during 2006—2010. Several interviewees were interviewed twice during these five year periods.

Each interview was conducted in the interviewee's native tongue and lasted from one to three hours. The data was interpreted and validated by the interviewee's corporate reports, their American and Japanese headquarters' interviews, published Chinese documents, articles, and Chinese students' dissertations about corporate social responsibility and multinational enterprises (Huberman & Miles, 1984; Glaser & Strauss, 1967). In addition, the author's field work in various cities in China during the last five years afforded her an opportunity to see the changing power relationships between the Chinese government and foreign multinational enterprises before and after financial crisis.

During April and May of 2008, the author also validated some findings of Japanese MNEs' environmental policies in China by interviewing seven Japanese executives in their headquarters in Japan. She also sought to validate her findings about American corporations' green supply chain practices by talking with more than twenty American executives in international professional conferences such as Academy of Management, International Center for Corporate Accountability, Corporate Responsibility Officers during 2007 and 2010.

Findings

Three out of twenty companies approached a commitment to building a "holistic and integrative" sustainable development programs in China after they learned how to mobilize their global corporate resources to restore a community in the Sichun earthquake area. Their headquarters' leaders were committed to improve the well-being of the workers in China. Seventeen companies just used corporate social responsibility programs to develop good relationships with their key stakeholder, the Chinese government. They did not face much pressure from the local non-government organizations. Their CSR programs were mainly for corporate reputations.

During the 2010 field work in China, the researcher found the working conditions of corporate social responsibility officers of foreign multinational enterprises were more restraint than before the financial crisis occurred. Many Chinese expatriates with CSR titles had been replaced by local Chinese for the purpose of the lowering costs of operation. Two Chinese expatriates, without knowing Chinese language, had to strengthen their positions by helping their companies to reduce their risks of brand names in China. Their key responsibilities were to deal with stakeholders coming from the headquarters. The hiring of local Chinese as CSR officers to deal with the local media, which is highly controlled by the Chinese government officers, also increases the role of CSR activities as political tools. Indeed, many foreign companies tended to use their corporate social responsibility programs (CSR) to please the Chinese government without incorporating these programs seriously in their core business and strategic plans because the Chinese government held excessive power over local stakeholders. Many foreign companies relied on the local government to protect their economic interest and disregarded any negative criticism from the local non-government organizations (Lam, Lam, Lam, 2010).

The power of the Chinese government is increasing after the international financial crisis. The Chinese media and the state-funded corporate social responsibility centers tend to attribute the corruption problems to the foreign corporations and ask foreign corporations to take more responsibility. On the other hand, faced with increasing pricing pressure and increasing scrutiny from international non-government organizations in the international market, foreign corporations must find many alternatives to cut costs and document their practices in China to fulfill international corporate social responsibility standards. In this study, the common practice was to compartmentalize the activities of corporate social responsibility and make the CSR officers not to be responsible for the conditions of local manufacturing or supply-chain management. The CSR officers were marginalized and treated as mere public relations functions. Some CSR officers who kept their jobs by focusing on reducing the operational costs inside their companies and working with the colleagues for internal operational efficiency. Many did not like to develop practical collaboration work with local non-government organizations for the interest of communities as this caused more distrust from their existing employers in China.

In summation, many corporate social responsibility (CSR) programs are mainly used for political legitimacy and operational efficiency. The CSR practices are not always integrated into the Chinese subsidiaries' organizations' structure and system. The idea of economic aspect of sustainability is to create sustainable reports

without the involvement of many internal employees in the daily operations. The present international financial crisis pushed many MNEs' CSR activities to be more politically oriented and cost efficient. The chasm between the CSR practice reported in the international media and the local media in China is increasing as all practices in China are handled by the local media that is highly controlled by the Chinese government.

Three Major Cases

The following three foreign MNEs have developed their capabilities for sustainability that integrates social, environment and economic performance in their corporate social responsibility programs. The main theme is to make their corporate values a caring and visible in their corporate responsibility programs through collaboration with their stakeholders and deep organizational learning process with employees.

Case A

One Japanese company learned to provide public health, education, social security for its workers in China when the chief executive officer in Japan took the negative criticism about the workers' conditions in China seriously in 2005 and explored possible alternatives to improve the turn-over rate of labors in China through their corporate social responsibility program. Many Japanese employees subconsciously did not treat these workers in China as their colleagues even though 80% of the products were made by these Chinese workers. The CEO assigned a corporate social responsibility officer in Japan to persuade the internal staff in Japan and establish another CSR position in China. The CSR officer told the researcher that she first had to persuade her boss to allocate more resources for CSR activities in China even though she was supported by the headquarters. Fortunately, the company since 2006 successfully invested U.S. \$2 for each worker's training per year through a Chinese consulting organization. When the company succeeded in solving its labor problems in its subsidiaries in China through their corporate social responsibility program, it shared its experience to its Chinese suppliers in 2008 as they encountered similar labor problems. After having trusting relationships with its suppliers, the company in 2010 joined an industrial code of conduct and supported its suppliers to meet the code of conduct. This Japanese company is also a few one which does not experience recent rampant labor strikes in China in the summer of 2010. The capabilities for sustainability increased gradually through the commitment of top management, the dedication of CSR officers in Japan and China, and the internal education of employees and supply chain members about CSR practices that can reduce their operating costs. With persistence, compassion, and humiliation of these dedicated CSR officers, this becomes a synergistic progress.

Case B and C

One American and one German MNEs were really committed to implement their corporate social responsibility (CSR) programs and enhanced their brands through long-term CSR and corporate-wide CSR programs. Their initiatives and commitment were derived from their employees' cooperative rescue work in the Sichuan earthquake in May, 2008 and the commitment of top management. They did not follow other companies to donate money to the victims and earned quick publicity in the media mainly controlled by the Chinese government. The American company mobilized its corporate resources, including software system and expertise, to a project that restored the community in the Sichuan earthquake area. Through the project, the American company restructured its international organization learning teams and enhanced the team's capacity of working in China through one-year cooperative projects and training in its corporate social responsibility programs. The crisis generated many initiatives and dialogues among local stakeholders and its subsidiaries of these two companies around the world. The involvement of its employees coming from other countries in China also enriched their understanding of building a "holistic and integrative" sustainable development system in China. These enterprises also learned how to use their global crisis center and mobilize many volunteers in the global market economy through their corporate networks. They also learned how to provide public service and add substantiality to the government's capacity in dealing with

natural disasters and to manage waste water through collaborative projects (Lam, 2010b; Woodrow Wilson International Centre for Scholars, 2008). Thus, these two companies provided public services, enhanced the capacity of the local government, rebuilt the local community, institutionalized and shared the best practices, lobbied the local government, increased the solidarity of the employees, and increased dialogue among the headquarters and various subsidiaries during their rescue efforts in the Sichun earthquake.

Recommended Capabilities for Sustainability of Foreign Multinational Enterprises in China

When the Chinese government has gained more power and will demand more environmental and social performance from foreign corporations in the future, foreign MNEs need to develop their capacity to provide public service while increase their competitive advantages in China. During 2011 to 2016, the Chinese economy will shift from exporting to domestic consumption. Foreign MNEs must know how to develop new business models, new product designs, and to increase research and development investments in China in order to be competitive (Orr, 2011). The global supply chain cannot be sustained when the weakest parties, Chinese suppliers, have to absorb all or most of the cost of compliance and keep on fulfilling low-price and quick order requirements of global buyers, foreign MNEs from developed countries. Thus, foreign MNEs need to change their mindsets and learn how to integrate their corporate social responsibility programs through internal and external designs, and dialogues between local and international stakeholders. They need to know how to work with the public media which is mainly controlled by the Chinese government and use the media to mobilize their internal and external stakeholders effectively. They can use the platform created by the Chinese government or industrial association to have dialogues with decision makers of many local stakeholders. They can use their experience in China to know how to introduce sustainable products and processes to the poor who has not benefitted from the 20-year-economic prosperity of China. When corporations are committed to nurturing local stakeholders to be partners in their future business operations, they will empower their Chinese employees to develop collaborative work with local stakeholders without being afraid of losing control of their Chinese subsidiaries.

The recommended strategies of developing a “holistic, integrated CSR” program in China include: increase innovation and localization, change the poor consumers to be producers, develop collaborative capacity with internal and external stakeholders, use a public-private platform to lobby the Chinese government, and develop an internal culture of human flourishing based on the concept of sustainability.

Increase Innovation And Localization; Change Poor Consumers To Be Producers

Foreign MNEs must implement their policy of localization in China. They must use more local talents and local suppliers as these activities support the government’s plan to encourage domestic consumption and develop a “harmonious society.” They need to increase the capacity of selected local suppliers by enabling their poor consumers to be their producers. For example, one company provides training and supports to some local farmers to grow potatoes in a very poor area while this company can transfer its experience of managing barter or counter-trade in many developing countries to their subsidiaries in China. The practice also gets recognition from the local government and increases its brand equity in the local community. Foreign MNEs must treasure many insights in the local community and generate them as new business models that encourage local employees, consumers, and producers.

Increase Collaborative With Multiple Stakeholders

Foreign MNEs can mobilize other companies with similar interests and a shared identity to make environmental and social change through their corporate social responsibility programs (Davis and Thompson, 2004; Kostova and Roth, 2002; Kostova and Zaheer, 1999; McAdam and Scott, 2005; McAdam, McCarthy and Zald, 1996). These enterprises can create new industry standards and communicate their corporate social

responsibility practices to small and medium sized supply chain partners through a higher level of collaboration between MNEs' subsidiaries and supply chain partners in China (Vaill, 2007; Wood and Kaufman, 2007; Zadek, 2004). The followers may conform to similar corporate social responsibility practices according to institutional theory (DiMaggio and Powell, 1983; Oliver, 1991). These new industry standards might inspire other companies to increase their contributions in environmental and social sustainable programs in China (Gilbert and Rasche, 2007; Kanter, 2009; Logsdon and Wood, 2005; Schere and Palazzo, 2008). As the civil society in China is very weak, foreign multinational enterprises should develop some selected good non-government organizations as their overseers in the local community such that the transparency and good practices of these corporations will impose their reputations in the local community. They may consider hiring some CSR officers with experience in non-government organizations in China and empowering them to support many local community activities.

Use a Public-Private Platform to Lobby the Chinese Government

When the Chinese government supports sustainable initiatives by providing sustainable credit rating of corporations in the financial market and home-grown CSR standard, foreign MNEs can actualize these initiatives through discussion and collaborative work. For example, a few MNEs have used an international organization or an industrial association as a platform to have public and private collaboration. These corporations provide their five-year corporate environmental data to the Chinese government and enable the government to set up better environmental regulations. When several foreign multinational corporations are becoming more proactive to Chinese environmental laws and induce their Chinese suppliers to become social and environmental conscious by offering incentives, they are also advised to use their global presence to experiment in their journey of sustainability (Nidumolu, Prahalad and Rangaswami, 2009). These corporations not only set up industry standards but also allow higher degree of voluntary diffusion of institutional norms, values, or practices in the area of sustainable development.

Develop Internal Culture of Sustainability

Pruzan (2008) argues that the firm basis for corporate social responsibility is spirituality. Corporations need to facilitate employees' internalization process of corporate social responsibility (CSR) programs. Corporate leaders are called upon to have more responsibility according to their abilities of contribution to a sustainable operating system. Their responsibility is considered as a social connection model rather than a liability model. People are called to deal with the future, not to find out who is responsible for past problems (Young, 2008). Foreign multinational enterprises (MNEs) need to rely on the inherent potentialities of human beings rather than just on technology in their corporate social responsibility or sustainable initiatives. MNEs need to embrace sustainability as "the possibility that human and other life will flourish on the planet forever" (Ehrenfeld, 2008:6). Sustainability cannot be attained by getting rid of unsustainable elements or by pleasing the Chinese government. Foreign MNEs need to develop their corporate abilities to aware the hidden impediment of flourishing in other people's lives they encounter in China. Foreign MNEs need to develop leaders to know what are appropriate corporate political activities, and what is constructive engagement with political leaders.

Conclusion

Foreign multinational enterprises (MNEs) will be sustainable when they start to learn to know how to link with, leverage on, and learn from a network of internal and external organizational actors to manage environmental and social issues in the path of seeking economic growth in China. They need to increase their capabilities of sustainability through more local innovation, deeper organization learning process, more collaboration with non-government organizations in China, and more communication with their global resource center. Their sustainability programs in China must be driven by the spirit of caring and improving social connection models!

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Consumer and Corporate Social Responsibility — Hand in Hand for Sustainable Development: A Fair Trade Example

How Responsible Buyer Behavior Increases Corporate Social Responsibility

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Abstract

Consumers decide on and influence the destinies of companies and individuals, as well as the development of entire communities. This can affect production and distribution systems and can include manufacturers, producers, employees and their families. The authors examine the concepts of consumer and corporate social responsibility in the light of sustainability requirement. An example of Fair Trade is used to demonstrate how buyers' purposeful decision-making fosters responsible corporate behavior. The sustainability requirement imposes a number of challenges on the consumer-company dynamics of today's economy. In the conclusion, the authors identify a positive relationship between responsible behavior on the part of corporations and individuals and summarize the ways in which they can reinforce each other.

Keywords: Corporate Social Responsibility, Consumer Responsibility, Sustainability, Fair Trade

Introduction

Under the pressure of climatic change, irregular migration and other global challenges, sustainability has become a prior objective of the global community. Agenda21, Millennium Declaration and many other international agreements call for cooperation of all actors on the international economic and political scene in this respect. A strong commitment of national governments, regional and global economic and political organizations, both multinational and local corporations, mass-media, NGOs, religious organizations, other interest groups and every single individual is required to meet the sustainability objective. Just like other current professional literature, management publications all over the world recall Brundtland's Commission definition of sustainable development, which set a challenge for businesses of today and tomorrow: "...meeting the needs of the present without compromising the ability of future generations to meet their own needs..." (Dunphy, Griffiths & Benn, 2007; Epstein, 2008). Business jargon has been extended in terms like "sustainable business" and "sustainable entrepreneurship". These should refer to such a way of doing business that takes into account economic, social and environmental well-being of the society in which the organization operates. Given the power of multinational corporations and the absence of a real global political authority, engagement in these three areas (economic, social and environmental) is increasingly seen as a part of corporate responsibility. How does this go together with various theoretical perceptions of corporate social responsibility (CSR)? What is the role of consumers in moving forward the sustainability implementation in general and in business in particular? These and other questions regarding sustainability of corporate practices and consumers' purchasing behavior, as well as their mutual influences, are addressed in the following paragraphs.

Corporate Social Responsibility

The concept of corporate social responsibility is not completely unknown, yet it is a hot topic in business theory and practice and its actual meaning is subject to a continuous evolution. Theoretical and practical approaches to CSR vary, also due to particular historical, social, cultural, economic and political background of authors and organizations. Melé (2008) divided CSR perspectives into four basic categories: (1) Corporate Social

Performance, according to which, in addition to economic and legal obligations, business has to respond to social expectations of the society in exchange for legitimization of its operations, (2) Shareholder Value Theory, that rests on Friedman's claim of shareholders' profits maximization by legal means being the only social responsibility of business, (3) Stakeholder Theory, based on the idea that companies bear responsibility towards all individuals and groups potentially affected by their activities; and (4) Corporate Citizenship Theory, suggesting that business is a citizen of the (global) society and thus should actively participate in promotion of human rights and general welfare, beside legal duties and social expectations. While the first two approaches fail to truly integrate sustainability into business, the latter two appear suitable for answering the sustainability challenge faced by today's companies.

Some authors prefer using the term "sustainable business" to refer to an entrepreneurship that accepts responsibility in all three areas: economic, social and environmental, and distinguish it from CSR which might not include all these fields. Others use these two expressions interchangeably (Willard, 2007, pp. 9), assuming that CSR involves each of the three above mentioned sustainability areas. In this paper, we adopt the latter stance.

As is the case of other types of change, there are internal and external drivers towards sustainability. Basically, we can say that there are three reasons to get involved in sustainable business: conviction (i.e. inner values), (external) pressure and business case. Some organizations become committed to sustainability voluntarily, because the companies' stockholders and managers believe it is the right thing to do and perceive it as their moral duty. Especially in the most developed countries of the world, organizations are compelled more and more by the state legislation¹, media, consumer boycotts (discussed in more detail later in the paper), labor union strikes, NGOs' and other interest groups' manifestations to consider the issue of sustainability and correct their behavior. Those, who have an entrepreneurial spirit, turn the overall change to sustainability to their advantage. Articles and books (e.g. Willard, 2007) have been written that underline the aspect of business case.

Some firms do not care for sustainability until they are forced to by enactment of stricter regulation. However, there are also companies that would produce more sustainably, if consumers were to buy their products and share the additional cost burden and/or if the government was to support them. Should companies take over the initiative in implementation of sustainability, how to ensure that it pays off? Going back to the foundations of profit organizations, which exist in order to yield profits by producing products and providing services in order to satisfy people's needs, we come across the requirement of sustainability in consumers' needs as a precondition to sustainable business.

Consumers, by their purchasing decisions, determine companies' existence. However, many consumers are not aware of their influence and even if convinced that companies should change their practices, they do not believe to have any impact upon it. In fact, their actual power is immense, all the more if their behavior is organized. Even though they do not bear the whole burden of sustainability implementation, we argue that consumers as part of the global business scene have a great potential to initiate and support the change for sustainability.

Consumer Responsibility

Power and responsibility perceived by consumers have an impact on their buyer's decisions. However, there is an incongruity between perceived and real power and responsibility. In the following text we introduce the idea of consumer responsibility, examine mechanisms of consumer influence and by the example of Fair Trade show the impact of deliberated consumer behavior on the way of doing business.

Heidbrink and Schmidt (2009) write about a "new consumer responsibility". They point out on the consumer tendency to pay ever more attention to moral aspects of their purchase as negative consequences of consumption become evident. Consumer responsibility as such is not new. With every man's decision, including buyer's decision, one bears responsibility for its consequences. The fact that we are not aware of something does not mean that it does not exist. However, the attribute "new" refers to the fact that consumers become conscious of their decisions' impact and, as a result, they start rethinking their purchasing and consumption habits. With environmental destruction, growing perceivability of consequences of social inequalities, financial and economic crisis, increasing occurrence of obesity connected with overconsumption and availability of information on undernourishment

on the other hand side, many consumers start asking: “Is our behavior fair and sustainable? (for our health, for the environment, living conditions of producers, their workers, families and community)”.

Spheres of consumer influence and responsibility are illustrated in FIG. 1 (adapted from Jurkovičová, 2010). The degree of influence (perceived or not by the consumer) goes hand in hand with responsibility. The picture displays consumer perception of the world based on proximity of individuals and groups that are influenced by consumption. It reveals influences and responsibilities which are normally unknown to the majority of consumers. To give an example, let us take a Slovak consumer Mary. She comes from Bratislava, which is a part of Bratislava region within Slovakia. Slovakia is an EU member state. When she buys a product, say a package of coffee in a multinational supermarket in Bratislava, she supports firstly the supermarket chain and the practices it applies to its employees, suppliers and customers not only in Slovakia but, although less directly, in all other countries where the company operates. Furthermore, Mary supports the whole production and distribution chain and the way profit is distributed among its participants. By her buyer’s decision, she also supports the working and living conditions of Gabra and her colleagues on a particular coffee farm in a district and regional state in Ethiopia, which is a part of the global region of Sub-Saharan Africa.²

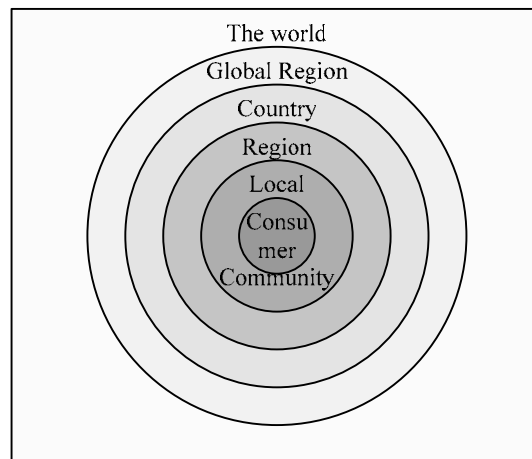


FIG. 1: THE CONSUMER IN GLOBAL ECONOMY

Typically, a consumer first cares for well-being of himself and of his immediate surrounding (family). At the same time, he does not stop supporting particular producers, production and distribution systems and working and living conditions of employees and their families involved in elaboration and marketing of the products purchased. This impact seems invisible. Though, with a number of consumers, it becomes evident. However, any group consists of individuals and just like in parliamentary elections, also every individual’s vote at the cash desk makes a difference.³

Consumers can affect business practices if they, in their buyers’ decisions, pay attention to products’ ethical characteristics and value. *Ethical consumerism* refers to deliberated consumer behavior in reaction to a particular firm’s engagement or failure in CSR or because of societal causes (support for domestic products or boycott of companies having committed a religious offence (Smith, 2008)). Basically, there are two forms of ethical consumerism: positive and negative. When consumers, often encouraged by campaign groups, prefer certain products (frequently differentiated by a special label) that fulfill particular ethical criteria, we are talking about *positive ethical consumerism*. When they boycott products or companies they regard as unethical, they are involved in *negative ethical consumerism*. In practice, both of these forms occur simultaneously. That is to say, by purposely excluding particular products or brands from their shopping lists, buyers give priority to others and the other way around – by preferring certain goods, they refrain from the rest. In this way, consumers can

exercise their influence on sustainable business conduct. No company wishes for its products to be boycotted. At the same time, sustainable businesses can benefit from consumer boycotts that eliminate competitors who do not adhere to moral principles and rights and rules officially agreed on national, regional or international level. In this manner, consumers can make a more responsible company more profitable and thus give companies an incentive to behave in a sustainable way.

To give an example of ethical consumerism, we will take a look at Fair Trade. Fair Trade is a world-wide movement backed by consumers and their organizations, who strive for equitability in the world trade by purchasing certified products that meet economic, social and environmental criteria agreed on by international Fair Trade organizations. Trust plays an important role in the Fair Trade concept. Consumers believe in appropriateness of the certification criteria and compliance of Fair Trade certified products and companies with these criteria. Since its beginnings, Fair Trade has recorded a considerable increase in sales and revenue in the most developed countries of the world, in many cases even despite relatively high product price. Worldwide, Fair Trade reached € 3.4 billion in retail sales in 2009 (Fairtrade Labelling Organizations International, 2010). In Germany, a country with a relatively long Fair Trade history, consumers' expenditures on Fair Trade products in 2009 rose at 21% compared to the previous year and tripled within a five year period to the amount of € 322 million in the year of 2009 (Forum Fairer Handel, 2010). In Central Europe, it is not that popular yet, but this seems to be only a question of time.

Several studies of consumer behavior (e.g. Valio Ottowitz, 1997; Lehnert, 2009) surveyed consumer awareness of Fair Trade as well as existence, frequency and motivators of Fair Trade products' purchase. They also try to identify characteristics of Fair Trade buyers in order to better understand preferences for Fair Trade products and find opportunities for further expansion of the Fair Trade concept. Reasons for purchase of Fair Trade vary. Some do it because of conviction, for others it has become a life-style. Many consumers need yet another reason for purchase like, for example, high product quality. Nevertheless, even if consumers are enthusiastic about Fair Trade, their positive attitude does not automatically translate into actual product purchase. What are the reasons for this inconsistency between attitudes and behavior?

Sometimes consumers lack determination to express their disapproval of corporate practice. Furthermore, many consider unorganized individual protest totally meaningless and they lack the proper information or will to join a consumer association. Some factors that appear to determinate ethical consumerism were listed by Smith (2008). Among them, there is the company-issue fit, company communication of corporate social performance, consumer concern for the corporate responsibility issue, consumer perceived effectiveness (whether he/she thinks that he/she can make a difference), consumer sacrifice involved (constraints to consumption that require consumer's readiness to give up something), consumer scope of self-enhancement (whether ethical consumption makes the consumer more satisfied with himself/herself) and consumer recourse to contra-arguments. Nevertheless, with globalization, the ability of consumers to organize in the global scope increases and consumer voice gains importance in regional (e.g. EU) and global political (UN) and economic (WTO) discussions. Smith (ibid.) suggests that the effects of ethical consumerism should not be measured only by sales, but also by moral pressures and impact on company image. Furthermore, consumers support each other in their decisions and any organized consumer initiative serves as an awareness-raising event as well.

However, the primary reason why consumers do not purchase Fair Trade even if they are in favor of the concept might be much simpler: they cannot afford to buy it. The level of medium income varies even among the EU countries which results in unequal success of the Fair Trade concept in different countries. Let us return to the example of Slovak consumer Mary mentioned previously. Even if Mary read about scandalous living and working conditions of coffee farmers who produce the coffee she usually buys, her product purchase options are constrained by her monthly income. Even if she disposed of the double of medium income in Slovakia, it would be still below the poverty threshold in Germany (Jurkovičová, 2010). At the same time, prices of Fair Trade products in Slovakia are about the same if not higher than in Germany, which is largely due to the fact that Fair Trade products sold in Slovakia are re-imported from third countries as, until recently, there were no direct Fair Trade certified importers. As a result, the Slovak consumer has even less opportunities to exercise his/her influence upon business sustainability.

To behave responsibly, consumers need to realize the effects of their purchasing habits and be educated to sustainability. Sumner (2008) recommends using food for political education of the public to sustainable

consumption, as there is a direct connection between products consumed and consumer's health. In order to mobilize individuals for sustainable consumption, Fraselle and Scherer-Heynes (2007, pp. 189) suggest regarding them as citizens rather than consumers. This political meaning of consumption serves as cornerstone for alternative Fair Trade shops (e.g. Artisans du Monde boutiques in France or Weltläden in Germany) and organizations selling and supporting exclusively Fair Trade labeled products and dedicated to education of the public to responsible and sustainable consumption.

In addition to discordance between consumer attitudes and their actual behavior, there is another difficulty, which acts as obstacle not only to ethical consumerism, but to CSR and corporate sustainability in general: the problem of greenwash, sweatwash and fairwash. All of these refer to display of misleading information and advertising regarding sustainable product and/or company characteristics. *Greenwash* is connected to the environmental aspect of production. Organizations committing greenwash falsely publicize eco-friendliness of their business processes, products and production technologies. *Sweatwash* refers to whitewash of corporate sweatshop practices, i.e. employing people in conditions that violate human rights (working long hours, often in dangerous working environment for a miserable pay), by a change in corporate policies to fend off media and public criticism (Micheletti, 2007). Following the same logic, *fairwash* can be seen as unjust propagation of product "fairness", that is, adherence to generally agreed criteria of Fair Trade, usually without any certificate and, above all, without a real commitment to Fair Trade. Unfortunately, it is not rare that (especially large multinational) companies hide their unethical activities from media and public by drawing attention to some minor efforts for fairness and sustainability in an extent, which is less than symbolic compared to the volume of their overall operations and their negative externalities. By practicing fairwash, companies break the trust relationship with customers, which is at the heart of Fair Trade, harm the image of the whole industry and the concept of Fair Trade as such. Likewise, other forms of deceitful advertising destroy consumer trust in corporate social responsibility.

Therefore, in order for sustainable business to grow, customers need to be accurately informed on the way products are produced and distributed. Information of any kind has never been so close as today, in the age of information society. At the same time, information overload causes that it is difficult to find the right information. Proper certification and its reliability guaranteed by certification, governmental and independent institutions that regularly control adherence to the criteria may simplify consumer orientation. Media can also play an important role in informing and educating the public to sustainable consumption. In addition, NGOs provide an irreplaceable service in this field. Governments, EU and international institutions get involved in this process also by providing financial support for projects promoting sustainability.

Together for Sustainability - Responsible Consumers and Corporations

In previous sections, we examined possibilities of corporate and consumer behavior to contribute to the sustainability goal implementation. Even though it was done rather separately, it became obvious that they influence each other significantly. Sustainability implementation is a very complex and ambitious goal and requires joint effort of businesses and consumers. This part, underpinned by the example of Fair Trade, describes how businesses and consumers can work together for sustainability.

Fair Trade reestablishes a direct and a lasting relationship between producers and consumers. Consumers can be informed not only about the product's origin, but about production methods as well as the people producing them and stories of these people. In this way, the perception of products changes radically from the one looking merely at product price, material (Le Velly, 2007) and convenience it provides (Fraselle & Scherer-Haynes, 2007) towards a more humanized view – seeing human lives, efforts and destinies behind it. This holistic perception enables cultural interaction – meeting the producer's culture within store premises. The sales personnel in a specialized Fair Trade store may provide its customers with additional information on products sold. Photos, production tools and other artifacts may be displayed, so that people get to know those who produce for them. In this way, shopping may become a pleasure, an excursion to another countries and cultures.

While sustainability programs figure on MNCs' corporate plans, they are not implemented equally among the countries where these companies operate. This might be caused by differences in markets' maturity and their

readiness to appreciate sustainable product and company characteristics, as well as divergences in legislation that incur unequal pressure for sustainability. However, is it not also in the competence of a corporation to educate its potential customers? Marks & Spencer may serve an example in this respect. In May 2010, the company launched a campaign on Fair Trade in its stores in various shopping malls in different cities of Slovakia.

We have seen that sustainability cannot be achieved if companies and consumers do not work together. It is in the hands of companies to develop products that would be ethical, useful and affordable for customers. It is up to the consumers to choose products that are sustainable. For the beginning, they may decide to cover at least a part of their consumption by sustainable products; to reserve a part of their monthly budget to support ethical production; and to buy, for example, at least one product wholly from Fair Trade.

Because Fair Trade arose mostly from Christian charitable works, the first aim was to express solidarity with disadvantaged producers. So consumers were willing to donate without asking for a special value (utility or quality) in return. If Fair Trade is to become large-scale, other competitive product characteristics need to be developed in addition to the Fairtrade label. Tallontire, A., Rentsendorj, E & Blowfield (2001) stress that any good intention of companies can do without an effective management system, product quality adequate to the market targeted, efficient production system and effective marketing strategy. Furthermore, in order to be trustworthy, Fair Trade certification requires credibility, that would result from a regular and reliable control of certification criteria fulfilment.

In fact, organizations and individuals have many things in common – they behave in a certain way either because of their conviction, under a threat or due to benefits it involves. In case of an existential threat, i.e. when survival (of an individual or organization) is at stake, they are likely to change their behavior. To decide for such a change voluntarily, they need to see the connection between their decisions and consequences of these decisions to the self and to others. Parallels can be seen in individual decision-making (especially in cases of some important decisions) and managerial decision-making. Both are affected by various criteria with their particular weight. For example, in a situation of financial crisis, price is mostly more important than other criteria. As for consumers, they first try to take care of their family and only then think of producers and their well-being. As for corporations, these feel primarily responsible for their own employees and only then for those of their suppliers. In an effort to handle the costs, such a situation might result in a choice of suppliers who don't necessarily stick to values proclaimed by the company.

Sustainability may require short-term sacrifices on the part of both companies and consumers. For a sustainable corporate behavior to enable sustainable entrepreneurship, it needs to be accompanied by sustainable consumer behavior expressed in buyers' decisions that favor sustainable products. The ability to give up something for personal values and conviction is included in the ethical concept of virtue, which is further studied by moral philosophers.

Conclusion

Consumers are very important as stakeholders. In an effort to win their attention and earn profits, companies establish CSR programs that promote sustainable development. However, for a sustainable corporate behavior to be really sustainable, it requires consumer interest and support. Only if consumers appreciate the sustainability aspect of production and sales by concrete buyer's decisions (not only positive attitude), these "responsible" firms are able to survive and prosper. At the same time, in order to make deliberate and responsible decisions, consumers have to understand their role in global economy and be provided with accurate, rather than misleading, information about products and companies. Corporate marketing plays a major role in informing and even educating consumers. In addition, other actors such as government, media and NGOs influence consumer awareness and behavior. Also important is the responsibility of every consumer both to keep himself/herself up-to-date and to make his/her own purchase decisions. Company PR activities promoting ethics and sustainability can increase the value of an enterprise and its product(s) in the eyes of potential customers so that it (and its products) can be differentiated from competitors and their products. However, in the absence of a consistent system of corporate values and business practices, PR activities alone cannot create a long-term source of competitive advantage.

“Together, let us tear down the walls ... Between business, government and civil society. Between global security and global sustainability. It is good business – good politics – and good for society.” (Ki-moon, B., 2011) Given the urgency of sustainability implementation in all areas of public and private life, the concepts of corporate social responsibility and sustainability in business continue being discussed in academic circles, public institutions and among managers. The topic of CSR and sustainability represents also the field of dissertation research under the direction of Professor Ján Rudy. The main objective of the dissertation is development of a model of CSR and specification of principles for fair and sustainable entrepreneurship.

Whether development becomes sustainable depends on daily decisions of all participants in the world economy. Even with control and enforcement mechanisms on global scale, it remains up to consciousness of every single person – be it a manager, statesman, investor, employee or consumer. Therefore, inclusion of ethics as a basic principle of all human activity including entrepreneurship and consumption seems as „a to be or not to be“ question.

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End Notes

¹Governments either use positive reinforcement (e.g. tax reliefs or subsidies) or they motivate businesses to contribute to sustainability implementation by means of threat (e.g. fines).

²The term “global region” is used for a country grouping based on close geographical location and other common characteristics, e.g. similar human development index. Various international economic, financial and developmental organizations use different county classifications.

³ The “shopping-basket politics” is at the core of alternative-trade and other consumer movements.

Ethical climate of Public Sector organizations in Australia

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Abstract

The aim of this paper is to identify and analyse the ethical climate in the Australian Public Sector organizations. Using a mixed method design, data was collected from 158 employees of all ranks using an online survey. Data analysis suggests that public servants rate highly such values as integrity, honesty, support and compassion that act as a positive force for making the workplace more tolerable, flexible, and most importantly, in support of an ethical climate that is accountable. However, some respondents expressed concerns that management do not necessarily maintain or display such values. This is reflected in the doubt cast by respondents that an individual with a self-serving (selfish) ethical mindset can be changed for the better. This suggests that there are a number of different possible ethical climates. Furthermore, the analysis suggests that respondents display a high level of respect for belief systems different to their own. While there are those who stated that they do not 'wear their beliefs on their sleeves', those belief systems come out in the way they treat others and the way they view the world. To improve the ethical climate of public service organizations, the data suggests that it is important to combat feelings amongst staff that favouritism is being practiced. Interestingly, respondents concede that this too is in the hands of management who they say 'set the ethical scene'. Though limited to Australia, this research potentially adds to the developing business ethics literature generally and more specifically to the evolving theoretical perspectives on ethical mind-sets with the identification and development of ethical climate in organizations raising some interesting theoretical questions worthy of further research.

Introduction and background

The Public Sector comprises a powerful organizational sector that has been criticized for its lack of accountability to governments and their citizens (Andre, 2010). The Public Sector seems to be on the same footing as other organizations when it comes to transgressions and corruption incidents. In this respect, Perkumiene, Adamoniene and Merkiene (2005) argue that media outlets are inundated with stories about the officials' abuse of their position or corruption cases. They contend that the courts are at the receiving end more than ever before of applications concerning breaches of ethics and working culture. Andre (2010) argues that though these organizations are established to serve the public as a whole by targeting the needs of particular groups or fulfilling specific functions. They often seem to adopt practices from the business sector, and sometimes they enter the marketplace as profit-making enterprises, thus opening the way for further examination of the position in and impact of such sector on society as a whole. Calling for the need for responsible business practice, fair reward policy, stable business relations, job security and sustainable corporate policy, Aslander, Filos, and Kaldis (2011) stresses the need for ethical reflection as a foremost duty of responsible management arguing that the financial crisis has unsettled individuals' former rather, naïve, confidence in national sovereignty, seeing how whole countries may be adversely affected. Aslander et al. (2011) argue that the organizational context, pathos in the classical Greek sense that refers to passion and describes how passionately a person stands for his/her personal moral convictions is an indispensable element of (ethical) leadership and a driving force when striving for (business) excellence and (organizational) improvements. Aslander et al. (2011) go on to argue that pathos for ethics can influence business life or the way corporations unfold their corporate strategies and conduct their business. However, during the recent economic crisis, it became obvious that ethical passion is missing in many corporations.

Fleming and McNamee (2005) argue it is clear that a recognition of ethics and equity will move more closely to the heart of Public Sector organizations in the twenty-first century, and it did (e.g. Randall & Procter, 2008; Sementelli, 2007). There is evidence that the introduction of ethics will have the Public Sector organizations in some countries (e.g. USA) to rebound from corruption (Pelletier & Bligh, 2006). Fleming and McNamee (2005) conclude that the current climate of increased accountability in Public Sector organizations has brought to public

attention the ethical dimension of corporate governance. Presenting a conceptually informed method for undertaking an ethically focused audit corporate governance, Fleming and McNamee (2005) consider that this conceptual-theoretical terrain might be set out in three dimensions: ethics as applied moral philosophy; equity as social justice; and corporate governance as the moral health of an organization. At an operational level, their proposed conceptual model provides a framework to evaluate the overall integrity of an organization and embraces the interrelated themes of individual responsibility, social equity and political responsibility. In addition, they set out a method for ethical audits. It emphasizes the significance of key personnel in (re)producing and challenging the organizational ethos, while recognizing the necessary limitations placed on researchers' commitment to anonymity and confidentiality in the collection, interpretation and analysis of data, and in the eventual sharing of such data.

There is a continuous call to embrace, explore new paradigms, or generate new methods and have new concepts that might change the way management is dealt with in the corporate world that includes the Public Sector, (e.g., Bruch & Ghoshal, 2004; Cowton & Macfarlane, 2002; Ghoshal, 2005; Marques, 2009; Marques, Dhiman, & King, 2005; McDonald, 2004; Mele, 2008; Vasconcelos, 2010). Ashar and Lane-Maher (2004), argue that 'things are changing', and contend that the new global economic order is built on knowledge, intelligence, and innovation rather than planning, control and obedience. Providing empirical evidence, Ashar and Lane-Maher (2004) they state that in the new economy, the competitive advantage resides in its human capital, with its qualities - commitment, responsibility, creativity and energy of the employees that facilitates success. To foster and revitalize these qualities, business needs to nurture relationships to grow human spirit, which is the core of a new business paradigm. Ashar and Lane-Maher (2004) warn that it should be noted that twenty-first century business is about changing values and 'change of mind' that takes place within the business community. However, Ashar and Lane-Maher (2004) contend that in the new economy, competitive advantage resides in its human capital; it is the qualities, such as commitment, responsibility, creativity and energy of employees that determine success.

In their new paradigm Ashar and Lane-Maher (2004) intend to match the challenges of the new economy and changes that prevail. Calling for a need to look beyond materialistic meanings of success, they suggest that spirituality and the notion of success are associated, bringing to the forefront the concept of spirituality and its relationship with success and competitive advantage in business, thus forming part of the statements included in the online survey administered in this study.

Kinchin (2007) argues that the essential factors of a public service code of ethics can be divided into five categories. These categories or principles are fairness, transparency, responsibility, efficiency and conflict of interest. These principles are identified by Kinchin (2007) as being the basic elements of democratic accountability in relation to Public Sector decision-making. In this research, the modification to the recently developed research tool, through its thirty-five statements and eight questions, examined the respondents' evaluation of the existence of integrity, compassion, support; harmony and balance amongst spirituality, teamwork, peace, beauty and happiness were examined in themselves, their co-workers, leaders and the organization in the Public Sector at large.

Ethical Climate

In their discussion on the typology of the nine ethical climate types and the Ethical Climate questionnaire (ECQ), Maesschalck (2005) bring in Victor and Cullen's definition of ethical climate stating it is 'the shared perceptions of what is ethically correct behaviour and how ethical issues should be handled' (1987, p. 51-52). Maesschalck (2005) calls for improvement of the ECQ whereas the sources be made much more explicit in the survey items. While Jurkiewicz (2002) highlights the relationship between codes of ethics and Public Sector reform.

Based on Victor and Cullen's ethical climate model (1988), where ethical climate was arranged from lower levels to higher levels, Leung (2008) examined the relationship between organizational ethical climate and the forms of organizational citizenship behavior (OCB), including in-role and extra-role behaviours, examining the mediating effect of employee loyalty. This was mainly to examine the causes and implications of how various ethical work climates affect employee performance. Leung (2008) results suggest that lower levels of ethical climate (instrumentality and independence), characterizing a weak relational contract between employee and employer, are associated with negative extra-role behavior. In contrast, higher levels of ethical climate (caring and law-and-code), symbolic of a strong relational contract at work, are associated with positive extra-role behavior. Moreover,

normative commitment mediated a positive relationship between caring and identification with the company, whereas attitudinal loyalty mediated the negative relationship between independence and altruism.

Relying on Victor and Cullen (1988) and other theoretical models (e.g. Thompson, 1967), and in their replication of Weber's (1995) study of a large financial services, that found ethical sub-climates exist within multi-departmental organizations, are influenced by the function of the department and the stakeholders served, and are relatively stable over time, Weber and Seger's (2002) findings were contrary to Weber's original findings, their results implied that ethical sub climates may be determined by the strength of an organization's overall ethical climate, rather than the department's function. However, they did find support for Weber's earlier contention that these sub-climates are relatively stable. Weber and Seger's (2002) results also suggest that differences may exist across industries. It is worthwhile to note here that the theory of ethical climate continues to be under formation, following criticism in the literature, to which Martin and Cullen (2009) responded reviewing basic principles of meta-analytic research discussing the methodological context of their work.

More recently, and establishing a comparison between the public and the private sectors, and based on Victor and Cullen's ECQ questionnaire, Venezia, Venezia and Hung (2010) conclude that the Public Sector displayed a higher perception in 'rules/codes', 'caring', 'self-interests', 'social responsibility', and 'instrumentalism', while efficiency and personal morality were perceived higher in the private sector. In a similar fashion, Laratta (2011) argues that 'accountability' is a key element of ethical climate in not-for-profit organizations that is connected to five types of ethical climate namely: 'self-interest', 'individual caring', 'independence', 'social caring', and 'law and codes'. It is worthwhile to warn here and in line with Messner's argument that accountability itself may become a problematic practice, if it does not acknowledge its own inherent limits as an ethical practice. These limits are constituted by the burden that accountability may place on the accountable self who is expected to provide a convincing account even in situations where this is extremely difficult or even impossible.' (Messner, 2009 p., 919). Further, focusing on four systems dimensions: mission, organizational design, organizational outcomes, and the information feedback process, Andre (2010) presents a systems model that suggests how researchers might comprehensively assess the accountability of organizations in the Public Sector, that he terms 'gray sector', with respect to their government missions.

The aim of this paper is to assess the applicability of such theoretical perspectives in the context of public service organizations. To this end, we examine the state Public Sector (PS) in Western Australia.

Methodology

This data was collected through the administration of an online survey. The survey includes eight sections with thirty-five items. Respondents were required to indicate their agreement or disagreement with these statements using a 5-point Likert scale where 1 = strongly agree, and 5 = strongly disagree. These eight sections were followed by eight questions relating to demographic data. Respondents were also provided the opportunity to add their comments under each of the sections, either to qualify or explain their responses to the statements. One hundred fifty eight of this Public Sector employees participated, yet only one hundred and ten responses were considered eligible for further analysis.

In relation to the interpretive mixed-methods approach, Richardson & Fowers (1998) and Tashakkori & Teddlie (2003) argue that it allows researchers to incorporate the virtues and avoid the limitations of the sole use of either quantitative or qualitative methods and provides opportunities to access the feelings and motives of people and engage more fully with the meanings by which individuals live. These characteristics proved very useful for researching ethical mindsets, spirituality and aesthetics, which provided stronger inferences and the identification of a greater diversity of perspectives.

Philosophically, the mixed-methods research is the 'third wave' or third research movement, a movement that moves past the paradigm debates by offering a logical and practical alternative. The approach that has emerged during the past few years, considered by Denscombe (2008) as a 'third paradigm' for social research, develops a platform of ideas and practices that are credible and distinctive as a viable alternative to quantitative and qualitative paradigms. Philosophically, mixed research makes use of the pragmatic method and system of philosophy. Johnson and Onwuegbuzie (2004) state its logic of inquiry includes the use of induction (or discovery of patterns), deduction

(testing of theories), and abduction (uncovering and relying on the best of a set of explanations for understanding one's results).

The concepts under investigation are known of their complex nature, thus one needs to be careful of designing a methodology that assists in a holistic understanding of these concepts. In this context Morse and Niehaus (2009) provide a guidance to grasp complex phenomenon, research often demands that more than one research method be used in the same project. Consequently, researchers must be versatile and adept at many types of research and research methods, both qualitative and quantitative. A mixed-methods design is a scientifically rigorous research project, driven by the inductive or deductive theoretical drive, and comprised of a qualitative or quantitative core component with qualitative or quantitative supplementary component(s).

The analysis uses data collected during the second half of 2010 through an online survey from the PS staff. As highlighted earlier, the online survey was composed of eight sections with thirty-five items followed by eight questions. In section 'A' statements aimed at identifying the respondents' position in relation to values that they wish to see evident in their leaders, employees or work colleagues. The statements in section 'B' related to spirituality, while the statements in section 'C' relate to the respondents' degree of belief in change. Section 'D' concentrated on the workplace and the –presence of harmony and balance. Section 'E' included statements relating to happiness, peace and beauty, with section 'F' dealing with truth. The final two sections, section 'G' had statements aimed at reflection on the self, if the individual makes difference in the workplace, and the like, with section 'H' questioning the respondents' ability to deal with and be a member of a team in the workplace. While the ninth section (section 'I') contained eight questions seeking some demographic data for the generation of a profile of those responding.

In addition to the quantitative data, the respondents were provided the chance, and under each of the sections to provide their comments. Total comments under these sections came to 200 that either aimed to qualify the responses or explore such responses by clarifying why the respondent aimed to agree, disagree, or even be neutral towards any of the statements/items. A total of one hundred fifty eight participants responded to the survey. Details of these respondents are explored in the following section.

Though the online survey was the source of both the quantitative and qualitative data, yet the qualitative data played a major role in enhancing the value of the data collected, indeed, this qualitative data allowed the triangulation and expansion of quantitative empirical evidence and results (Bergman, 2008). The value of this qualitative data is further enhanced when considering Brand's (2009) argument, who states what might be obtained, in a qualitative sense, is access to the context of responses, insight into the perceptions underlying certain decisions, and a broader picture of the participants' understanding of an issue, which is at the heart of researching business ethics.

A total of 158 participants responded to the survey. Of these 61% were male with 39% female. The majority of respondents were born in Australia with 19.5% born in the UK, followed by India and New Zealand. The highest percentage of respondents was in the '45-54' age category followed by the age categories '25-34', '35-44' and '55-64' with the age categories 65+ and '18-24' the least represented. As for the highest level of educational achievement, those of high school and undergraduate qualifications shared almost the same position of 30% of participants followed by the postgraduate at 21% with the trade certificate being the least represented at 18%. The ages of the respondents were re-categorized into the following age groups

Table 1 Age groups

AGE GROUPS	PERCENTAGE
18-34	29
35-44	22
35-54	29
55 or above	24

Ethical climate

This study's quantitative analysis generated six factors with high factor loadings and high alphas (Table 1)

Table 2 Elements of Ethical Climate - Factors and alphas

FACTOR	MEAN	STANDARD DEVIATION	ALPHA
Religious spirituality	3.3182	1.14935	0.889
Pursuit of truth	2.2295	0.75505	0.878
Interdependence (self-efficacy)	1.7015	0.44399	0.799
Aesthetic (Balance, harmony and integrity)	1.6343	0.47182	0.842
Optimism	2.41591	0.666427	0.730
Fulfillment	2.0091	0.54702	0.712

These six components would identify the sample as being aware of religious and spirituality issues, yet with the mean at 3.3182 and a high standard deviation of 1.14935. As will be explained later, the qualitative data revealed a significant divergence of perspectives – one that accepts religion, spirituality ‘i.e. religious spirituality’ the other rejecting these as relevant to ethics.

The analysis of the qualitative data revealed six themes. These themes were (1) compassion &/or support joined by flexibility (2) happiness and peacefulness, (3) harmony, (4) integrity, honesty and truth (5) optimism, and (6) personal responsibility, recognition and religion.

The participants considered that the demonstration of compassion that might be substituted by support at the office would create better environment, which might ultimately create optimism. This was followed by happiness and peacefulness, the presence of which, it was perceived, would bring positive atmosphere to co-workers, including the impact of individual’s positive influence on others, though in some cases, and specifically in the Public Sector where an attitude of ‘do not care’ is cultivated, highlighting the importance of such investigation as this one in the Public Sector. Add to all this the fact that staff would spend most of their time at work, thus happiness while conducting your work is of great importance.

‘I firmly believe that you lead by example and Integrity/Honesty and Compassion towards others are qualities that I value in myself and others.’ (OS_PS 1)

‘I prefer to work in an organization where decisions are transparent and can withstand public scrutiny. While I understand that decisions for the good of all are not always possible, a certain amount of compassion is desirable.’ (OS_PS 2)

Without integrity, honesty, support and compassion, trust and respect cannot be developed within the team or organization. This will create problems and conflicts at work as without all these attributes, there is no team work among colleagues and manager. You cannot expect work/tasks to be completed efficiently. (OS_PS 3)

As for harmony, the results suggest the importance of this virtue being present at the leadership level which will create pleasant environment at the office promoting teamwork and higher morale, thus allowing the respect amongst co-workers. In addition, integrity, honesty and truth were valid themes in that these virtues, and especially honesty, would transform the office environment into being more comfortable, acknowledging that honesty brings in respect, with integrity improving morale. While truth sometimes hurts, it is the leader who would be the role model, insisting on the need of transparency in decision making.

‘If a leader of people does not show integrity then the rest of the workforce will follow. Professional integrity is important to an organization as a whole. Support and compassion from leaders and workers creates a cohesive work place.’ (OS_PS 4)

‘I find it difficult to work with or for people I do not respect. / I do not respect people lacking in honesty, integrity, compassion and the willingness to support those with whom they work.’ (OS_PS 5)

Following from these comments, there were rather some pessimistic opinions when respondents were questioned about change and if individuals would change.

‘Not sure that people can change to a great extent although human nature normally allows people some compassion when it comes to seeing others suffering regardless of how self-centred they are. Selfish, negative and cautious people may take longer to develop positive traits however.’ (OS_PS 6)

The survey revealed perceptions that some individuals can only change if they are faced with a life changing event or a major event that takes place in their lives.

‘Majority of people will not change their attitudes or approach. Generally there is a trigger (such as a major event) which may instigate change.’ (OS_PS 7)

‘Although I agree with all of these statements, change is a very hard thing to do. / Most people become set in their ways and do not change without enough reason to do so. (life change, trauma etc)’ (OS_PS 8)

Further, the analysis also indicate that the participants are optimistic, and have the belief that the majority of people can change, yet this change is governed by issues such as the individual nature, the circumstances and situations influences on these individuals. Nonetheless, there will be those who would have some traits that are more flexible than others that might assist in the change.

‘Anyone can change.’ (OS_PS 9)

‘All things are possible with God :).’ (OS_PS 10)

‘I believe all but the selfish can change given time or depending on the circumstances, again this is due to personal experiences, I haven't seen or met may Selfish people who have changed and become less selfish.’ (OS_PS 11)

Overall, personal responsibility, recognition and religion or rather ‘religious spirituality’ were featured too. While there was an indication that those surveyed would believe in the existence of a greater power than the human kind, yet they do not necessarily relate this greater power to any particular religion. Those surveyed expressed their worries and fear about overzealousness towards any specific religion, indicating that they would respect others’ religion, declaring that religion gives meaning to life, yet religion should not be considered as a prerequisite to morality. Some respondents however expressed doubt that spirituality and religion or ‘religious spirituality’, have no place when talking about ethics:

‘I have no set beliefs except to treat every one with respect; I disagree with teachings of organized religions and the divisions they create, but respect others who have such beliefs.’ (OS_PS 12)

As a secular individual I am not looking for a cosmic consciousness or deity to provide meaning to my life. This doesn't rule out the possibility of design in the universe or a first cause or prime mover (just not an anthropomorphic god that shares qualities with humans). (OS_PS 13)

I thought ethics is secular!!! Faith should have little or no role to play in honesty and ethical decision-making. (OS_PS 14)

Some of these values that are represented in these themes, in their essence, actually relate to or are derived from spirituality that is identified with religion or religiosity. In the majority, spirituality was interchangeably identified with religion, thus applying the concept 'religious spirituality'. This, in a way, echoes what Altman, Ozbilgin and Wilson (2008) whereas more and more people strive to find meaning, creativity and fulfilment in their work, spirituality in the workplace is becoming more openly recognised as an integral part of working life. These values resonate with being ethical, and in turn maintaining an ethical mindset that allows for the existence of ethical climate.

One of the general comments provided by the respondents would sum up the ideas coming through:

'I believe to be successful and happy you need to be surrounded by people with similar work ethics including integrity, honesty and compassion resulting in a team orientated workplace which works in harmony and minimal conflict.' (OS_PS 15)

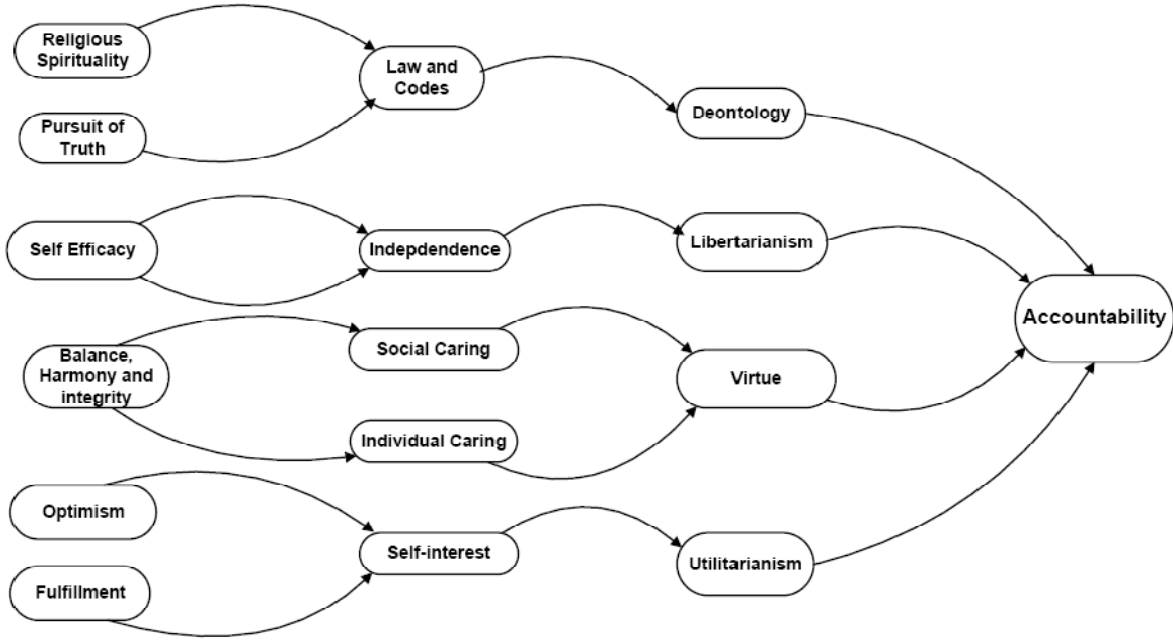
Limitations and Implications

While the analysis is limited to the Australian context at one-point in time, the analysis raises some interesting theoretical questions worthy of further research. It is clear that the ethical climate of the Public Sector in Western Australia can be characterized as being a tapestry of different ethical perspectives. This highlights the importance of values to employees with great emphasis on the importance of setting the tone from the top, providing directions that ethical leadership might hold the key to determining an ethical climate.

The seminal work of Victor and Cullen (1988) on ethical work climate (ECW) had identified several dimensions of ethical climate that exist in organizations and organizational subunits, and since then has been investigated by several scholars. For example, Wimbush, Shepard and Markam (1997) examined ethical climate and ethical behaviour identifying five factors (1) caring, (2) laws and rules, (3) service, (4) impence, and, (5) instrumental. VanSandt, Shepard, and Zappe (2006) and based on his empirical results conclude with an evidence that ECW is a primary predictor of individual moral awareness, and that the influence of social factors often overrides the effects of individual differences in a work group setting. More recently, Weber and Gerde (2010) looked at the ethical work climate in military units, and came with five factors that were named (1) law and professional code, (2) company rules and procedures, (3) instrumental, (4) independence, and, (5) caring. It is not only the names are different but rather the dimensions under these factors seem to change depending on the industry investigated and examined. While the use of the ECW had generated slightly different factors when different organizations are examined, this online survey had generated six factors that might in a way be the source of these factors identified through the application of ECW. These factors were: (1) religious spirituality, (2) pursuit of truth, (3) self-efficacy, (4) balance harmony and integrity, (5) optimism, and, (6) fulfillment.

When compared to this seminal work and the literature on ethical climate, this research provides unique factors and extends present theoretical understandings. When combined with the work of Laratta (2011) and Venezia, Venezia and Hung (2010) the following theoretical framework is proposed that could form the basis of hypothesis testing and further development.

Figure 1 Proposed theoretical framework for the examination of ethical climate



Conclusion

The main aim of this paper was to assess the suitability of current understandings about ethical climate, for examining Public Sector organizations. While this research supports much of the previous findings, the results suggest that further development is required. The proposed set of relationships between variables is not definitive. There is still more research required to develop understandings with special attention to the limitations of accountability. It seems that the best way forward is the applications of mixed methods, particularly quantitatively-driven hypothesis testing with supplementary qualitative data collection and analysis.

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Exploratory analysis of CSR practices in Mexican agricultural companies

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Abstract

The agricultural sector is one of the most important in Mexico, due to its contribution to the GDP and the number of employees that it creates. Nevertheless, the social and environmental challenges are issues that the agricultural sector has to resolve in order to maintain its own sustainability. Corporate Social Responsibility (CSR) as a business strategy can contribute to the solutions of these problems. The purpose of this paper is to explore CSR practices in Mexican agricultural companies, identifying the reasons and effects of the CSR distinctive requirement, awarded by the *Centro Mexicano para la Filantropía, A.C.* In order to get the information 12 Mexican agriculture companies (holders of the CSR distinctive) were surveyed between December 2010 and January 2011. Reasons for the CSR distinction requirement of these companies are basically strategic, while the effects are all positives mainly in corporate image.

Keywords: CSR, Mexican agricultural companies, exploratory analysis.

Introduction

CSR is a study field that has been mainly studied by developed countries. Increase of CSR research in universities, increase of enterprises implementing CSR practices and increase of public policies toward CSR issues, are some examples of the interest in this area in these countries. In order to produce a Nord-South effect, developed countries had tried to influence and promote CSR among developing countries (Müller and Kolk, 2009). Nevertheless, CSR in developing countries has arisen more as a business practice than as a discourse or questioning (Gendron, 2000). Mexico, like others developing countries, has follow also this pattern.

The number of Mexican enterprises implementing CSR has increase the last ten years. The *Centro Mexicano para la Filantropía, A.C.* (CEMEFI) is the main institution that promotes CRS in Mexico and each year gives a distinction to the enterprises distinguished by its CSR performance. This institution has awarded the *Distintivo de Empresa Socialmente Responsable* (ESR distinctive) since 2001 and the number of enterprises has increase from 16 enterprises in 2001 to 400 enterprises in 2010.

In Mexican agricultural sector the importance about CSR issues has emerge recently. Some reasons of this emergence have been: the critics to multinational enterprises operating in developing countries (child labor, low salaries and unworthy work conditions), the “boom” of quality and responsible consumption in developed countries, the economical crisis of developing countries, etc. (Centro Latinoamericano para el Desarrollo Rural, 2005)

Even if there are not a lot of companies undertaking CSR practices in this sector, the CEMEFI estimates that in agricultural sector there were 30 enterprises that own the ESR distinctive in 2010. But, why companies want to obtain the ESR distinctive? And which are the benefits to get it? The purpose of this research is to answer these questions by identifying the reasons and the effects of the ESR distinctive requirement in Mexican agricultural companies.

The paper is presented in five sections. The first one describes the economic and social importance of the agricultural sector in Mexico. Second one is the literature review about cause and effects of CSR. The third one is the method and the fourth one the results. Finally conclusions and recommendations are presented in the fifth section.

Agricultural sector in Mexico

Agricultural activity is as old as humanity itself. Due to agricultural activity it is possible to produce animal and human being feedings. In Mexico climatic and geographical conditions are appropriated to produce agricultural products all the year in the whole country. Nevertheless, in some regions, agricultural activity has been the principal economic and social activity.

Between 1990 and 2009, the sown area in México has remained an average of 21 million hectares (ha), while harvested area has remained an average of 19 million ha (SAGARPA, 2010). Agricultural products that occupy the larger agricultural surface in the country are cereals (corn, pasture, sorghum, beans, wheat, sugar cane, etc.) and fruits (orange, mangoes, lemon, avocado, etc.). The equivalence of cereal surface is 46% of the total sown surface and the 81% of the total harvest surface. Fruits surface represents the 3.6% of total sown surface and the 4% of total harvested surface.

Agricultural sector in Mexico has a marked economic and social importance. In economic terms it helps to the wealth creation. This sector contributes with the 6% to the National Gross Domestic Product (GDP). Its contribution locates the agricultural sector in the sixth position after the manufacture sector and the services sector as the financial, personal services, transport, etc. (INEGI, 2010a). In social terms, according to the INEGI agricultural sector in 2010 occupy 5,903,273 persons. This amount represents the 13.27% of the country's employed population and the 12.52% of the country's economically active population (INEGI, 2010b). Even if these percentages are low in a national context, in some regions agricultural sector is the principal employment source for its habitants.

Literature review

CSR concept

The concept of the Corporate Social Responsibility (CSR) has emerged in North America in 1950. It is a concept in constant evolution. Economics, Sociology and Business are some of the disciplines that had influenced in the CSR concept construction. As result, nowadays there is a huge diversity of CSR approaches and classification of these approaches. One classification of CSR approaches is by ideological posture: defenders vs opponents (Pasquero, 1995). Another classification is by geographical context: North America vs European (Belem, 2007). A third classification is by thought schools: ethic moralist, contractual and utilitarian (Gendron, 2000). Finally the classification by group of theories: instrumental theories, political theories, integrative theories and ethic theories (Garriga y Melé, 2004). As a consequence the number of definitions of CSR is as large as the amount of CSR approaches.

In order to operationalize CSR in this paper we adopt and present two definitions of CSR. The first one is the worldwide more accepted definition and the second one is the Latin America more accepted definition. The *World Business Council Sustainable Development* (2000) define the CSR like the continuing commitment by business to contribute to economic development while improving the quality of life of the labor and their families as well as of the community and society at large.

On the other hand, a group of institutions that promotes CSR in Latin America (AliaRSE, COPARMEX, CCE, CONCAMIN, USEM, CEMEFI, and another) define the CSR as the mindful and congruent engagement that the enterprise and the entrepreneur assume in order to accomplish entirely with the enterprise goals in the external and internal aspect, considering the stakeholders expectations (in the economic, social, human and environmental areas) also demonstrating, respect for the ethics values, communities and common good with social justice (Cemefi, 2006).

Cause and effects of CSR practices

Since the origins of the CSR theory and approaches, many researchers have tried to explain the causes and effects of the CSR practices in enterprises.

According to cause theory of CSR most of the enterprises call into question why to be a socially responsible enterprise? Isabel de la Torre (2010) set that there are a lot of explanations to this question and they can

be classified in two groups: economic and sociological explanations. In this research we focus only in the economic explanations.

The first explanation is the Porter and Kramer's theory. According to the authors the incorporation of the social dimension to the value chain changes the conventional economic vision and opens new frontiers to the competitive position of the company (Porter and Kramer, 2006).

A second explanation is the Cuervo's theory. According to the author, companies incorporate CSR for reasons that can determine the basic objective of maximizing its value: 1) the law and societal pressures accomplishment; 2) the market pressures for input products, as a form to avoid risk and as a change instrument in costumers' preferences; 3) as a part of competitive strategy to generate intangible assets and create a competitive advantage (Cuervo, 2010).

A third explanation is the Husted and Allen theory. These authors establish that companies adopt a CSR practice for many reasons. Nevertheless, they can be classified in two groups: strategic and institutional. In one side, companies that adopt CSR practices due to strategic reasons examine different issues regardless of market pressures. Also they respond to them according to the responsibility demands and integration of global NGO's, governments and local market structure. On the other side, companies that adopt CSR due to institutional reasons obey to three different pressures: the state coercion; the effects of the organizational field on the company's politics and structure; and the internal creation of politics and practices among organization (Husted and Allen, 2006).

Mexican researches in CSR theory are scarce. Some authors considerate that CSR theory in Mexico is not new (Logsdon *et al.*, 2006). While other establish that CSR theory is in an emergent phase (Weyzig, 2007). Husted and Allen (2006) made a research in 111 multinational companies of the Mexican automotive sector. They found that the reasons to adopt a CSR in these companies are mainly institutional. Nevertheless, future researches are needed in order to support the coercive and normative process in CSR practices adoption.

In the CSR effects theory actually there are a lot of theoretical papers on management literature. The main conclusions of the CSR effects in these are: 1) CSR contributes directly to the company's reputation and allows legitimacy to its operations; 2) CSR can alter the competitive environment contributing to increased the market cost entry and for competitors helping to raise their labor regulation, environmental or health standards; 3) CSR send quality signals to job offers, which can increase the number of qualified employees; 4) CSR has a positive role in the consumers' buying process because it can be perceived as an important product attribute; 5) CSR is a tool to manage risk that helps to reduce cost and improve efficiency, particularly in the environmental area (Gond, 2008).

Empiric studies in this field focus mainly in effects of CSR in financial and economic performance. The first research in this relationship was made by Editor Moskowitz in 1972 and Stanley Vance in 1975. These authors found both opposite relationships, one positive and the other negative. 30 years after, the numbers of researches and researchers that try to explain this relationship have increase enormously: Griffin and Mahon (1997) found 51 studies, Roman, Hayibor and Agle (1999) found 52 studies, Margolis and Walsh (2003) found 127 studies, Francisco Gomez (2006) found 140 studies and Pascal Gond (2008) found 160 theoretical and empiric studies.

Findings of the five authors reveal different conclusions that can be classified in three groups: negative relationship, neutral relationship and positive relationship. However the most number of studies (83) conclude that CSR has a positive effect in economic and finance performance (Griffin and Mahon, 1997; Margolis and Walsh, 2003; Gómez, 2006). In the Mexican context, Rodríguez *et al.*, (2010) made a research about the effect of the CSR in the financial performance in 12 Mexican companies. The findings were that the CSR has a positive effect in the financial performance.

In order to contrast the CSR theory in the agricultural sector in Mexico, we present in the next section the method applied in this research.

Method

The purpose of this research is to explore causes and effects of CSR practices in Mexican agricultural companies. Therefore, the nature of this research is explorative and descriptive. In order to recollect the companies' information a fifth section questionnaire (open and close questions) was design. The first section includes the general

information of the company. Second section is related with the CSR lines and its hierarchical importance. Third part is about the process to obtain the CSR distinctive. Fourth and fifth sections are about the causes and effects to obtain the CSR distinctive.

The 30 Mexican agricultural companies-holders of the CSR distinctive 2010- were chosen as the universe of study due to the economical and social importance of the sector. These companies represent the 7% of the total number of Mexican companies holders of the CSR distinctive awarded by the Centro Mexicano para la Filantropía, A.C. (CEMEFI, 2010). The universe was reduced to 25 enterprises due the lack of contact information of 5 enterprises.

The 25 enterprises were contacted by telephone and e-mail from December 2010 to January 2011. As a result only 12 enterprises (48% of the total) were surveyed during this period (complete list of surveyed companies are in the appendix 1). In fact, this number is a high parameter in Mexican survey research (Müller y Kolk, 2009; Husted y Allen, 2006; Robins, Tallman y Fladmie-Limdquist, 2002). Questioners were applied to managers of CSR area, which facilitated the data recollection as long as transparency is important issue in ethic aspect for CSR.

Results

Companies' profile

Location, firm age and firm size were the three aspects considered to describe the companies studied. The surveyed companies are located in the states of: Sinaloa (5 companies), Veracruz (3 companies), Distrito Federal (2 companies), Tamaulipas and Michoacán (a company each one). The average firm age is 21 years. The younger one is 3 years, while the older one is 53 years old. Finally in the firm size the average is 1100 employees. The smallest has 21 employees and the biggest has 3400 employees.

Principal CSR lines

The principal CSR lines for all the Mexican agricultural surveyed companies were: life quality, ethics, community relationship and environment. Furthermore, two more CSR lines were considered by some companies as important ones: value chain and responsible consumption (see table 1).

TABLE 1. PRINCIPAL CSR LINES IN MEXICAN AGRICULTURAL COMPANIES

CSR line	Number of companies	Porcentaje
Life quality	12	100%
Ethics	12	100%
Community relationships	12	100%
Environment	12	100%
Value chain	5	30%
Responsible consumption	3	10%

Source: Own elaboration.

The importance of the CSR lines in each enterprise was different. Nevertheless we found interesting results for each line: Life quality was the first priority CSR line for 5 companies, the second priority for 4 companies and the third for one company. Ethics was the first priority for 7 companies, the second for 3 companies, the third for one company and the fourth for another one.

Community relationship was the first priority for 3 companies, the second priority for 2 companies, the third for 3 companies, the fourth for another 3 companies and finally the fifth for one company. Environment was the first CSR priority line for 3 companies, the second for one company, the third for 3 companies, the fourth for 4 companies and the fifth for one more company.

As we showed in the last chart, chain value was a CSR line only for 4 companies. The priority of this CSR line was the fourth for one company, fifth one for 2 companies and sixth priority for another one. Also, responsible

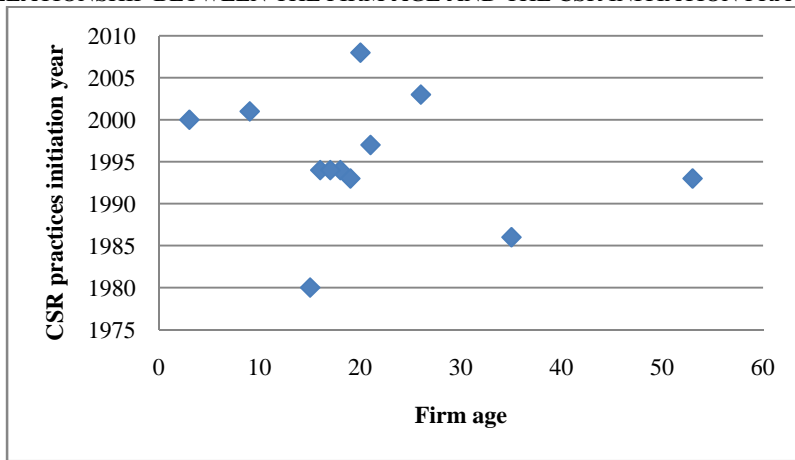
consumption was a CSR line for 3 companies, of which was the fourth priority for one company, the fifth for one company and the sixth for 2 more companies.

The CSR distinctive

It is important to point out that all the Mexican agricultural companies surveyed have the CSR distinctive given by the CEMEFI. The year they participated and obtained this acknowledgment varied in each enterprise. However, the common point was that all the companies surveyed were engaged in CSR practices even before to obtain the distinctive.

A first analysis was the relationship between the firm age and the CSR engagement age (See chart 1). In the chart we observe that the oldest company began to engage in CSR at the second half of the nineties, as well as 8 more companies that formalize the CSR engagement at the same time period, which is congruent with the formal initiation of the CSR in Mexico. As a result no relationship was found in these two variables.

CHART 1. RELATIONSHIP BETWEEN THE FIRM AGE AND THE CSR INITIATION PRACTICES YEAR

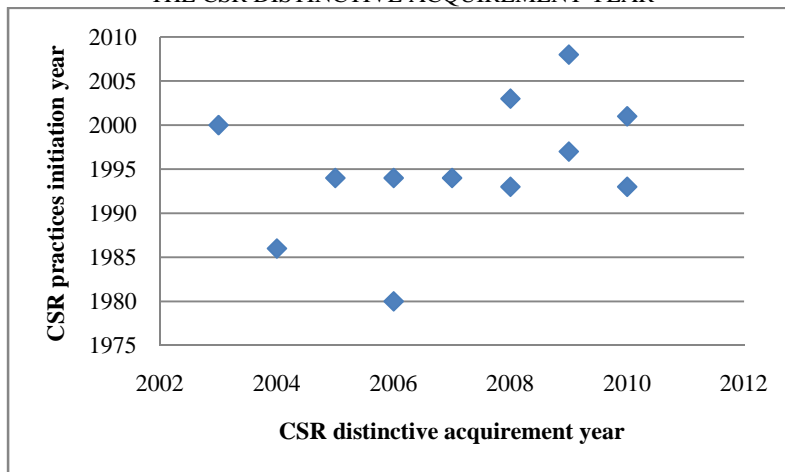


Source: Own elaboration.

Companies didn't face with problems to obtain CSR distinctive, it means that the first time they applied, they obtained the acknowledgment. So, we can infer that for Mexican agricultural companies that were engaged with CSR practices were easier and faster to obtain the CSR distinctive than those that weren't engaged on it. In fact in opinion of some CSR managers, the distinctive was a "next step" to institutionalize the practices they were doing during some period of time.

Second analysis was between the CSR engagement age and the CSR initiation practices year. As said previously CEMEFI is the institution that gives the CSR distinctive since 2001. So, companies were separated in two groups: 1) companies operating before 2000 and 2) companies operating after 2000 (See chart 2).

CHART 2. RELATIONSHIP BETWEEN THE CSR INITIATION PRACTICES YEAR AND THE CSR DISTINCTIVE ACQUIREMENT YEAR



Source: Own elaboration.

No particular behavior was found in this relationship, so we can infer that companies obtain CSR distinctive for a particular reason and not only for a trend. However, more analysis with more companies is needed in order to reach general findings.

Cause and effects of CSR distinctive

Mexican agricultural companies have particular reasons to obtain a CSR distinctive. These reasons are: internal decision (11 companies), shareholder interest (8 companies), national and international requirements/exigencies (7 companies), public image improvement (5 companies), local needs (2 companies), clients' pressures (1 company) and ONG pressures (1 company). (See table 2).

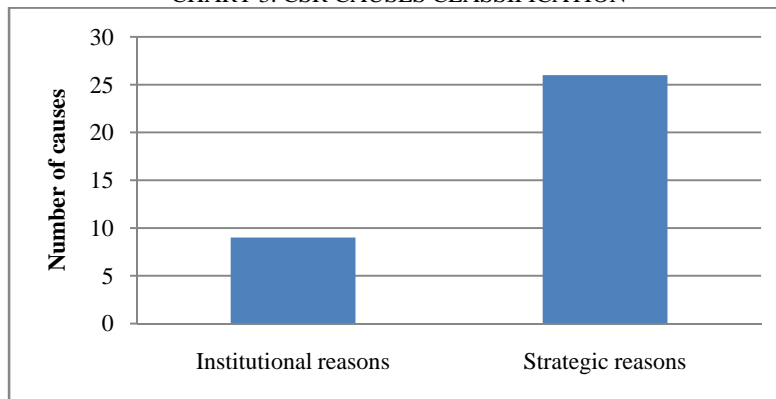
TABLE 2. CAUSES OF CSR DISCTINTIVE ACQUIREMENT

Cause/reason	Number of companies	Percentaje
Shareholdersinterest	8	80%
National and internationalrequirements/exigencies	7	70%
Internaldecision	11	90%
Providers' pressure	0	0%
Publicimageimprovement	5	50%
Clients' pressures	1	10%
Local needs	2	20%
ONG pressures	1	10%

Source: Own elaboration.

Reasons were classified according to the Husted and Allen classification (2006) in two: strategic and institutional. In the first group are the shareholders interest, internal decision, public perception and local needs reasons. While in the second group are the national and international requirements, supplier pressures, consumers' pressures and ONG/government pressures. As result 27 strategic reasons were founded, whereas institutional reasons were only 9 (See chart 3).

CHART 3. CSR CAUSES CLASSIFICATION



Source:Own elaboration based on Hustad and Allen classification (2006).

The effects of the CSR distinctive acquirement can be classified in both positive and negative. As positive effects, all the companies have improved their public image. 10 companies have improved their external relationships and 8 the internal relationships, mainly between employees or collaborators. Also, shareholders have increased their investments in 5 companies and 2 companies have increased the number of shareholders. Finally, profits raise was another positive effect for 2 more companies.

Negative effects were minimal. Nevertheless 2 companies argued that CSR distinctive acquirement caused them an increase of management cost and for another company operation cost. It's logical and possible that management and operation cost increase due to the CSR distinctive acquirement. Nevertheless, these costs can be justified by the greater CSR positive benefits (See table 3).

TABLE 3. EFFECTS OF CSR DISTINCTIVE ACQUIREMENT

Effects	Number of companies	Percentage
Internalrelationships improvement	8	80%
Externalrelationship improvement	10	90%
Publicimage improvement	12	100%
Increase of shareholders number	2	20%
Increase of shareholders' investment	5	40%
Profits raise	2	20%
Increase of management cost	2	20%
Increase of operation cost	1	10%

Source: Own elaboration.

Conclusions and recommendations

- The main CSR lines in Mexican agricultural companies are: life quality, ethics, community relationship and environment.
- The priority of each CSR differs in all companies, issue that has been omitted by CEMEFI. We recommend considering the priorities in order to the CSR performance evaluation in Mexican agricultural firms.
- The firm age is not necessarily associated with the date of the CSR distinctive acquirement. The majority of these companies began to engage with CSR practices since the nineties, what is related with the introduction period of CSR concept in Latin America.
- No company had obstacles to get the CSR distinctive. We can infer a positive relationship between the previously CSR practices and the CSR distinctive acquirement. Further research in this area could be interesting.
- The reasons to obtain CSR distinctive to Mexican agricultural companies were classified in two: strategic and institutional. Strategic reasons were the majority, standing out the internal decision and the shareholders interest.
- The effects to obtain the CSR distinctive to Mexican agricultural companies were classified in two: positive and negatives. Positive effects as public image improvement, and internal and external relationships were the main.

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For a full list of reference, pleasecontacttheauthor(s).

Appendix 1. List of Mexican agricultural companies surveyed

Company's name	
1	Agrícola Chaparral
2	Agrícola de Servicios
3	Agrícola El Rosal
4	Beta San Miguel (Elai, SC)
5	Café Tostado de Exportación
6	Ceuta Produce
7	Descafeinadores Mexicanos
8	Divemex
9	Ingenio El Mante
10	Ingenio La Gloria
11	Phytomonitor
12	Velsimex

Corporate Governance and Firm Performance: Evidence from India

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Abstract

The present study examines the impact of Corporate Governance (CG) disclosure practices on firm performance in India. CG scores are computed from the annual reports of S&P CNX Nifty 50 companies as per the Clause 49 of listing agreements as issued by SEBI of India for a period of four years. Firm performance is measured in multiple ways like market capitalization, Tobin's Q and MV/BV ratio. The research hypothesis has been constructed to prove that CG scores have positive influence on firm performance. In this regard, pooled cross sectional time series analysis is used to test the hypothesis. It is evident from the analysis that overall CG scores are sub-grouped into various components like board composition, audit committee, ownership component and compliances. The results proved that CG disclosure practices in India have positive impact on firm performance. These results are statistically significant and survive a variety of robustness checks.

Introduction

Corporate governance (CG) is essentially the philosophy by which companies are expected to be directed and controlled. It deals with the policies and practices that directly impact on the organization's performance. Accountability, both internal and external, transparency or openness and recognition are the common principles of CG. In Asia, corporate governance practices have come under increasing scrutiny in recent years, particularly due to the Asian Economic Crisis in 1997. Observers divide the crisis in Asian and others like in South America and Russia frequently identify corporate governance as the underlying cause for the chain of reactions. A large number of literatures provide evidence of an association between corporate governance and firm performance using various approaches. But there is very limited literature examining the impact of various elements of CG on firm market value. Thus we contribute to the limited literature by examining such impact which is measured as market capitalization to book value ratio (Barnhart et al., 1994) and Tobin's Q (Yermack, 1996, Bernard S. Black, Woo Chan Kim, Hasung, and Kyung, 2009) by applying panel data analysis. The corporate governance practice is determined by manually computing corporate governance scores of S&P CNX Nifty also known as nifty fifty for the year 2004 to 2008 for the period of four years using corporate governance guidelines issued by Securities Exchange Board of India (SEBI) under Clause 49 of the listing agreements. The corporate governance index as per the SEBI guidelines consist of seven sub indices i.e. Board of Directors, Audit Committee, Subsidiary Companies, Disclosures, CEO/CFO Certification, Report on Corporate Governance, Compliance. Each of these mechanisms is allotted weight age out of aggregate of hundred (see Exhibit 1).

The remainder of the paper is structured as follows. The second section reviews the literature pertaining to impact of CG and its various components on firm performance. The third section briefly covers corporate

governance guideline in India. The fourth section describes the research methodology. Subsequently, the fifth section presents results and analysis. Finally, the last section concludes with future research directions.

Review of Literature and Hypotheses

A large number of literatures such as (Durnev and Kim, 2004; Hermalin and Weisbach, 1991; Bhagat and Black, 2002; Yermack, 1996; Eisenberg, Sundgren, and Wells, 1998; Loderer and Martin, 1997; Demsetz and Lehn, 1985 and Gompers, Ishii, and Metrick, 2003) studies the association between corporate governance and firms' performance or market value. There are many related studies of Russian corporate governance such as Black (2001) studies a small sample of 21 firms in 1999, with very limited control variables, but reports a strong correlation between CG and firm performance. He finds a correlation between market value and governance of $r = 0.90$, and a worst to best governance change which predicts a factor of changes in the market value. Thus, Black (2001) finds a strong cross-sectional correlation between governance and the market value of oil and gas companies per barrel of reserves.

Several other studies have also documented a positive correlation between performance measures and CG. La Porta, Lopes-de-Silanes, Shleifer, and Vishny (2002) document higher valuation of firms in countries with better protection of minority shareholders. Durnev and Kim (2004) and Klapper and Love (2004) use data on firm-level corporate governance rankings and find that companies with better governance and better disclosure standards exhibit higher Tobin's Q s. Thus, the first hypothesis: Virtually all previous studies concentrated on specific aspects of governance, such as board composition (Hermalin and Weisbach, 1991; Yermack, 1996 and Bhagat and Black, 2002)

H1: There is a positive impact of corporate governance on firm performance.

Board composition and Board Size

The board of directors has a fundamental role in a corporate governance system, considered a major internal mechanism along with ownership concentration; it is used to reduce agency costs. Board composition is used as a proxy for the quality of governance along with the governance index due to the important boards have in the Spanish corporate governance system as an internal control mechanism (Fernandez and Arondo, 2005). Lipton and Lorsch (1992) and Jensen (1993) were the first to hypothesize that board size is an independent control mechanism. Specifically, they argue that large boards may be less effective than small boards. The underlying notion is that large boards can make coordination, communication, and decision making more cumbersome than it is in smaller groups. Jensen (1993) suggests an optimal board size of seven or eight directors. Yermack (1996) was the first to investigate this proposition empirically. In fact, using a sample of large U.S. public corporations, he reports an inverse relationship between board size and firm value, as measured by Tobin's Q . Huther (1997) confirms these findings for a sample of U.S. electricity companies. Eisenberg, Sundgren, and Wells (1998) also find a negative size effect for a sample of small Finnish firms. Most recently, using a simultaneous equations approach for a sample of Swiss companies, Beiner, Drobetz, Schmid, and Zimmermann (2003) cannot detect a significant relationship between board size and firm value. They interpret this finding as evidence that Swiss firms, on average, choose the number of board members just optimally.

Hermalin and Weisbach (1998) offer a theoretical model with a variety of predictions with respect to board independence. For example, their model predicts that CEO turnover is more sensitive to performance when the board is more independent and that the probability of independent directors being added to the board rises following poor firm performance. More generally, the board of directors is responsible for evaluating the senior management of a corporation and to replace if it does not pursue shareholders' interests. Because inside directors' careers are tied to the CEO's, they are generally unable or unwilling to remove incumbent CEOs and, hence, this task is likely to fall on outside directors. Rosenstein and Wyatt (1990) provide evidence that the proportion of outside directors

positively affects shareholder wealth. In fact, they document a positive stock price reaction upon announcement of the appointment of an additional outside director. Additionally, the findings of Weisbach (1988) suggest that firms with outsider dominated boards are significantly more likely to remove the CEO on the basis of bad performance than firms with insider-dominated boards. In a related study, Hermalin and Weisbach (1988) find that outsiders are more likely to join a board after a firm performs poorly or leaves an industry. In contrast, Yermack (1996) finds no association between the percentage of outside directors and firm performance. Thus, the second hypothesis is:

H2: There is an association between board composition or board size and firm performance.

Audit committee

Cadbury's recommendation was that all listed companies should establish internal board sub-committees to oversee amongst other things like audit process. The audit committee's duties were to include the appointment of external auditors, reviewing the company's financial statements and advising on any significant findings of internal audit investigations. In addition to recommending that an audit committee should be established, Cadbury also proposed that the committee should have a minimum of three members and should consist only one of non-executive directors, the majority of whom should be independent. Relatively little has been reported about the impact of audit committees on performance. Wild (1994) found that the market reacted more favourably to earnings reports after an audit committee had been established. Klein (1998) found that the presence of an audit committee had no effect on a range of accounting and market performance measures. She also found that changes to the composition of the audit committee did not generate abnormal returns. Vafeas and Theodorou (1998) also found that no evidence to support the view that the structure of board sub committees significantly affected performance. Thus, the third hypothesis is:

H3: There is an association between audit committee and firm performance.

Disclosure

Disclosed information serves to reduce the unfavorable effects of moral hazard and adverse selection by capital markets first regarding the firm itself and then of the management team. *Ceteris paribus*, firms would disclose relevant information as fully as possible, especially when there are applicable legal requirements, to avoid adverse selection (Grossman, 1981). Patel et al. (2002) develop a model to measure transparency and disclosure of firms in emerging markets. A commonly cited benefit of disclosure is that by mitigating uncertainty, disclosure may reduce the magnitude of the impact of news about a firm's performance, which would reduce stock price volatility (Lang and Lundholm 1993; Bushee and Noe 2000). Ajinkya, Bhojraj, and Sengupta (1999) found a positive relationship between financial analysts' ratings of corporate disclosure practices with institutional stock ownership.

According to diamond (1985) the disclosures result in Pareto improvement in welfare because they reduce investors' need to search privately for information which has substantial costs. The empirical evidence suggests that levels of corporate disclosure are positively related to performance, quantified on the basis of the return on equity (ROE) (Meek et al., 1995; Ettredge et al., 2002; Haniffa and Cooke, 2002).

As per the survey by Healy and Palepu (2001), there is no unambiguous theoretical framework regarding corporate disclosure supply and specifically about the effects of regulation of corporate communications, despite of corporate disclosures playing a cardinal role in financial markets. Apart from this, there has been limited direct empirical evidence on the costs and incentives of corporate disclosures. Milgrom, 1981 focuses that companies would act strategically and disclose favorable items and suppress unfavorable ones, especially when such items affect managements' remuneration and, generally, the managers' position in the market for managerial talent. The model developed by Darrrough and Stoughton in 1990 predicts that firms that have less fear of potential entrants in their markets are more likely to respond to market demands for information.

Simple theories of market microstructure theory suggest that by increasing the amount of public information, disclosure is likely to reduce information asymmetries in the market that result in pronounced price

changes in response to changes in demand for the stock (Diamond and Verrecchia 1991). Disclosure may reduce heterogeneity of beliefs about the true value of the firm. It may thus reduce both the volume traded and the volatility of the stock price. Economic theory (Diamond and Verrecchia 1991) and evidence (Leuz and Verrecchia 2000) suggest that the amount of disclosure that a firm provides depends on its size as well as on the need for external funds.

Thus corporate disclosures are an essential element of well functioning markets including both the capital markets as well as the market for managerial skills, markets for goods and services etc. Firms disclose information to the capital market both through regulated financial statements i.e. annual reports and ad hoc voluntary communications such as their Internet sites, newspapers i.e. press releases and so on. In addition, one can locate disclosures about a firm made by third parties such as brokerage houses and, primarily, the financial press. Transparency and the quality of information released by firms are expected to exhibit a positive correlation with their performance, one reason being that good performers are more willing to disclose information. The number of auditors' comments are considered negatively correlated with information quality, and therefore negatively correlated with performance. Thus, the fourth hypothesis is:

H4: There is an association between firm disclosure and firm performance.

Similarly, various other items of Clause 49 of Listing agreements of SEBI are presented in the form of various hypotheses like

H5: There is an association between CEO/CFO certification and firm performance.

H6: There is an association between report on corporate governance and firm performance.

H7: There is an association between subsidiary companies and firm performance.

H8: There is an association between CG code compliance and firm performance

Corporate Governance Guidelines

The single most important development in the field of corporate governance and investor protection in India has been the establishment of the SEBI in 1992. The need for capital, led to corporate governance reform for which the Confederation of Indian Industry (CII), pressed the government to make the central elements of the code mandatory for public firms, which SEBI did the following year, by adopting a reform package known as Clause 49. The Firms that do not comply with Clause 49 can be delisted and face financial penalties. For the purpose of the study many authors construct corporate governance index and allotted score for each variable, in this study clause 49 is used as a corporate governance index. For the purpose of the study i.e. to know empirical impact of CG the scores for each sub clause is allotted based on its significance. Exhibit 1 shows clause 49 of the listing agreement issued by SEBI.

EXHIBIT I: CLAUSE 49 OF LISTING AGREEMENT

	Disclosures	Clause of Listing agreement	Scores allotted
I	Board of Directors	49(I)	30
(A)	Composition of Board	49(IA)	8
(B)	Non-executive Directors' compensation & disclosures	49 (IB)	4
(C)	Other provisions as to Board and Committees	49 (IC)	14

(D)	Code of Conduct	49 (ID)	4
II	Audit Committee	49(II)	15
(A)	Qualified & Independent Audit Committee	49 (IIA)	3
(B)	Meeting of Audit Committee	49 (IIB)	2
(C)	Powers of Audit Committee	49 (IIC)	3
(D)	Role of Audit Committee	49 II(D)	3
(E)	Review of Information by Audit Committee	49 (IIE)(4)	4
III	Subsidiary Companies	49(III)	10
IV	Disclosures	49(VI)	35
(A)	Basis of related party transactions	49(IV A)	10
(B)	Board Disclosures	49 (IV B)	4
(C)	Proceeds from public issues, rights issues, Preferential issues etc.	49 (IV C)	4
(D)	Remuneration of Directors	49 (IV D)	4
(E)	Management	49 (IV E)	9
(F)	Shareholders	49 (IV F)	4
V	CEO/CFO Certification	49 (V)	3
VI	Report on Corporate Governance	49(VI)	3
VII	Compliance	49(VII)	4
	Total Score		100

Source: Securities Exchange Board of India (SEBI)

Research methodology

In this paper, panel data analysis is used to find out independent variable i.e. corporate governance score influence on dependent variables i.e. firm performance (proxy by Tobin's q, MV/BV and market capitalization) and the dividend payout ratio, firm value, growth in sales, leverage and net profit margin are considered as the controlled variables. Each of these variables is assumed to have a positive impact on market performance of sample companies. Panel data analysis is an increasingly popular form of longitudinal data analysis.

For the present study, the sample consists of S &P CNX Nifty (also known as nifty 50 or blue chip) companies. The corporate governance scores of these companies are computed manually as per the SEBI corporate governance provisions under Clause 49 of the listing agreements by using annual reports of the companies for the years 2004-2008. Two types of data are used in this study i.e. financial and non-financial data, which are gathered mainly from prowest, a financial data base of Centre for Monitoring Indian Economy (CMIE). While extracting data, it was realized that the CMIE database has information only for 44 companies out of 50 companies belonging to different industries in India.

In this study, we applied the following Robust Random- Effect GLS Regression models with “firm” and year effects to analyze the determinants of firm value(proxy by Tobin’s q),Market to Book Value, Market Capitalization:

$$Y_{it(\text{Firm Value})} = \alpha + \mu_i + \lambda_t + \beta X_{it} + \beta' Y_{it-1} + \varepsilon_{it}$$

$$Y_{it(\text{MVBV})} = \alpha + \mu_i + \lambda_t + \beta X_{it} + \beta' Y_{it-1} + \varepsilon_{it}$$

$$Y_{it(\text{Market Capitalization})} = \alpha + \mu_i + \lambda_t + \beta X_{it} + \beta' Y_{it-1} + \varepsilon_{it}$$

Results and Analysis

Table 1 indicates the pooled sample descriptive statistics for all the variables considered for the analysis. Table 2 presents the correlation matrix among the variables. Whereas, Table 3 indicates the consolidated results of Robust Random- Effect of GLS Regression analysis for market capitalization. The total observations are 200 i.e. 50 blue chip companies for a period of 4 years. Due to lack of information, the total number of observations (N) is turned out to be 164. The overall corporate governance score is found to be positive and statistically significant. Board of directors, audit committee, disclosure, subsidiary companies, corporate governance, CEO/CFO Certification and compliance are found to be positive and statistically significant at 5% level of significance. The return on equity is positive and statistically significant with board of directors (Model 2) at 10% level of significance. The log of asset is found to be positive and statistically significant at 5% level of significance for all the models. The results are similar to black (2001) and La Porta, Lopes-de-Silanes, Shleifer, and Vishny (2002)

Table 4 indicates the consolidated results of Robust Random- Effect GLS Regression analysis for Tobin’s q. The overall corporate governance score is found to be positive and statistically significant. Board of directors, audit committee, disclosure, corporate governance and compliance are found to be positive and statistically significant at 5% level of significance. The CEO/CFO certificate is positive but not statistically significant were as the subsidiary companies are neither positive nor statistically significant. Sales Growth is found to be positive and statistically significant at 10% in model 3 and model 5 and 5% in model 7. Leverage is also positive and statistically significant at 5% for all the models and 10% for model 4 and model 5. Return on equity is positive and statistically significant at 10% for model 1,4,5,7 and 8 were as 5% for model 2 and 6. Log of asset is negative and statistically significant for all the models at 5% and 10% level of significance.

Table 5 indicates the consolidated results of Robust Random- Effect GLS Regression analysis for Market to book value. The total observations are 200 i.e. 50 blue chip companies for a period of 4 years. Due to lack of information, the total number of observations (N) is turned out to be 164. The overall corporate governance score is found to be positive but not statistically significant. Board of directors, audit committee, disclosure, corporate governance and compliance are found to be positive but not statistically significant were as the subsidiary companies and compliance are neither positive nor statistically significant. Return on equity is positive and statistically significant at 5% in all the models except for model 7.

Variable	Mean	Standard Deviation	Min	Max
CG Score	71.19	20.09	6	98
Board of Directors	23.33	6.73	0	30

Empirically it is found that the company performance measured in terms of market capitalization and Tobin's q is influenced by overall corporate governance score, Board of directors, audit committee, disclosure, corporate governance and compliance of the company. Thus, it can be concluded that better overall corporate governance practices as per the Clause 49 of the Listing Agreement will result into better performance. According to the general theory of finance, leverage should result into increasing the returns to shareholders and the sign of leverage is expected to be positive. To support this argument, controlled variables like leverage and return on equity are found to be positive and statistically significant. The empirical results of the present study are very useful to investors. It will help them in making more informed decisions. The results are also useful to management of the companies, regulators and policy makers.

Conclusion

The present study examines the impact of Corporate Governance (CG) disclosure practices on firm performance in India. CG scores are computed from the annual reports of S&P CNX Nifty 50 companies as per the Clause 49 of listing agreements as issued by Securities and Exchange Board of India for a period of four years from 2004 to 2005. In India, Clause 49 requires, in addition to other things, audit committee, a minimum number of independent directors, and CEO/CFO certification of financial statements and internal control. Firm performance is measured in multiple ways like market capitalization, Tobin's Q and MV/BV ratio. The research hypothesis has been constructed to prove that CG scores have positive influence on firm performance. In this regard, pooled cross sectional time series analysis is used to test the hypothesis. It is evident from the analysis that overall CG scores are sub-grouped into various components like board composition, audit committee, ownership component and compliances. The results proved that CG disclosure practices in India have positive relationship with firm performance. This result is highly statistically significant and survives a variety of robustness checks. This study provides evidence to support the relationship between CG disclosure and firm performance. This suggests that properly designed mandatory CG disclosures can increase in firm performance in an emerging market like India.

TABLE 1: DESCRIPTIVE STATISTICS

Audit Committee	9.95	3.99	0	15
Disclosure	27.37	7.25	6	35
Subsidiary companies	3.80	4.62	0	10
Corporate Governance	2.55	0.69	0	3
CEO/CFO Certification	1.36	1.37	0	3
Compliance	2.98	1.12	0	4
Market cap	41833.82	47327.72	0	308235.3
Firm Value	26.96	157.87	.01	1087.15
MVBV	7.55	16.58	0	202.56
Age square	2276.84	2449.30	100	10201
Sales Growth	21.08	17.27	-18.59	100
Net Profit Margin	16.43	11.70	-8.35	79.6
Leverage	.73	1.54	0	10.37
ROE	28.69	18.10	0	141.97
Payout	28.98	25.49	0	191.88
Log of Assets	9.53	1.56	6.13	16.4
Industry code	39875.2	17628.95	11101	72211
Debt	18739.1	80547.13	0	673092.4
Assets	233340.7	1380849	459.88	1.33
Age	41.14	24.23	10	101
ROA	28.39	19.04	0	109.87

TABLE 2: CORRELATION MATRIX

	1	2	3	4	5	6	7	8	9	10	11
1 CG Score	1.00										
2 Board	0.85	1.00									
3 Audit Com	0.83	0.59	1.00								
4 Sub Com	0.64	0.41	0.51	1.00							
5 Corp Gov	0.68	0.65	0.52	0.23	1.00						
6 Certif.	0.48	0.42	0.31	0.33	0.25	1.00					
7 Coml.	0.64	0.61	0.42	0.31	0.79	0.28	1.00				
8 Market cap	0.21	0.17	0.25	0.16	0.28	-0.05	0.15	1.00			
9 Firm value	-0.19	-0.10	-0.15	-0.13	-0.12	-0.13	-0.03	0.08	1.00		
10 MVBV	-0.04	0.01	-0.10	-0.04	-0.01	0.03	-0.13	0.14	-0.04	1.00	
11 Disclosure	0.85	0.62	0.69	0.34	0.57	0.32	0.51	0.16	-0.23	-0.03	1.00
12 Age square	0.15	0.20	0.13	-0.03	0.14	0.26	0.16	-0.13	0.01	-0.04	0.08
13 Sales growth	0.05	0.03	0.02	0.03	-0.09	-0.06	-0.11	0.03	-0.09	0.09	0.14
14 NPM	0.05	-0.02	0.02	0.10	0.09	-0.03	-0.04	0.15	-0.21	0.14	0.11
15 Leverage	-0.11	-0.08	-0.11	-0.01	-0.03	-0.19	-0.07	-0.03	-0.07	0.33	-0.10
16 ROE	0.08	0.10	-0.06	0.07	0.07	0.12	0.08	0.10	-0.09	0.37	0.08
17 Payout	-0.07	0.03	-0.12	-0.05	-0.05	-0.00	-0.03	0.01	-0.06	0.21	-0.12
	12	13	14	15	16	17					

12 Age square	1.00									
13 Sales growth	-0.25	1.00								
14 NPM	-0.21	0.24	1.00							
15 Leverage	-0.14	0.04	0.23	1.00						
16 ROE	-0.02	0.35	0.23	0.06	1.00					
17 Payout	0.06	-0.22	0.02	0.007	0.05	1.00				

TABLE 3: RESULTS OF PANEL REGRESSIONS: DEPENDENT VARIABLE AS MARKET CAPITALIZATION

Variables	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8
CG Score	3.33** (126.58)							
Board of Directors	-	2.79** (429.34)						
Audit Committee	-	-	2.68** (648.51)					
Disclosures	-	-	-	2.41** (394.70)				
Subsidiary companies	-	-	-	-	1.79* (811.38)			
Corporate Governance	-	-	-	-	-	2.36** (4302.18)		
CEO/CFO Certification	-	-	-	-	-	-	1.88* (1931.27)	
Compliance	-	-	-	-	-	-	-	3.94** (1866.36)
Age	-0.82 (1.98)	-0.86 (1.99)	-0.59 (1.94)	-0.58 (2.06)	-0.30 (2.10)	-0.60 (2.11)	-0.58 (2.11)	-0.66 (2.19)
Sales Growth	-1.12 (130.79)	-1.22 (136.08)	-1.14 (117.21)	-1.20 (145.15)	-0.82 (125.99)	-0.95 (142.62)	-0.69 (122.86)	-1.00 (136.50)
Net Profit Margin	0.40 (334.75)	0.36 (367.54)	0.71 (376.01)	0.63 (366.66)	0.63 (409.74)	0.56 (349.01)	0.80 (421.75)	0.66 (411.57)
Leverage	0.13 (4306.40)	0.06 (4159.99)	0.07 (4201.73)	-0.01 (4178.03)	0.08 (4377.86)	-0.05 (4072.64)	0.07 (4075.93)	0.10 (4545.05)
ROE	1.43 (196.24)	1.74* (197.6)	1.51 (184.57)	1.39 (211.41)	1.22 (203.18)	1.54 (202.2)	1.21 (197.50)	1.42 (206.88)
Payout	1.67* (111.28)	1.46 (106.48)	1.43 (122.28)	1.42 (114.61)	1.29 (137.42)	1.51 (110.00)	1.29 (141.50)	1.36 (128.14)
Log of Assets	2.41** (6454.36)	2.39** (6802.68)	2.52** (6732.29)	2.57** (6751.02)	2.85** (6133.61)	2.32** (7219.26)	2.72** (6961.58)	2.50** (6763.16)
Industry code	-0.03 (0.5238)	-0.10 (0.53)	-0.03 (.53)	-0.10 (.53)	0.02 (.51)	-0.07 (.53)	-0.14 (.55)	-0.09 (.53)
Observations	164	164	164	164	164	164	164	164
Adjusted R ²	0.22	0.21	0.23	0.21	0.21	0.21	0.19	0.20

Robust standard errors in parentheses ** p<0.05, * p<0.

TABLE 4: RESULTS OF PANEL REGRESSIONS: DEPENDENT VARIABLE AS TOBIN Q RATIO

Variables	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8
CG Score	3.36** (.01)							
Board of Directors	-	2.86** (0.05)						
Audit Committee	-	-	3.21** (.08)					
Disclosure	-	-	-	2.31** (.05)				
Subsidiary companies	-	-	-	-	0.39 (.07)			
Corporate Governance	-	-	-	-	-	2.00** (.54)		
CEO/CFO Certification	-	-	-	-	-	-	0.83 (.30)	
Compliance	-	-	-	-	-	-	-	2.16** (0.29)
Age	1.37 (.00)	1.43 (.00)	1.47 (.005)	1.36 (.006)	1.35 (.006)	1.40 (.006)	1.23 (.007)	1.32 (.006)
Sales Growth	1.28 (.01)	0.94 (.01)	1.91* (.009)	0.89 (.012)	1.86* (.009)	1.33 (.011)	2.18** (.009)	1.48 (.010)
Net Profit Margin	0.34 (.02)	-0.25 (.02)	0.64 (.02)	0.57 (.026)	0.66 (.033)	0.21 (.024)	0.66 (.03)	0.53 (.03)
Leverage	2.19** (.47)	2.24** (.41)	2.46** (.44)	1.93* (.46)	1.90* (.470)	1.99** (.42)	2.01** (.45)	1.98** (.48)
ROE	1.84* (.02)	2.42** (.02)	1.59 (.01)	1.80* (.02)	1.89* (.020)	2.05** (.02)	1.72* (.02)	1.83* (.02)
Payout	0.69 (.01)	0.52 (.01)	0.69 (.01)	0.48 (.01)	0.32 (.02)	0.49 (.01)	0.42 (.02)	0.41 (.02)
Log of Assets	-2.39** (1.40)	-2.32** (1.38)	-2.28** (1.22)	-1.90* (1.49)	-1.85* (1.09)	-2.19** (1.19)	-1.88* (1.10)	-1.74* (1.3)
Industry code	1.09 (.00)	1.10 (.00)	-----	1.08 (.002)	1.08 (.002)	1.09 (.002)	1.06 (.002)	1.07 (.002)
Observations	164	164	164	164	164	164	164	164
Adjusted R ²	0.07	0.007	0.00	0.07	0.07	0.07	0.007	0.007

Robust standard errors in parentheses ** p<0.05, * p<0.10

TABLE 5: RESULTS OF PANEL REGRESSIONS: DEPENDENT VARIABLE AS MARKET TO BOOK VALUE RATIO (MVBV)

Variables	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8
CG Score	0.51 (.05)							
Board of Directors	-	1.12 (.17)						
Audit	-	-	0.71					

Committee			(.21)					
Disclosure	-	-	-	0.64 (.18)				
Subsidiary companies	-	-	-	-	-0.98 (.23)			
Corporate Governance	-	-	-	-	-	1.18 (2.09)		
CEO/CFO Certification	-	-	-	-	-	-	2.04 (.49)	
Compliance	-	-	-	-	-	-	-	-0.82 (1.76)
Age	-0.35 (.0003)	-0.64 (.0003)	-0.43 (.0002)	-0.39 (.0003)	-0.25 (.0003)	-0.58 (.0003)	-0.53 (.0003)	0.11 (.0003)
Sales Growth	-0.37 (.08)	-0.46 (.08)	-0.43 (.08)	-0.39 (.08)	-0.44 (.08)	-0.34 (.08)	-0.31 (.08)	-0.43 (.08)
Net Profit Margin	-0.58 (.09)	-0.64 (0.09)	-0.68 (.08)	-0.66 (.09)	-0.37 (.09)	-0.76 (.11)	-0.60 (.10)	-0.44 (.09)
Leverage	1.00 (4.38)	1.01 (4.69)	1.02 (4.42)	1.00 (4.42)	1.03 (4.38)	1.02 (4.77)	1.06 (4.61)	1.04 (4.05)
ROE	2.67** (.11)	2.55** (.12)	2.63** (.12)	2.72** (.11)	2.63** (.12)	2.48** (.12)	2.42 (.12)	2.51** (.13)
Payout	1.23 (.12)	1.25 (.13)	1.25 (.13)	1.23 (.12)	1.21 (.13)	1.30 (.13)	1.26 (.13)	1.20 (.12)
Log of Assets	-0.82 (.70)	-0.99 (.72)	-0.83 (.71)	-0.81 (.72)	-0.64 (.67)	-1.06 (.88)	-0.57 (.75)	-0.28 (.80)
Industry code	-0.15 (.00006)	-0.25 (.00006)	----	-0.19 (.00006)	-0.40 (.00007)	-0.20 (.00006)	-0.24 (.00006)	-0.24 (.00006)
Observations	164	164	164	164	164	164	164	164
Adjusted R ²	0.26	0.26	0.27	0.26	0.27	0.25	0.26	0.28

Robust standard errors in parentheses** p<0.05, * p<0.10

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Macao: A Study on the Impact of Global, Regional and Local Forces

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Abstract

Over the years Macao has been exposed to different cultures and has been influenced by various political and economic interests. The booming casino economy has ultimately transformed the city into the largest gambling hub in the world. In spite of the consensus about Macao's shiny future, there are factors (such as the large reliance on a single industry) and socio-economic problems (such as labor shortage, unequal income distribution, and inflationary pressure) that moderate the optimism. By making use of the Chatterjee and Nankervis' convergent and divergent process model for management, this paper examines how global, regional, and local forces have impacted the economic development process, form and type of organizations in Macao. The paper also suggests that the government implement a framework that develops and diversifies the economy but also takes into consideration the social needs of the community.

Introduction

The aim of this paper is to describe the ways in which global, regional, and local forces have impacted on the economic development process, form and types of organizations in Macao. Situated in what is arguably the most vibrant region of South China, since the Portuguese first settled in the region the ex-colony has developed a dynamic culture that continues even now in a fusion of tradition and innovation. But behind the booming growth that has transformed the city from a fishing village into the world's largest gambling hub, there are factors such as the large dependency on a single industry, and the emergence of socio-economic problems that overshadow the optimism of the future of the territory. Although the government has made efforts to address and mitigate such problems, the lack of a skilled workforce, the unequal distribution of income, and ultimately the pressure from rising inflation remain the major challenges that city administrators and managers are confronted with on daily basis. Beside adopting modern management systems, boosting the local talent pool, reforming the educational system and broadening the range of economic activities, Macao should also maximize the opportunities for integration with its neighboring cities, and work to achieve the status of a global leisure destination in South-East Asia.

This paper makes use of the Chatterjee and Nankervis' (2007) convergent and divergent process model for management as the framework to investigate the unique complexity of the territory of Macao by understanding its macro-, meso-, and micro-level perspectives. This framework examines, at a macro-level perspective, the antagonistic relationship between global imperatives and the forces of heritage; the first representing the "push" factor towards a universalistic and convergent approach to management, the latter characterizing the local "pull" influence that constrains such global imperatives. According to the model, the macro-level forces affect and in turn are affected by the emergent contemporary societal factors. The latter describe the society from a meso-level perspective. Ultimately, the micro-level dimension is the representation of the influence of the global and national forces and their relationship with the organizational level of the society, mainly expressed through local management culture. Through the linkage between meso-, macro, and micro-level factors, this paper primarily contributes to the understanding of how the broad political-social-cultural patterns impact on local economic development.

The Macro-Regional Level: Local Issues and External Forces Influencing the Managerial Context of Macao

Macao has been an important gateway through which western civilization entered China. This section discusses how the forces of Portuguese heritage, the favorable location for commerce and the internationalization of Macao in the post-colonial era have shaped the key cultural, political and economic characteristics of Macao society.

A Brief History

Macao has for long enjoyed a favorable position at the mouth of the Pearl River, but developed as a major center for international commerce only when the Portuguese settled here in the 16th century. The earliest Chinese migrants were the seamen from Fujian and from Guangdong, who brought with them the culture of “A Ma”, the goddess worshiped by seafarers. Having established themselves first at Goa and Malacca, in 1513 the Portuguese reached “A Ma Gao” (place of A Ma), whose temple stood at the entrance to the sheltered inner harbor (MGTO, 2010) and adopted the local name that over the years was changed into Macao. In 1557, Portugal obtained the rights to administer the territory in return for tribute paid to China. Before gambling emerged as the main source of revenue, Macao had been a very active commercial entrepot. However, the rise of Hong Kong as the major trading center in South China marked the decline of the territory's economy. In 1847 the government decided to legalize gambling to increase revenue (Macau Business, 2009). Portugal continued to pay rent to China until 1849, when they declared Macao's "independence", and in 1887, with an agreement known as the Protocol of Lisbon, the Chinese government granted the right of "perpetual occupation and government of Macao" (Ministry of Foreign Affairs, 2005) on the condition that Portugal would never surrender Macao to a third party without China's consent. With the rise of communist power in China in 1949, it was declared that the Protocol of Lisbon was a foul treaty. After several rounds of talks a framework agreement known as “Joint Declaration” was signed in 1987, setting the ground for the return of the enclave to the motherland. Despite the fact that the Portuguese tried to return the territory in 1966 and again in 1974, when the new government in Portugal granted independence to all overseas colonies, Beijing preferred to postpone the question over the territory to a more suitable time, and waited until 1999, two years after the handover of Hong Kong, to cede control of the Macao. A decade after the handover, this small territory has maintained a unique multi-cultural identity unlike either Hong Kong or China and has been able to become the most vibrant casino city in the world. The following discussion highlights how global imperatives and the forces of the Portuguese heritage have contributed to the logic behind the territory's response to the changing macro-environmental realities.

Political and Economic Influences

Since Macao's return to the motherland, on December 20, 1999, the ex-colony has become the most dynamic city in South China. The 1987 “Sino-Portuguese Joint Declaration” provided for the Portuguese to officially terminate all the administrative rights over the territory, but most importantly it specified that Macao would become fully integrated into the People's Republic of China (PRC). The territory was given the status of Special Administrative Region (SAR) with complete autonomy and self-governance in internal affairs, economic policy and security. This status, based on the “one country, two systems” principle, provided a framework whereby the Chinese Government in Beijing, the local executive branch and legislative assembly combine to administer the territory. Clayton (2009) noted that Deng Xiaoping, the architect of China's economic reforms, developed this model to facilitate the integration of the SAR into the PRC which in turn was in the process of integrating itself into the world utilising a form of social- capitalism. The intervention of Beijing was set to be restricted to a basic legal framework, mainly foreign affairs and defense, leaving all other matters under the local government's control. Macao's legal framework is meant to continue for fifty years from the commencement of the agreement (that is, until 2049). In December 1999, after four and a half centuries of colonial rule, Edmund Ho was elected the first Chief Executive of the SAR.

If the nature of the Portuguese Governors ruling of Macao can be characterized as that over a borrowed place on borrowed time, Edmund Ho governed Macao by his pragmatism and with a developmental vision of the SAR based upon social harmony and economic diversification (Lo, 2008). The Chief Executive has great influence over the policy making process as well as strong executive powers, powers that are only constrained by the political framework that has on one side the central government in Beijing, and on the other side the legislative assembly. Having reached the limit of the two consecutive terms, Edmund Ho passed the office to Fernando Chui, who was appointed by Beijing Government in December 2009 as the third-term Chief Executive of Macao.

In the wake of the post-colonial period, Macao has experienced a booming economy. In 2010 the government ended its budget with a surplus of MOP 41.88 billion (USD 5.10 billion), a 22 percent year-on-year

increase. This increment was largely due to the increases in direct taxes from gaming, which represented 82 percent of public revenue (Macau Business, 2011). Macao's Gross Domestic Product (GDP) for the whole year of 2010 increased by 26.2% in real terms, totaling MOP 217.32 billion (USD 26.5 billion); per-capita GDP amounted to MOP 398,071 (USD 48,530). The increase was significant in comparison with 2009 during which the falling gaming revenues and shrinking investments totaled a mere 1.3% increase in real terms (DSEC, 2010).

In December 2009, the visit of President Hu Jintao of the People's Republic of China, emphasized the central government's concern about Macao's over-reliance on casinos, pointing out the need to diversify the economy and utilize a series of measures that have since been adopted to support Macao (Bloomberg, 2009) such as the release from Beijing of five square kilometers of Hengqin Island, a region off Macao's Coloane Island, to be used for joint development by the cities of Zhuhai and Macao.

The recovery of the economy in the post 2009 crisis and the positioning of Macao as gaming destination in the South-East Asia have drawn the attention of international companies and a flow of investments into this industry. In 2009, the foreign direct investment (FDI) in Macao reached MOP 22.12 billion, with the investment in the gaming sector accounting for MOP 15.64 billion, 70.7 percent of total FDI (Macau Daily Times, 2010). According to the 2011 Index of Economic Freedom, the score for Macao is 73.1/100, making its economy the 19th freest in the world and the 5th in South-East Asia. The SAR now seems to be heavily betting for its future on developing infrastructures and becoming a regional tourism and leisure center, with exhibitions, culture and creative industries as the engines of growth (China Daily, 2009). So far, much of investments have been in the gaming sector, but the opening of concessions into the telecommunications market (DSRT, 2011) signals the interest of the Macao government in pursuing economic diversification.

Religious and Cultural Influences

While the style and cultural flavor of the Portuguese heritage can still be seen in Macao, Chinese identity remains strong for the majority of the population. The people in Macao are generally open towards different religious views and rituals. Here diverse religions have been living side by side for centuries, preserving their own creed and avoiding conflict or bloodshed. Jesuits first settled in the region in the 1560s and were followed by Dominicans in the 1580s. Both orders set about constructing churches and schools, the most notable of which was the Jesuit Cathedral of Saint Paul (Cultural China, 2010). The early Jesuit missionaries took particular care to study Chinese cultural achievements and encouraged cultural fusion. At the end of the sixteenth century Matteo Ricci, an Italian priest, started his religious activities in Macao by wearing traditional Chinese monk clothes and calling himself "a Western monk" (Baolin, 1997). In fact, the aim of the Jesuits at this time was not primarily to win converts, but to earn for Christianity an accepted place in China (Chan, 2004). While presenting the western customs to the Chinese, Ricci also worked to introduce the local culture back to Europe. He translated famous Chinese philosophical publications into Latin and other European languages (Jeong, 1997). Substantial cultural exchange was one of Macao's greatest contributions to history made possible due to the mutual respect and tolerance of coexisting cultures. As Ngai noted, many Chinese influential thinkers such as Zheng Guanying, Liang Qichao, Kang Youwei and Sun Yat Sen had access to Western learning through Macao, bringing about great social and political changes in modern China (2007). In the words of the Cultural Affairs Bureau, the historic center of Macao remains today as a "solid testimony of the city's missionary role in the Far East while also reflecting the dissemination of Chinese folk beliefs to the western world" (2010). The Portuguese dominance has been culturally liberal, allowing the local Chinese population to keep their own faith and customs; that explains why Confucianism, Taoism and Buddhism have fused into one other, but still preserve their own characteristics (Baolin, 1997). Macao has a long history of western and Chinese cultural fusion that is reflected into the low levels of segregation that allowed for inter-racial interaction, including inter-racial friendship and intermarriage, at least among similar social classes (Mata, 2007).

An example of the fusion between two cultures can be found in the unique architecture that reflects the urban concept typical of colonial settlements (such as Goa and Malacca) with the Chinese spatial concepts inspired by the principles of *feng-shui*, the two elements representing harmony and balance. Macao can be seen as a small territory characterized by a high degree of tolerance within the community that was able to create a multi-cultural society that coexisted based on mutual respect and harmony. Over the years people of different nationalities came to

Macao bringing their own values, traditions and approach to life and businesses, thus creating locally a mixture of exchange and convergence between cultures. Due to proximity, from a cultural perspective Macao has been frequently associated with China or Hong Kong. However, the key characteristics that reflect the local practices need to be understood within the context of one small territory that is influenced from one side by a strong non-Anglo-Saxon colonial heritage, and from an immigrant flow of Chinese and Hong Kong people on the other. This complexity and interrelation of cultures had great impact on the shaping of typical Macao values, politics and economic development. The uniqueness of the society also reflects, on a micro-level dimension, the easygoing lifestyle and the attitude towards education and career development of Macao people.

The Meso-Societal Level: The Management of Macao Institutional Infrastructure

This section explores some of the key governance and management structures, systems and styles currently operating at the meso-level in Macao, and the kind of economic and political management strategies applied by the post-colonial government to boost the economy.

The Dream Factories

It is difficult to think of Macao without the association of gambling. Today the region has overtaken Las Vegas in gaming revenue to such an extent that the city in Nevada could now be called “the Macao of the West”. Further growth in Macao is predicted of between 17 and 27 percent in 2011 (Macao Daily Times, 2011). In 2010 there were 4,838 gaming tables and 14,316 slot machines available in Macao's 33 casinos (DSEC, 2011), and there are still new entrants building mega-resorts facilities in the recently reclaimed areas between Taipa and Coloane islands. Although illegal in China (Telegraph, 2010), there have always been some forms of gambling such as card games and mahjong, the latter of which is today regarded as a gathering occasion for family and friends. With the decline of Portugal's commercial power, and the rise of the British and Dutch over the major commercial routes, Macao turned to a fishing-based economy. To increase revenues and add another sector to its limited economy, in 1847 the government resorted to legalize the games of fortune (Macao Business, 2009). The casino franchise can be traced back to 1934 when a monopoly concession was granted to the Tai Xing company institutionalizing gambling as an industry for the first time. The gambling business emerged prominently in 1962 when the government opened the operation of games of fortune to a public bidding process and the “Sociedade de Turismo e Diversoes de Macau, SA” (STDM), a company founded by Stanley Ho and other partners in Hong Kong, was granted exclusive rights to manage all gambling activities in the territory. Although the triads in Macao threatened to endanger his life, in 1962 Ho succeeded in opening his new casino and hotel, while at the same time maintaining the Hong Kong-Macao ferry service (Lo, 2008). Stanley Ho remained the only casino magnate until 2002, when the government ended the STDM's 40 year monopoly and started looking internationally for investors. In the meantime, the transportation infrastructure was modernized with the introduction of a fast hovercraft service on the Hong Kong-Macao route. This had the primary effect of consolidating the casino industry in the region. With the established "Legal Framework for the Operations of Casino Games of Fortune" in 2001, the Macao government opened the gambling market for competition, and the gaming and service industry became the economic driving force of the SAR. Therefore a monopoly that was originally conceived as a means to sustain the declining economy of the territory has today become the major driving force behind it. Today it is evident how the gaming and service industry is entangled in the life and welfare of the local Macao community. Statistics show that the unemployment rate has decreased from 6.7% in January 2000 to 2.7% in January 2011 and that the median salary of the employed population increased from MOP 6,156 (about USD 750) to MOP 12,000 (about USD 1,460) over the same period (DSEC, 2011). If the booming growth has generated wealth and employment opportunities to society, it has also brought a number of drawbacks.

The Impact of the Casino Economy

It has been argued that since the handover, the rapid economic growth and the increase in the number of casinos

have resulted in new employment opportunities. But gaming and related industries have their advantages and drawbacks. The first and most evident influence on society can be linked to the rise of organized crime and illegal immigration. When in the mid-80s Stanley Ho decided to contract out the management of his VIP rooms to external bidders, triads such as the 14K gang saw the opportunity to infiltrate casinos operations, and loan-sharking proliferated in a context of violence, illegality and power that grew outside the STDM and government control (Lo, 2008) until 1998 with the arrest of the 14K leader. Today illegal activities take other and less obvious forms. As Chinese law forbids its citizens from taking more than RMB 20,000 over the border, wealthy Chinese deal with organizations in the mainland widely believed to be controlled by triad gangs (Collinson, 2011). Once in Macao such organizations give back to the gamblers the money received in China and extend their credit upon payment of commission. Another negative impact from the rapid development process can be found in the practice of several companies exploiting illegal foreign workers whose salaries are much lower than the local workforce. The building sector is notable for this practice which undertakes to supplement the inadequate local labor supply.

The development of Macao has profoundly altered the composition of society. Today the economy of Macao is fueled by the increasing number of visitors that every year sets new records. With the vast majority of visitors from Mainland China and Hong Kong, in 2010 the total arrivals were 24.96 million (DSEC, 2011), a number more than double the 11.53 million visitors registered in 2002 (Macao Business Guide, 2004). Immigration, particularly from mainland China, has also been boosted by the availability of work opportunities. The number of legal non-residential workers jumped from 25,377 in January 2002 to 77,903 in January 2011 (DSEC, 2011, approximately 1/5th of the total labor force). The number of jobs available in casinos has attracted many young people to work for salaries that commonly exceed those of the other sectors. For instance, in 2010 the median monthly wage in the casino sector was recorded at MOP 12,000 (USD 1,460) against MOP 6,000 (USD 730) in manufacturing and MOP 7,000 (USD 850) in hospitality (DSEC, 2011). One of the direct consequences is that many young workers forgo further education for the prospect of immediate returns in the form of relatively high paying jobs. The figures in the 2006 census showed that among the residents 20.9% had no schooling or did not complete primary school, 46.6% had junior secondary education or below, 21.2% had senior secondary education and 11.2% had post-secondary education. These numbers reflect a drop in primary education by 11.6% and a slight increase in junior, senior secondary and tertiary education of 2.2, 5.6 and 3.8 percentage points respectively over 2001 figures (2006). In spite of the increase in higher education, numbers in Macao are low compared to higher income regions such as Hong Kong, where in 2009 secondary education accounted for 52.1% and post-secondary education accounted for 25.7% of the population (Census and Statistics Department, 2011).

Another critical impact on society can be identified in the imbalance of income distribution. The prospects of employment opportunities did not bring well-being to all the people of Macao, especially to those outside the casino industry. Many locals are suffering from an increase in poverty with the rising inflation pushing up consumables and real estate prices. With the context of a year-on-year increase of 4.70% registered for the month of February 2011, 2008 was noteworthy when the Consumer Price Index (CPI) for February rose by 9.47% over February 2007, with the substantial change of +17.44% in the prices of food & beverages and +14.70% in housing (DSEC, 2011). Under these circumstances local workers have started raising their voices and pressuring the government for new housing units and a clear policy to protect local labor against the exploitation of foreign illegal workers. Symbolic are the episodes that culminated in the labor-police May 1st confrontation in 2007 which pointed out the gap between public expectations and government capacity to implement effective policy (Lo, 2008). In an effort to address the raising concerns of the population, the government launched a so-called Wealth Partaking Scheme in 2008 - a program aimed at easing cost of living pressures of Macao residents and redistributing the wealth of the SAR. Although only intended as a short-term measure, every Macao resident is entitled to receive a cash premium. In 2011 permanent residents received MOP 4,000 in a scheme that was estimated to cost the administration MOP 2.34 billion, 2.9% of the SAR budget (Xinhua News, 2011). In addition, despite the limited availability of land, the SAR is undertaking a major construction program to build 7000 new subsidized housing units by 2012, and has also introduced a subsidy ranging from MOP 750 to 1,100 to support qualified families (Macao News, 2011). While attempts by the government to attain economic growth and address the concerns of the population are visible today, in the colonial era the gap between the rulers and citizens was great. In this context emerged the roles played by three influential families and a number of interest groups and organizations.

The three “big families”

It is widely regarded among locals that the growth of Macao could not have happened without the *Ho, Ma* and *Chui* “big families”, as they are colloquially referred to, and their interests in the economic and political life of the city. United by the concern about the community and political life of the city, these families developed their business activities in different areas: the Ho family in finance and banking, the Ma family in industry and commerce, and the Chui family in the building sector. Ho Yin (1908-1983) was an important businessman and politician in Macao. His entrepreneurial activity included the establishment of the local public transportation company “Transmac”, and the Tai Fung money exchange that later became Tai Fung Bank. He was a member of the assembly and a nominated Governor in two legislatures. Ma Man Kei, born in 1919, is currently the chairman of Macao Chinese General Chamber of Commerce, and contributed to closer economic and trade cooperation between Macao and the mainland. Chui Tak Kei (1912 – 2007) was one of the founders of the Macau Construction Association and one of the leading figures of the Chinese Chamber of Commerce. The influence of the three families in Macao is distinguished by the strong connections with the Chinese government, the Macao government, and the community that regards them as philanthropists. One particular event in 1966, known as the “12.3 event” saw the three families cooperating together. Following from a dispute regarding the extension works of a local school, the Portuguese government arrested several dissidents, and, due to the vehement social reaction to those arrests, was forced to impose the state of Martial Law. On that occasion Ho Yin and Ma Man Kei mediated with the Portuguese for the release of those arrested, while Chui Tak Kei assisted with the bail payment (Hudong, 2011) With the establishment of the SAR, members of these families have all gained political status within the administration of the territory. In 1999 Edmund Ho was elected as the first Chief Executive of the Macao SAR and, after two consecutive terms, in 2009 was succeeded by Fernando Chui.

Interest groups and “Black Societies”

The history of Macao is characterized by a multitude of groups that represent specific interests in the population. The major interest groups can be classified into three types: business organizations, labor unions, and neighborhood groups. The most significant interest group is the Chinese General Chamber of Commerce (CGCC), whose leader by convention has a seat in the legislature (Chou, 2005). Chinese businessmen by virtue of these associations are politically influential. Two important interest groups that represent the working class are the Federation of Labor Unions, which include the unions of the most important sectors in Macao, and the Neighborhood Associations (*kai fong*). The *kai fong* originated from the spontaneous gathering of the residents in districts, in a society where the communication gap between the colonial rulers and citizens was large (Lo, 2008). As Chou (2005) remarks, the uniqueness of Macao’s interest groups lies in their role as the authorities’ executive arms in social service delivery, as they took the initiative to provide medical services, relief and education, to maintain hygienic living conditions and social order in the neighborhoods. The large number of associations that exist today in Macao (4,000) (Wang, 2010), not only reflect the freedom of affiliation guaranteed by the “basic law” (article 27), but also contribute to the development of the society as a whole. But while interest groups were active serving the community, another type of organization was operating underground. Before the return to mainland China, triad conflicts have been part of Macao history for centuries (Time, 1998) and of great concern for the Government in Beijing. Referred to as “black societies” among the local population, triads are family-run organized crime gangs that were involved in a range of activities which included drug trafficking, illegal gambling, usury, protection rackets and night club management. Very few political or economic decisions were made without the influence of this underground network (World Trade Press, 2010). In the late 1930s among a population of about 180,000 inhabitants, there were already more than 10 triads (China news, 2001). In the 1990s, there were three main triads: 14K, Shui Fong (Water Room) and Wo Shing Yee (Peace Victory Brotherhood) and several smaller ones that divided criminal activities among themselves. “Broken Tooth” Wan Kuok Koi, leader of the 14K triad, was considered to be the most powerful figure in the fight for the control over Macao's crime before the PRC took over the territory (China news, 2001). In 1998 Wan Kuok Koi was arrested, and the following year other members of the triad apprehended. Since then, Macao was able to clean up its image which had been reminiscent of gangland killing in Chicago in the 1920s (Hays, 2008) and

repositioned itself as a safe leisure destination.

The Micro-Organizational Level: Critical Traditional, Transitional and Transformational Issues in Macao Management

Organizational Culture

The cultural value system in Macao has been heavily influenced by Buddhism and Confucianism. As in many Asian countries, Macao's type of culture tends to be consensual and group-oriented, with emphasis on conflict avoidance and long-lasting relationships. Lam (2008) noted that for a foreigner taking up a new supervision position in Macao, there is a tendency to judge employees, customers or business partners based on his or her own cultural values, a tendency that can lead to management disaster. One source of conflict can be identified in the high-contextuality of the Chinese culture. Hall (1976) defined high-context as a communication or message in which most of the information is already in the person, while very little is in the coded, explicit, transmitted part of the message. As a result, the message itself carries less information and people do not openly say what they want to convey as the primary goal is to preserve and strengthen relationships by saving face and ensuring harmony. Another source of conflict is represented by the high-power distance dimension, which has important implications in workplace. Hofstede (2009) defined power-distance as the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally. In the Macao context Lam (2009) noted that Chinese employees are more willing to accept managerial authority and often try to avoid open confrontation with their superiors or peers. The role of trust is important and group harmony and relationships are stressed. Although this is sometimes used by Chinese managers to control their subordinates, the loss of face or shame (such as through open criticism) in the workplace is to be avoided (Lam, 2008). With the opening of gambling concessions to foreign operators and the expanding tourism sector, Macao is increasingly experiencing western corporate culture and management styles. Cheng and Lee have noted that the employment opportunities in the gambling industry have attracted large numbers of foreign workers and professionals to satisfy labor shortages at all levels (2008). The management styles of this immigrant workforce may influence and bring new changes and challenges to the workplace.

The Structure of Production

Macao is a mini-economy mostly surrounded by the sea and with few natural resources. At the beginning of this century, fishing was the largest form of production in Macao. In the 40s there were over 20,000 fishermen and 2,300 fishing boats (Ieong, 1997) and some other industries complementary to the fishing sector. In the 60s, with the granting of the gambling concession to a monopoly operator STDM, gambling in Macao became the pillar of the economy and enabled the government to upgrade public infrastructure. The 70s were dominated by the process of industrialization based on low-technology and labor-intensive industries. The role of Hong Kong was crucial as the majority of the investment came from factories which transferred some of their productive capacity to Macao where costs were lower (Hook, 2002). Major forms of production were garments, toys, furniture, leather products and shoes. However, the growth rate slowed down after 1987 when the rising costs of production, especially labor costs, forced many industries to relocate to the mainland to maintain competitiveness with South-East Asian manufacturers (Ieong, 1997). Consequently, textile and garment manufacturing, once mainstays of the Macao economy, have virtually vanished and efforts to diversify the economy have had limited success (US Department of State, 2011). To replace the manufacturing industry, the real estate sector emerged in the early 90s, but the intense speculation fueled by capital from mainland China and Hong Kong led to a structural crisis causing a major recession in 1994 (Hook, 2002). Macao has transformed itself over the past three decades from a manufacturing-based economy to one that is now dominated by the services sector. The economic transition was rapid but not smooth, which is reflected in the skills and capability of the current workforce.

SMEs and Management Style

Macao is a typical micro-economy. Enterprises are mostly Small and Medium-sized Enterprises (SME) and are often referred to the backbone of Macao's economy, providing a significant source of job opportunities. Chinese people have always occupied the majority position in Macao, and Chinese culture has become dominant in small and medium business activities. In Macao SMEs are dominated by family-type enterprises. Wang (2010) noted that in Macao an important characteristic of family enterprises is patriarchal succession; a deep-rooted concept that extends to property, official posts and honor. He also commented that the first generation of Chinese entrepreneurs was not well-educated but nowadays they attach great importance to the education of their children in the prospect of a better development for the family business. In contrast to the young generation of people that is leaving school to pursue an "easy" career in the casino industry, the first generation of entrepreneurs relied on hard work, and achieved today's success through step by step accumulation (Wang, 2010). It has been discussed how over the years people in Macao have set up various associations representing the business or social interests of the associates. Those interest groups very well served the local entrepreneurs in establishing and strengthening business relationships. In the Chinese society "relationships" are important, and businessmen in Macao attach great importance to establishment and expansion of their circles of relationships in order to create more opportunities for their companies (Wang, 2010). According to Confucian practice integrity of conduct brings more business which is a central value in business ethics. Wang's research has shown that although nowadays many Chinese entrepreneurs in Macao have gradually established a "legal sense" for resolution of conflict, local entrepreneurs still value the traditional norm that "a promise must be kept" when there is a contract dispute (2010).

Critical Managerial Challenges

One of the critical issues for Macao is the development of local human resources. Statistics indicate that in January 2011 Macao had an estimated total labor force of 332,000 people, but as MacDonald and Eadington (2006) have observed, severe strain has been placed on the local workforce with the rapid expansion of gaming in Macao. It has been estimated that today a large part of the labor force consists of less-educated immigrants who came from mainland China mainly in the 70s and 80s. This was beneficial at that time owing to the shortage of labor in the manufacturing industry (Jeong, 1997) but the consequences today can be seen in the inability of institutions to re-train those workers to operate in a service-driven economy. Currently there are many former manufacturing workers that are employed in casinos as dealers, a function that is commonly regarded as a low-skilled job. The clear a gap in terms of training forced the casino operators and the Government to offer the manufacturing workers training in hotel and gaming service (Macau Daily Times, 2010). The entry-level service industry in Macao is characterized by the import of many foreign workers, notably Filipinos, Malaysians and Vietnamese, who can speak much better English than the local workers (Lo, 2008). They are also more service-minded in comparison to local employees.

The difficulties for companies to attract and retain trained employees when new casinos are opening often results in salary increases and, in turn, inflationary pressure. It is commonly known that the opening of new establishments requires thousands of workers, and this has the effect of pushing average salaries upwards due to the forces of competition within the industry to acquire and retain skilled manpower. However the vast majority of vacancies in casinos and the service industry are low-skill jobs that can be covered by secondary diploma holders or below. A fresh high-school graduate can easily become a dealer in a casino, a position that is restricted to the local workforce, and earn over MOP 13,000 as a starting salary without the need to pursue further studies that cannot guarantee a comparable pay after graduation. But if low-skilled labor is a scarce resource that companies need to deal with in Macao, to recruit experienced and seasoned senior management becomes a real challenge. Many operators are finding it difficult to attract quality management from abroad. As Macao had a casino monopoly until 2003, it never developed an experienced and forward-thinking management cadre (Kale, 2006), and Macao people have not yet been trained in sufficient numbers to fill those positions that are still controlled by expatriates coming from the US, Hong Kong and Australia. To compound the issue, there is the tightly controlled government policy regarding immigrant labor that limits the ability to hire foreign personnel. The SAR government will be under pressure to solve this situation and reconcile the need for labor with the demands of the local workforce without

creating an inflow of lowly paid foreign labor from across its borders.

Conclusion

Macao has experienced for over four hundred years the exchange of different cultures, and since the return of administrative rights from Portugal to the People's Republic of China on December 1999, it has become the most vibrant casino city in the world. By making use of the Chatterjee and Nankervis' convergent and divergent process model for management, this paper explored how global, regional, and local forces have impacted on the economic development process of Macao. In particular it identified the forces of Portuguese heritage and the unique blend of socio-cultural factors that have shaped the Macao of today and created a multicultural society with specific traits. From historical facts we can reason that the fundamental driving force of the Macao's periods of economic prosperity have originated from the interests of foreigners in exploiting its resources. When the Portuguese first settled here, due to the favorable location, the region flourished as an international trading center. Later, with the rise of Hong Kong as major port, the Portuguese turned to legalized gambling to find alternative sources of revenue. Entrepreneurs from Hong Kong initiated the fortune of Macao as a gambling destination and were responsible for the process of industrialization in the tiny effort to diversify the economy. Families from mainland China here started businesses and become more and more involved in the administration of the territory. Foreigners were also employed in the companies that started operations in Macao after the gambling market was open for competition. But most notable is the interest of the millions of visitors that every year cross Macao's borders and direct a stream of cash into casino establishments, local enterprises and, in turn, the government's account. In this picture the interests from mainland China play the major role in the future economic development of Macao. After the handover, the government in Beijing has supported the local administration by controlling the flow of mainland Chinese visiting Macao and has granted land for Macao's future expansion and offers words of advice regarding the importance of economic diversification. The truth is that the expansion of the gaming market in the territory has been spectacular since the liberalization of the industry in 2002; a market that today is the pillar of the economy and contributes the majority of government revenue. When the Portuguese first settled here, they could not imagine the proportions that gambling would have reached today.

Regardless of the abundance of opportunities to pursue, there are several challenges that the government needs to address such as the widening gap between the rich and the poor, the lack of jobs for unskilled workers and the stress of a rising inflation on low-income families; challenges that have generated much discussion and concern among the population in recent years. The government has adopted an interventionist approach to tackle these social issues. The introduction of a wealth partaking scheme is an example of postponement of social unease rather than a plan for an effective and long-lasting solution. Therein lies the challenge for the legislators to operate in a framework that has to develop the economy but also take into consideration the needs of the population. Critical issues for Macao are the lack of a qualified workforce and the development of local human resources. The government should begin to view the gaming industry as the catalyst for other types of economic activities, instead of an end in itself. Consequently, there needs to be a planning and design agenda for Macao to create the conditions where entrepreneurs can explore and pursue new opportunities in different industries, and gaming revenue could be used to develop directly or indirectly Macao's infrastructure and other forms of economic development including education and welfare. Finally, Macao should develop close relationships with cities in the region to leverage complementary strengths, and show that a small territory can not only combine casino growth with historical heritage, but also become a driving force of the economic development in South-East Asia.

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The drivers of Corporate Social Responsibility in the supply chain. A case study

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Abstract

Purpose: The paper studies the way in which a SME integrates CSR into its corporate strategy, the practices it puts in place and how its CSR strategies reflect on its suppliers and customers relations.

Methodology/Research limitations: A qualitative case study methodology is used. The use of a single case study limits the generalizing capacity of these findings.

Findings: The entrepreneur's ethical beliefs and value system play a fundamental role in shaping sustainable corporate strategy. Furthermore, the type of competitive strategy selected based on innovation, quality and responsibility clearly emerges both in terms of well defined management procedures and supply chain relations as a whole aimed at involving partners in the process of sustainable innovation.

Originality/value: The paper presents a SME that has devised an original innovative business model. The study pivots on the issues of innovation and eco-sustainability in a context of drivers for CRS and business ethics. These values are considered fundamental at International level; the United Nations has declared 2011 the "International Year of Forestry".

Key words: Corporate Social Responsibility, Sustainable Supply Chain, Case study.

Introduction

The Italian market of pallet production (service industry for logistics - moving, storing and transport of goods) is a sector comprising small and medium size firms collocated mainly in the North of Italy (Brenda *et al.*, 2008). Italy is the second largest manufacturer of packaging and wood pallets in Europe despite not having an adequate forestry policy. This obliges national firms to import raw materials from abroad with evident repercussions in terms of costs and higher rates of Co2 emissions in the atmosphere. Furthermore, fierce competition in terms of costs has pushed many firms to de-locate their business to low cost Countries where the environment and social agenda is just developing. Sector profitability is also threatened by the parallel market which characterized by irresponsibility on the part of some components, is resulting in inefficiency throughout the whole supply chain and inevitably, the cost is loaded onto the end consumer. In other words, despite the EUR EPAL (European Pallet Association) system, on paper a "closed circuit system", high value cost losses are recorded in terms of pallets circulating in the system (i.e. not the result of breakage or damage but on the contrary, losses or no returns) consequently, there a general increase in the administrative costs for the firms involved (Dallari & Marchet, 2010). The absence of collaboration is evident among the various stakeholders concerned who tend to place responsibility on weaker subjects who in effect, are obliged to conduct business unethically, that ends up by enriching the parallel pallet market. Firms seem to privilege processes that temporarily resolve the problem of losses as opposed to devising solutions for the supply chain as such which would eliminate inefficiency and improve the system. Naturally the result is higher management costs the negative effects of which have a domino effect on all the stakeholders of the supply chain (manufacturers, the firms that use the pallets i.e. Large Scale Distribution LSD, and logistic and repairs operators). In other words, everyone pays more by virtue of pallets leaving the conventional circuit. Finally, repercussions in terms of environmental impact deriving from the use of pallets are evident. Use implies waste (and consequently pollutants) from the transport and movement of goods, as well as from primary and secondary packaging such as cardboard, plastic boxes etc. (Marien, 1998, Bernon *et al.*, 2007).

The outcome is competition based on costs and bereft of any guarantee of the product conforming to minimum standards of quality or to a compliance model in management of the supply chain.

However, the evolution of the concept of quality towards features linked to natural factors, impact on health and the environment and not least, the social consequences of action on the part of firms have led to an alternative model emerging of competition based on values, where the emphasis on quality and sustainability is predominant both anterior to the manufacturing process and in terms of relational outcomes relative to the supply chain. In other words, in the face of a general trend towards quality as a factor of differentiation, the effective management of supply chain relations based on cooperation and transparency, represents an effective opportunity for improvement. On the basis of this premise, the paper intends to analyze how a SME operating in the pallets market, integrates CSR into its strategies, the practices it adopts and how they are transferred to the supply chain.

The basic hypothesis is that a culture oriented towards the voluntary integration of social and environmental objectives into business strategies (Perrini & Tencati, 2008) shared and part of all the members of the organization, facilitates the coordination of activities and relations both in the firm and along the supply chain, in that it represents the sap of integrity and shared loyalty and transparency capable of encouraging virtuous and synergic conduct which contributes to the creation of sustainable value. As a result, the vision of an integrated supply chain (Christopher, 1998; Walters & Lancaster, 1999; 2000) emerges, involving essentially external operators, clients or suppliers, all of whom contribute to the creation of sustainable value. In order to intensify commitment in terms of social responsibility, firms require that all the partners in the supply chain act in a socially responsible way (Miles & Munilla, 2004). The economic, social and environmental advantages deriving from firms adopting responsible behaviour surpass in effect, the range of action of any individual firm. CSR is no longer the individual company's domain; increasingly, it encompasses the entire supply chain.

Literature review:

CSR in SMEs

Corporate Social Responsibility (CSR), broadly defined as the extent to which firms voluntarily integrate social and environmental concerns into their ongoing operations and interaction with stakeholders, is becoming an important issue as both researchers and managers are well aware.

Although CSR is a well-established concept, there is no general consensus on the meaning of CSR in practice (Roberts, 2003). According to some scholars (Hill *et al.* 2003), an exact definition of CSR is elusive because beliefs and attitudes about the nature of the relationship between business and society fluctuate with the relevant issues of contingency. (Hill, 2003). Besides, company diversity in size, products, profitability, resources, social and environmental impacts. etc., are factors that make the study of CSR complex and multidimensional.

While the size of firms affects the use of CSR instruments of communication, albeit not in a structured and documented way (sunken CSR - Perrini *et al.*, 2006) a "knowledge gap" also exists (Grayson, 2005). Consequently, socially oriented behaviors of SMEs are not designed and described as "CSR action" nor classified in a specific context of CSR (Morsing, 2006; Nielsen & Thomsen, 2006). Furthermore, a different perspective is needed compared to the conventional theories, which take into account the specificities of SMEs (Spence, 1999; Tilley, 2000; Jenkins, 2004). The increased use of formal strategies and communication tools by large businesses should not lead us to underestimate the importance of informal management approaches relative to CSR used in SMEs (Luetkenhorst, 2004) and consider CSR a prerogative merely of the former (Kvåle & Olsen, 2006). "There are basic CSR issues that all SMEs have a responsibility for, amongst them the creation of a good working environment where diversity is encouraged, the fair distribution of wealth in a community, and the protection of the environment. SMEs are often portrayed badly in relation to such basic responsibilities and are frequently seen as a problem within the CSR debate" (Jenkins, 2006:3).

Thus, although the prevailing view that considers SMEs a "minor" protagonist with respect to CSR in the global arena, from an empirical perspective (Vyakarnam *et al.*, 1997, Spence, 1999; Spence & Lozano 2000; Jeurissen & Rutherford, 2000; Spence & Rutherford, 2003; Zonin *et al.*, 2004; Longo & Mura, 2005; Minoja & Romano, 2006; Mandl, 2006, Perrini & Minoja, 2008) signs that attest to sustained social and competitive creativity and Special issues of Business Ethics: a European Review (2009) are specifically addressed to CSR in SMEs.

On the whole, recent research on CSR at the SME level suggests that the drivers, outcomes and rationales underlying the adoption of socially responsible behaviour in SMEs differ significantly from what research has revealed about large enterprises (Spence & Rutherford, 2003:4).

Specific features of SMEs imply: on the one hand the centrality of ethical guidance and entrepreneur values (Vyakarnam *et al.*, 1997; Jenkins, 2006); on the other hand, the importance emerges of particular approaches to CSR, focusing on the participation of SMEs in networks (Baldarelli, 2007) and districts (Molteni *et al.*, 2006; Fugazza *et al.*, 2006, Battaglia *et al.*, 2006). For the entrepreneur the pervasiveness of ethical evaluations in business problems is fundamental, as well as assessments of the inferences in the acts of ethical choice. "In SMEs the owner-manager is both the driver and implementer of values. Managers exhibit their personal values through the exercise of managerial discretion and SMEs owner-managers have the autonomy to exercise such discretion" (Hemingway & Maclagan, 2004).

The scale of business purposes (Sciarelli, 2007) mainly refers to the entrepreneur owner, for which the link between personal and business success is closer and more visible than is realized in the context of entrepreneurship and property delegated widespread and takes the form of ethical and responsible behavior regardless of the outcome.

In this context, the first issue is the sense of belonging on the part of the entrepreneur and his being part of a community which acts as a springboard for the creation of a platform for sustainable development. Secondly, the paths based on collaboration between SMEs and institutional, local and national, public and private (local authorities, chambers of commerce, universities, research centers and training, professional and trade associations, non-profit, banks) are fundamental to the implementation of strategies and policies to draw on CSR (Spence & Schmidpeter, 2003; Lepoutre, 2006; Orskov, 2006; Maass, 2006). Finally, a third issue linked to the others, concerns the contribution of CSR in terms of increasing the social capital of SMEs (Spence *et al.*, 2003; Perrini, 2006) and participation in building the common weal in the context of the territory (Del Baldo, 2010).

Other factors typical of SMEs are: independence, versatility, prevalence of interpersonal relations (Spence, 1999). In small businesses, the transmission of values together with the streamlined organizational structure are typical of a context in which the dissemination of ethical principles occurs through the selection of human resources often with an innate ability to identify ethical dilemmas and capable of assessing the sustainability of ethical decision making rather than balancing the interests of the company concerned.

However, a knowledge gap still persists: in fact, the processes underlying the adoption of responsible managerial practices and the effects associated with them are still at the centre of intense debate; in other words, how to integrate CSR into corporate strategy remains an open question and empirical evidence is lacking (Perrini & Minoja, 2008).

All this suggests the need for further research in order to better understand the extent to which existing theoretical and empirical perspectives apply in a such a specific, still largely unexplored context represented by SMEs and family-owned firms.

CSR in supply chain

The analysis of the literature on studies of processes and practices of Supply Chain Management (SCM) (Burgess *et al.*, 2006, Li *et al.*, 2005; Robinson & Malhotra, 2005) addresses attention to the growing issue of managing relationships across the supply chain.

The increasing difficulties involved in managing networks of production and global supply, the need to propose offers consistent with and able to incorporate the knowledge of the needs and requirements of end users and related investments, have led to innovative research models aimed at enhancing relations through the joint production of value.

The relational dynamics between customers and suppliers are considered synergies to mobilize resources and organizational capacities. They create value and meet the expectations that each actor places in such collaboration. The analysis of literature, therefore, implies the need to focus on the benefits of maintaining long-term supply relationships through the development of strategic supplier partnerships, the importance of the relationship management chain for customer satisfaction and the need to measure results and performance through key performance indicators (KPI) that go well beyond those related to lower costs (Shepherd *et al.*, 2005). These studies are based on the analysis of flows and communication processes at different stages of the production chain (i.e. plan,

source, make & deliver), on the classification of different types of information exchanged between the components of supply chain practices, timing, the minimization of waste, the search for conformity between specific processes and performance measurement. On the whole, studies tend to emphasize the complexity and multidimensionality inherent in supply chain management and the benefits associated with collaboration and transparency in the setting of objectives, strategies and market mechanisms, not to mention the joint management of innovation processes and evaluation and wide range performance. There is a tendency to enhance the processes underlying the supply chain and the relative interpersonal relations. In fact, the capacity to establish close and long-term relationships with suppliers and other strategic partners has become a crucial factor in creating social value and competitive advantage; management attention has moved from competition between firms to competition between supply chains (Christopher, 2005).

The company is at the center of a system of a multi-tier relations (suppliers at the first, second,, n level and customers at the first, second, ..., n level). A strategic process of defining the essence of SCM is based on the cooperation of all actors involved in the supply chain, thus maximizing customer value as greater profitability can be achieved only through a network approach. The upstream and downstream network of relationships envisages the direct engagement of the company, while the global network including suppliers and customers involves the indirect relational system of supply chain enterprise (Slack & Lewis, 2007). In this perspective, SCM has to optimize and build links and coordination between all the actors who make up the relational supply network. According to Christopher, SCM is “the management of relationships across complex networks of companies that whilst legally independent are in reality interdependent. Successful supply chains will be those which are governed by a constant search for win/win solutions based upon mutuality and trust” (Christopher, 1998). More recently, Mentzer *et al.* (2001) defined SCM “the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purpose of improving the long-term performance of the individual companies and the supply chain as a whole” (Mentzer *et al.*, 2002, pag.18) and Lambert *et al.*, (2006, pag.2), as, “the integration of key business processes from end-user to original suppliers that provide products, services and information that thus add value for customers and other stakeholders”.

Nevertheless, many business scenarios tend to maintain relationships in a win/lose perspective and encourage individualistic behavior aimed at maximizing the returns in the short-term (IBM, 2009) a model, apparently successful, competitively cost-based, that exploits intensively the advantages of reducing the cost of input, the possibility of de-localization and the construction of global production networks. However, empirical evidence suggests that the best strategy is to approach suppliers through closer and more traditional methods (O'Marah, 2009). Therefore forms of participation-oriented interaction and collaboration are much needed to reinforce intangible assets of knowledge and trust (Vicari, 1995; Ghoshal & Bartlett, 1997; Vicari *et al.*, 2000; Lev, 2001; Castaldo 2002) functional to the sustainability of the relational network. Relations, knowledge and confidence are the foundations upon which the survival of a business, the sharing of values, both upstream and downstream, become prerequisites to ensure adequate capacity to respond to changing needs. Starting with a new awareness and sensibility relative to the effects of production dynamics and socio-economic and environmental balance, the literature over the past decade, has shifted towards consideration of the role and responsibility for businesses of such impacts along the supply chain.

Research on supply chain social responsibility is multidisciplinary in nature and accordingly can be found in both the purchasing, supply chain management, logistics (Andersen & Skjoett-Larsen, 2009; Carter & Jennings, 2002; Walker & Brammer, 2009) and business ethics/CSR (Kolk *et al.*, 2008; Maloni & Brown, 2006; Preuss, 2000; Roberts, 2003) literature as well as in mainstream management (Munson *et al.*, 1999; Liker & Choi, 2004; Wright *et al.*, 2007).

The literature on SMEs mainly privileges a supplier perspective (Arend & Wisner, 2005; Holmlund & Kock, 1996). However, scarce resources, greater attention to safety and product traceability, increased outsourcing of activities to developing countries and low cost countries in Central and Eastern Europe, growing concerns about social and environmental impacts of production and consumption, have all led to a renewed interest in issues related to: reverse logistics, environmental management, both green and sustainable supply chains. Reverse logistics is mainly concerned with “the role of logistics in product returns, source preserving, recycling, alternative materials, reuse of

materials, waste disposal and refurbishing, repair, and re-manufacturing” (Stock, 1998). Reverse supply chains – or closed-loop supply chains – is a term which emphasises that the management of returns cannot be limited to a single entity in the supply chain, but has to encompass the entire supply chain from end customers and back to the original suppliers of raw materials. The concepts of green and sustainable supply chains take on a more holistic systems perspective relative to the total environmental impact of the supply chain on resources and the ecological footprint (Van Hoek, 1999; Sarkis, 2003; Bowen *et al.*, 2001; Preuss, 2005). Greening initiatives include proactive “design for disassembly”, “design for re-manufacturing”, use of sustainable raw materials (e.g. recoverable wood and recycled materials), use of recoverable energy resources (solar energy, wind and wave energy), use of environmentally friendly transport modes (e.g. trains instead of trucks or airfreight), and a focus on high capacity utilization of transport modes and production facilities. In short, research shows that environmental projects will inevitably lead to successful systems offering better quality, increased performance and enhanced manufacturing capabilities to create value by reducing waste and building a reputation as a reliable relational partner (Carter & Dresner, 2001). Clearly, companies interested in production value, based on the integration of voluntary social and environmental standards higher than those required by law, tend to prefer chains based on safety, traceability, and strong partnerships with stakeholders, from suppliers to distributors to end customers. However, the analysis remains mainly theoretical and often focused on the producer-supplier dyad (Perrini *et al.*, 2010).

Research objectives and methodology

Our research was based on an in-depth analysis of the relationship between CSR and supply chains.

The paper aimed to answer the following research questions:

- How is CSR integrated into corporate strategy?
- How are CSR practices implemented and managed in a company?
- How is CSR related to supply chains?
- What are the driving forces behind the development of CSR in supply chains?
- What are the most relevant contingency factors in relation to CSR practices in supply chains?

To this end, the research was developed using a qualitative approach and a case study methodology (Yin, 1994, 2003; Fayolle, 2004). The fieldwork approach, as suggested in the literature (Adams, 2002) has the dual aim of "grasping in detail the main characteristics of phenomena being studied" and understanding the dynamics of a given process (Ryan *et al.*, 2002). The methodology – the development of a case study - represents a "research strategy that focuses on understanding the dynamics that characterize specific contexts" (Eisenhardt, 1989, p. 532). Case studies address the research questions with an emphasis on qualitative approaches and forms of ongoing research (action research) and enable the description, explanation and comprehension of business scenarios in their dynamics and evolution.

Based on a non-probabilistic technique – a technique used in case studies (Neuman, 2000) - and opting for a purposive case (i.e. the presence of particular elements and content information - Saunders *et al.*, 2003) a specific case, Palm SpA, was chosen on the basis of the following criteria:

- several years of experience of working systematically with CSR in supply chains;
- a medium-sized firm;
- a brand-owner;
- the supply system is rated as high environmental impact.

With regard to the first criterion, Palm is generally recognized as one of the most proactive companies in this specific field in Italy (Santini, 2006; Bertoli, 2008). Regarding criterion two, several empirical studies have been made to investigate how firms work with CSR-related issues in their supply chains (e.g. Carter & Jennings, 2002; Welford, 2005). Most of these studies are not only confined to large multinational corporations, but also include SMEs. Consequently, it could be argued that a growing number of SMEs “walk the talk” of CSR in their supply chains. As a brand-owner, Palm is especially vulnerable to negative publicity relative to social or environmental conditions in its supply chain. In fact, it works in an industry (wood), characterized by high critical mass in terms of social and environmental impacts. Palm may be seen as a front-runner company within the field of CSR in supply

chains in an Italian context. At the same time, it is a family-owned company of second generation and as such, not accountable to shareholders.

Thus, it may be characterized as a “unique” or “extreme” case (Eisenhardt, 1989; Pettigrew 1990). Extreme cases facilitate theory-building because, by being unusual, they can illuminate both the unusual and the typical (Patton 2002). In other words, in extreme cases, the dynamics being examined tend to be more visible than they might be in other contexts. In this sense, the history and standing that characterize Palm SpA afforded an interesting opportunity to study CSR-related processes in the supply chain.

Data collection

In line with Eisenhardt's suggestions, we combined different methods of data collection, in that ‘triangulation made possible by multiple data collection methods provides stronger substantiation of constructs and hypotheses’ (1989: 538), not only in hypothesis testing but also in theory-building research (Glaser & Strauss 1967, Yin 2003).

The analysis presented below is based on the collection of qualitative and quantitative information obtained in the course of several interviews with the entrepreneurial team conducted on the basis of semi-structured questionnaires, direct observation during visits, analysis of documents (content analysis) available on the web (company website) and printed documentary sources such as the Company's Social and Sustainability reports, brochures, educational and promotional materials.

In more detail, the sources of empirical evidence can be divided into the following categories:

Semi-structured interviews: the primary method of data collection involved a total of seven semi-structured interviews with the following organizational members: Chief Executive Officer (CEO), Product Manager - Sustainable R&D, Accreditation System Manager, Supply Chain Manager, Logistics Manager, Human Resources Manager and Head of Management Control, Quality and Safety. The interviews were non-standardized with the dual aim of ensuring high involvement on the part of the respondents and the freedom to provide non prescriptive answers and insights (Kvale, 1996). The timing of interviews ranged from half an hour to two hours, and most were tape-recorded. Whenever this was not possible, detailed field notes were taken. Interviews were based on a list of open-ended questions developed on the basis of the main research questions, such as specific initiatives and relationships with business partners.

Annual reports and other external communication tools: the Corporate code of conduct was analyzed together with the ethics Code and the Social and Environmental Reports. The corporate website, press releases and other documents intended for external communication were also analyzed.

Field observation: the company was visited between September and December 2010 in order to observe day-to-day company life;

Corporate histories and other archival material: archival searches helped track the evolution of Palm over time and at different levels of analysis.

Data analysis

After organizing and preparing the data for analysis, on the basis of grounded theory the coding process proceeded in an iterative manner relative to data and the emerging theoretical categories. Initial codes were generated by identifying statements regarding the informants' perceptions about the meaning of strategic CSR conditions. In parallel, the strategic and management processes underpinning the integrated supply chain were analyzed.

As the initial codes became consolidated across interviews, they were aggregated and moved from open to axial coding. As a general consideration, and given the selected strategy of inquiry, theory was created iteratively from observation and data, but also by comparing emerging ideas with archival data and the existing literature in order to validate the findings and to inform interpretation. The coding was carried out separately by two researchers (Silverman, 2001). A comparative analysis was put in place to discuss and resolve discrepancies. Where these differences could not be resolved easily, clarification was sought from the interviewee.

Findings

The company and its values

Palm SpA is located in a small village in the province of Mantova-North Italy. The core business is designing, manufacturing, sales, recovery and reconditioning of pallets and wood packaging used in the process of handling and transport of materials. At the end of 2010, the company employed 81 employees with an estimated turnover of more than €17 million and a total budget of approximately €13 million. Supplies are targeted at a predominantly domestic market. The sectors addressed are mainly food, ceramics, biomedical, mechanical and instrumental logistics. The company has carved out a leading role in the Italian market in the design and manufacturing of every type of pallet customized or standardized - EUR EPAL (European Pallet Association) UNI 435/2 - used for national and international trade.

The first company was founded in 1960 by Guido Barzoni (father of the present owners) who was actively engaged in the wood industry. In 1980 four brothers of the family, founded Palm. Currently, all eight brothers work in the family firm. They are examples of understanding and harmonious agreement; an evolving scenario of social cohesion and corporate core values. The attention that the company has always addressed to social issues and respect for the environment, is the direct manifestation of Christian ethics in which the family believes. In particular, their reference values are equity, social harmony and safeguarding the environment through unity, respect and care for others, collaboration, mutual support, sacrifice and work for the common weal, love and conception of life as a unique and priceless gift. "The man at the center" is the motto of the CEO Primo Barzoni who states: "In the global economy the real challenges are equity, social harmony, the preservation of the world. We must all take responsibility for the sustainable development of the land so that we, our children and future generations can continue to enjoy our heritage". The human dimension and its enhancement is also confirmed by their creating in 2003, the Non-Profit Coopers & Palm Work Project for entry into employment for disadvantaged people. Palm and the Non-Profit Organization enjoyed fruitful cooperation right from the start: Palm commissioned the service call center, the graphics, printing and binding and web marketing. The CEO says: "This partner has not been selected but is the emblem of our CSR projects. The needs of stakeholders and in this case finding a work environment that allows them personal and professional growth while respecting their "Divers-ability". In 2004, the project received the Sodalitas Award for "Best Corporate Social Responsibility initiative created by SMEs".

Therefore, the responsibility that comes from the heart of the owner family, reflects the value proposition of the company. The CEO says: "The company is actively contributing to sustainable development of the system taking care of land preservation for future generations". In this regard, the 2005-2010 plan has scheduled a social agenda business called "Business on wings" the principle of which is based on interdependence or privileging actions able to create shared value for the company and the network of its stakeholders. The search for excellence and the awareness that the competition based on ideas, knowhow and expertise are summed up in the company's corporate vision: "To develop logistic solutions using environmentally friendly packaging/pallets with a minimum carbon footprint through strategy based on the knowledge economy and Life Cycle Thinking". The guidelines stemming from the corporate vision in explicating the underlying values are reflected in the strategies and policies of the company. Such strategies and policies are aimed at: differentiating their offering in a strategic market for wooden pallets and packaging; classifying the processes research and development, developing stable and cooperative relations with suppliers and customers and, not least, safeguarding the well-being of their employees, community and territory. These aims, emerging from the analysis converging on three main points, are strictly reflected in Palm's CSR strategies.

1) Environmental protection

Environmental protection is embedded in product development strategy and concerns the study and adoption of solutions that minimizes the need for raw materials and energy in production as well as when pallets are used.

The company's clear cut Mission reads: "We at Palm promote Italian excellence in innovation with the eco sustainability and compatibility of our pallets. We aim to become a 100% sustainable company by 2020 to meet the needs of the planet". Considerable investments are made in Research and Development (R&D) to discover new ways to make products that can be recycled and to make processes safer.

In particular, it should be noted that the company (consequently and also the processes of production) is powered by "green" energy from renewable sources (wind, hydro, solar and biomass with an annual saving of 400 tons of CO₂ emissions) thanks to agreements involving a partnership: Aux De La Vallée and Life Gate Energy. In addition, Palm was the first firm to implement eco-compatible production processes and is currently a national leader in the production of wood pallets accredited with FSC-certified (Forest Stewardship Council) and PEFC (Program for Endorsement of Forest Certification Schemes). Eco-design principles, (to optimize weight and packaging volume guarantee a reduction in the use of raw materials and lower environmental impact relative to transport) together with the Life Cycle Assessment (LCA) and the Carbon Footprint (environmental reporting in terms of CO₂) supply chain (ISO 14064) and product (PAS 2050) are summed up in pallets that are eco-friendly and reflect the Palm brand (ISO 14021) an accredited and certified product. The company, in its industrial development, has always been inspired by natural cycles and committed to becoming the reference point for a new way of eco design, to reduce the carbon footprint at every stage of the life cycle of its products while also ensuring traceability and origin. This set of values and knowledge are an integral part of the voluntary certification of FSC and PEFC for good forest management; Palm also adopts the chain of custody, is regularly monitored by third parties: thus cutting and planting are undertaken in respect of biodiversity and indigenous peoples. To complete the design of environmental protection, phyto-sanitary certification conforms to the international standard IPPC FAO ISPM 15 for protecting ecosystems from the proliferation of harmful wood organisms that can result from trade with other countries in the world.

Palm's intent is to achieve a lower environmental impact than from traditional pallets that perform the same function but are unable to respond to new demands of production and consumption, ever more oriented towards sustainable lifestyles. The CEO says: "Our pallet leaves the plant with a brand that guarantees total traceability, visible to the consumer who has the right to ask how the product they are buying is packaged and delivered. Firms have to be transparent and accountable to the consumer".

Sustainability is concretized into specific actions for each stage of the production process. The first is inherent in the development of product design. The design, intended as a focus on the environment on the part of the customer (through the optimized use of raw materials, eco-design) is the hub of the virtuous cycle in which all the processes and company policy are permeated. In addition, the processes of production (based on a general purpose technology) have an intrinsic design "cradle to cradle" production approach using only materials that produce neither short nor long-term waste or waste that is not reusable; encouraging reconditioning consequently, ensures the successful and repeated use of pallets over time. The striving for continuous improvement in eco-sustainability is reflected in several innovative solutions put in place by Palm. In particular, the project developed in collaboration with universities whereby a model for the calculation and management of the Carbon Footprint of the entire Palm chain of which the pallet is part, was designed. The project, which has an entirely innovative character as the experiences of reporting and management of the Carbon Footprint at the level of industry are currently very limited, provides for the involvement of transporters and producers of raw materials PALM through working groups that have enabled common routes and shared actions. The environment variable is therefore a key parameter in the design of products and processes for the lowest possible environmental impact. The CEO says: "The management of Carbon Footprint, as a driver across the organization for the environmental sustainability of our business, leads to the development of a new vision aimed at optimizing resources, with the involvement of all people and organizations working the different levels of the supply chain". Palm received the "Business Environment 2007" award in the "Best Category Management" for the attention given to environmental issues throughout the supply chain.

Another initiative, the project "Pallet KM0" i.e. the status of eco-pallets is achieved by virtue of taking the raw material wood from the local area, in addition the product is also delivered, reused and recycled locally. Through the study of LCA "pallet KM0" Palm has certified a 46% reduction in energy consumption (used in production processes) and 50% of CO₂ emissions (relative to local wood supplies).

Finally, the idea of extending the use of eco-pallet packaging from a mere packaging tool to an item of furniture has led to the development of a second production line called Pallet Design. The waste from cutting and processing, as well as post-consumer waste, is used for the development of systems of furniture and construction developed in two product lines: Legopallet (interior décor); Ortopallet (outdoor furniture). The CEO convincingly states: "creating

low environmental impact stores which to date, have been very successful, is a motive of pride for the territory and a stimulus for involving others in the process towards sustainability”.

2) Enlightened employee policies

The quality and values embodied in the product are closely linked to the quality of employees for whom great attention is paid to increasing their level of satisfaction through: a) economic advantages such as productivity bonuses, gross premiums related to the monitoring of a range of factors such as flexibility, punctuality, work sharing, ability to work in teams, ability to solve specific problems; b) training: over 200 hours of CSR update training and c) soft advantages such as the granting of extra leave/holidays, scholarships for the children of employees, involvement in cultural and artistic events promoted in the territory, in weekly meetings involving across the board all business areas where informal ideas and opinions are exchanged and suggestions and complaints made. The continuing efforts in this area have encouraged the development of high-skills, where innovation is seen as dynamism, or the conviction that a positive state of ferment can bring out talent and know-how thanks to relations based on respect, loyalty, transparency and sharing. Active employees as defined by the CEO of Palm an "intra-preneur" where bottom-up ideas and projects start and where each employee is considered a member of a community. This naturally feeds widespread entrepreneurship motivation and commitment suitably reinforced through enlightened policies.

3) Stakeholder awareness raising

By promoting informational campaigns for national authorities, Palm aims to support policies to encourage the safeguarding of forests and stricter controls aimed at combating the illegal market of pallets. The company, through the involvement of national representative bodies (i.e. Federlegno, Assoimballaggi), has promoted a code of conduct for the industry of pallet producers in order to sustain ethics and integrity. Intensive communication is also addressed to consumers. In this case, the purpose is to raise awareness on issues of environmental preservation and the dangers associated with the improper use of natural resources as well as to guide the choice towards eco-friendly products (food and non food) guaranteed to improve traceability. To this end, Palm is willing to share the costs of marketing campaigns realized in co-operation with its customers. Finally, many events (i.e. conferences, meetings, etc.) are organized directly by the company to educate and raise awareness in school children relative to the importance and respect for natural resources.

Managing supplier relationships

Accredited suppliers are based in North Palm Europe (60%) and Eastern Europe (10%) Italy (30%). Palm is the first company in Europe to promote and to implement a supply chain in which the identification and selection of suppliers is based on compliance with the specifications for the proper sustainable management of forests and forestry programs under the criteria of the FSC and PEFC.

Palm has put in place a strategy of going from “trading to purchasing”. The strategy implies that instead of engaging in short-term relationships with many smaller suppliers, Palm is increasingly engaging in long-term relationships with fewer suppliers. Since Palm puts so much effort into attention to its suppliers, the selection criteria are quite stringent:

- The wood must come from forests that are managed responsibly in accordance with the principles of managed forest (no wood from intact natural forests or high conservation value forests);
- The wood must be worked in factories (sawmills) where social and working conditions are respected and where work processes are achieved through the use of renewable sources. Suppliers are required to provide information on how they minimize their environmental impacts, and whether they have CSR plans for the future;
- The technical requirements of semi-finished products, and enterprise management systems must be certified by organizations through accredited institutions, the suppliers must guarantee not only the origin of wood, but also its identification at every stage of processing (chain of custody);
- Risk Assessment aimed at identifying potential suppliers to adopt sustainable behavior. New suppliers are required to complete a self assessment questionnaire and detailed analysis according to a predetermined weighted analysis of areas of vulnerability. Suppliers are not de-listed as a result of initial non compliance but a program of corrective action is agreed and monitored;

- Suppliers must share the values and business objectives in terms of sustainable development at the basis of the realization of the concept of the product. In other words, this philosophy of environmental sustainability for Palm is not an additional element but must be consistent with the behavioral aspects of providers in order to avoid dangerous situations of "green washing" the effects of which backfire not only on Palm, but also on Palm's customers, on customer accounts, and follow on to the end consumer.

Another main difference between the trading and purchasing strategy is Palm's way of relating to suppliers. Whereas the Company previously demanded a certain level of quality, service, price and environmental and social responsibility of its suppliers, the state of the art is that Palm is now developing these issues together with the suppliers. The purchasing manager says: "our supply chain strategy ensures security of supply and is linked to: foresters, sawmills, logistic operators and customers. Its success is based on efficient, well invested and innovative suppliers and the ability to take a long term view. Collaboration is the key to achieving our goal. Establishing a supply chain involves engaging in every stage of the process from: wood cutting, industrial manufacturing and logistics". Moreover, the company works with suppliers on quality as well as environmental and social issues. In fact, Palm offers formal training to suppliers in order to improve their understanding of the way Palm conducts its business, including its emphasis on environmental and social issues. Palm has developed a code of conduct related to its suppliers. It defines what suppliers can expect from Palm, and what Palm requires from its suppliers. In particular, it envisages a system of supplier management integrated with Palm's management control system to check the reliability of the process. Through periodic forums with suppliers, progress and improvement goals are discussed and joint action plans defined. Furthermore, Palm establishes a direct relationship with suppliers: they are visited by members of the purchasing teams approximately once a week and the implementation process can therefore be followed on a continuous basis. During their visits, the purchasing teams also offer more informal social and environmental training. In a continuous development process aiming to bring local suppliers to still higher levels of performance in cooperation with Palm, the CEO believes that "thanks to systematic collaboration with our partners we have achieved more sustainable practices and transparency and traceability throughout the supply chain".

Palm and local producers

Since 2000, Palm has embarked on a path of integration with suppliers. Strongly opposed to illegal logging, it has actively intervened in the first link in the chain supporting various national forest owners to implement sustainable management of forests, appropriate and consistent with the principles of FSC and PEFC. Numerous sector agreements have been concluded with various municipalities where national Palm is at the service of domestic producers in the thirty years of experience supporting the implementation of the same chain of custody of wood raw material. In addition, through advance payments, Palm also provides the necessary assets to facilitate the certification process (payment at sight/payments total 30%). To date, furthermore, Palm has adopted 1200 national hectares of poplar plantations. The active role played by Palm in the chain of supply, has stimulated the development of local agriculture with obvious benefits in terms of job creation, favoring a reduction of environmental impact from the transport of timber thanks to raw material obtained from areas adjacent to the company and also the avoidance of social costs related to the unfair exploitation of the workforce in low cost countries.

In general, the working relationships that Palm has with suppliers, in a relational logic of transparency, allows better distribution of costs throughout the supply chain, recognition of added value generated in each step of the supply chain, ensuring stability, security and sharing of profits. This choice is confirmed by the low turnover of the suppliers, analyzed over a ten-year period (2000-2010), where the highest rate of decrease evidenced in the period 2004-2005 (14%) stabilized at 5% in subsequent years.

Customer Compliance in reverse logistics

Palm's approach to sustainability involves the logistics and distribution system in a logic of ongoing enhancement of the services provided to clients. A permanent process of innovation has made it possible to develop a logistics system capable of combining efficiency (savings of direct costs); reducing the impact on the environment through green transport (use of bio-based fuels), and at the same time, meeting the needs of customers (i.e. timeliness,

reliability, punctuality, conformity). The transport of pallets is scheduled through a special software based on RFID technology. This streamlines and optimizes loads, reduces the weight/volume of pallets up to 23% and, consequently, by reducing transport, CO2 emissions are limited as well as additional costs for the customer. In addition, the information system ensures the traceability and accountability of each pallet identified by specific codes (bar code and RFID tag). Stock control procedures are also firmly in place. Finally, with the certified maximum pallet load capacity (UNI EN ISO 8611), safety measures (i.e. prevention of accidents) is ensured. In other words, knowing the pallet load capacity enables the logistics staff to safely carry out all the operational phases. Palm's ability to respond to customer needs, developing customized logistics solutions, based on an analysis of the peculiarities inherent in the processes of handling and storing pallets for the customer, has proceeded with the engineering and eco-sustainable industrialization of the product. With the majority of customers, 80% of turnover, is achieved by projects in which the packaging is integrated in the firm's client production cycles. In other words, projects are envisaged in the sense of functional tools to improve the whole supply chain for customers, to identify critical areas and for the creation of highly customized solutions.

In this respect, the CEO says: "The customer represents an active partner in a relationship that contributes to the growth of supply and hence the pattern of consumption and production that follows". The focus on transparency and fairness to the customer are summed up in the Service Charter endorsed by the company where formal commitment to the provision of services in addition to the sale of the pallets is guaranteed.

Besides logistics, Palm's reverse logistics platform (certified by independent accrediting bodies) recovers, reconditions and reuses pallets and disposes of non-reusable pallets. The platform not only cleans and sanitizes the eco-designed pallets used by the pallet company, but the whole park of pallets used by their customers. Even in the case of products in the circuit and returned recyclable pallets, Palm is in a position of accountability to its customers for the CO2 emitted as a result of reprocessing. The recycled pallets, in fact, are certified by ICEA (European Institute for Ethical and Environmental Certification) and reused under a certified label. For this initiative, Palm was awarded the "Sodalitas Social Award" 2010, for the category: "Innovative Products and Services". The project envisaged a label for sustainability, transparency and accountability and the communicating of informed environmental safeguarding relative to the use of the product.

The company through constant awareness and customer commitment, seeks to implement an "endless recycling process" encouraging the implementation of closed loop systems, and favoring an exchange of pallets in real time (in order to prevent vehicles travelling empty). It is obvious in this respect, the role played by customers becomes crucial in facilitating and ensuring the return process. The awareness that this commitment benefits both customer and company as well as the environment, is manifest and that the cornerstones underpinning such commitment are interaction, respect for customers, transparency, communication and information. Moreover, Palm's firm intention to create a closed loop system has resulted in a changed relationship with customers who are now strongly supported also in managerial and operational activities.

An intranet network has also been created to facilitate interaction between Palm, logistic operators and customers. The network envisages constant information flow control in real time, the consultation of reports and other useful documents, frequently asked questions (FAQs), etc.

From an eco-sustainable economic perspective, to date, Palm has recovered and reclaimed about 60% of eco-pallets sold.

A case in point concerns the synergistic and virtuous collaboration with Sterilgarda Foods, its supplier Tetrapak (world leader in the design and manufacture of food containers) and Palm. Through careful monitoring of production processes at Sterilgarda, Palm, collecting and buying up all the used pallets from the Sterilgarda plant, was able to regenerate and sanitize the pallets before reselling them to Tetrapak to put back into circulation for reuse.

The value network

In 2004, Palm promoted the project "Network Business friendly environment" (www.ecofriends.it). As their CEO states: "the scheme originated with the intent to accelerate the creation of a fair and ethical sustainable economy by

devising a relational and social platform for collaboration between firms which have set themselves the remit of responsibility for future generations”.

As an association, the network involves not only stakeholders of the supply chain linked to Palm as suppliers and customers, but aims to join other business scenarios (i.e. Sabox, Tetrapak) which, albeit belonging to completely different sectors, are particularly sensitive towards environmental sustainability issues. The objective therefore, was to pursue sustainable development by means of shared values and best practices. The associates in the network are recognized by the label “Business friendly environment”. Furthermore, they are members of the association of private and public institutes of research (Altis, national universities, etc.) national and international associations engaged in environmental business competition the Planet Life Economy Foundation). Finally in support of the Association, as its scientific research partner, is the international network denominated The Natural Step.

The firms in the network participate in or benefit from training workshops and environmental and sustainability consultancies; furthermore, the network shares information online relative to individual associations through their web site, guaranteeing ethical exchange of data. By consulting www.ecofriends.it the various players in the supply network, as routine practice, circulate and share information, knowhow and expertise developing jointly, new ideas and new knowledge, in order to increase the potential creation of value of the members of the community network. As a result, sequential relations are substituted by widespread reciprocal relations founded on an ethical vision capable of promoting the common weal. The network in effect, has enabled a series of cross-fertilization activities involving not only local firms supplying the national market but also large scale Italian and non-Italian firms supplying international markets (e.g. Mapei, Rolland, Stora Enso).

Discussion and conclusions

The purpose of the paper was to analyse the way in which a specific SME integrates CSR into its corporate strategy, which practices it puts in place and how its CSR strategies reflect on its suppliers and customers relations.

The research also helped to clarify the conditions and preconditions leading to a family-owned SME to embark on a corporate strategy approach to social responsibility.

In particular, responsible corporate strategy appears to be the result of a system of embedded values and beliefs on the part of the owners substantiated in the following features:

1. deep-rooted sense of belonging to the territory in terms of cultural and religious identity, but at the same time, readiness for change;
2. sharing of values and harmony characterizing the team owners;
3. person centric and respect for human rights as universal values, regardless of differences in timescales and space;
4. the values of firm ownership through the identification of clear vision and mission.

This system of values in terms of strategic orientation (Freeman & Gilbert, 1988, Hamel & Prahalad, 1989), converges on a set of issues designed to ensure maximum reliability and safety in relation to environmental protection, dialogue with stakeholders, skill and knowledge development and not least, responsible citizenship.

The historic link with the territory and the desire and determination to preserve a trademark of market value, within a industry in which this element has never been a variable of differentiation, were built and consolidated through a strategy characterized by multiple actions to increase reputation and reliability in the eyes of the firm’s stakeholders. In particular, an approach to product differentiation, based on high standards of quality and sustainability of the offer made through a process of continuous innovation and supported by a system of voluntary certification was made possible thanks to expertise, knowhow and specific human resources skills. The constant attention paid to the care of employees has naturally fuelled motivation and commitment. Furthermore, the company's explicit reference of value, vision and mission on which their corporate strategy is based, has enhanced employee awareness and reciprocal commitment. These resources are valuable and difficult to imitate and transfer (Grant, 2002). Not only do they require huge investments in the industry they also imply incorporated individual experience and learning over a long period of time. In addition, the particular competitive strategy adopted by Palm has demanded a management model that is closely integrated with the supplier and customer. The constant attention to relations, through

appropriate mechanisms for cooperation and coordination and reinforced by appropriate communication tools, has enabled greater sharing of values along the chain, resulting in specific knowledge-transfer processes.

In terms of the company-supplier relationship, the path pursued and integrated through stringent selection criteria and by means of ongoing dialogue, aims at increasing involvement and ensuring greater customer loyalty. In addition, the company organizes regular forums with suppliers, ensuring transparency in their relationships, as a source of enhancement for them not only to share and meet specific demands but also to improve their skills and experience to use in other relational contexts.

In terms of distribution, the value of the proposal bid is further supported through the development of stable and lasting relations based on the social quality of the products, trust and loyalty. The sharing of objectives, the result of highly customized solutions, is pursued through the joint management of issues in environmental, safety and ethical values. Long-lasting collaboration and constant dialogue facilitate the devising of initiatives for ensuring better management of sustainable value creation (i.e. reverse logistics).

Therefore, both upstream as downstream, the company in a strong spirit of commitment seeks to raise the overall level of trust relationships. The awareness of the strength of the network and its capacity as a tool to achieve sustainable development, were the reasons that led Palm to create the Association "Business friendly environment" (www.ecofriends.it). The circuit, powered by open flow of communication and information sharing, facilitates the exchange of ethics and encourages cross-fertilization of data aimed at a better value creation, which in turn, reinforces and increases the level of cooperation, reducing conflict.

Findings from case studies cannot be subject to statistical generalization or theory-testing, but case studies can be used to generate theoretical constructs, propositions and/or midrange theories (Eisenhardt, 1989; Yin, 2003). Thus, although the study is a first step towards achieving a more robust understanding of the relationship between the integration of CSR into corporate strategy and its repercussions across the supply chain, Palm exemplifies a type of enterprise a "business to business" medium-sized family owned firm in which, through well defined procedures and supply chain management relations as a whole, involves partners in the process of sustainable innovation. In other words, the research findings show a strong leaning towards a sustainable strategy the pillars of which are focused on engagement and cooperation on the part of its partners in order to facilitate the innovation process.

In short, the findings offer a variety of stimuli and many implications for further research in terms of responsible supply chain management; in particular, as concerns the innovative a process of simplification relative to the production chain (short chain), designed to promote eco-sustainability. In conclusion, the case study could inspire other companies to follow this eco-logical path and potentially facilitate the identifying of innovative factors for sustainable development.

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A Content Analysis of Whistleblowing Policies In Indian IT Sector Companies

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Abstract

The Sarbanes-Oxley Act 2002 in the U.S. has upheld the status of 'whistleblowing' in the context of effective corporate governance throughout the globe. Institutionalized whistleblowing in the form of internal policies and code of conduct etc. generated far reaching effects to ensure better governance in the corporate sector of the developing nations. Not enough research reports are available on such policies and their repercussions in Indian industries till date. This study, therefore, addresses the following research question: What is the exact nature of institutionalized whistleblowing policy prevailing in Indian private sector industries in the background of the current framework of corporate governance in the country?

It concentrates on the Indian IT service companies in the private sector, as they are reputed for their "best practices" among the stakeholders worldwide. A content analysis is made by the classification of internal policies and codes of conduct available from top ten IT companies into several categories to make systematic and objective inferences. The study observes that this sector has shown proactive initiatives in this direction. This is expected to create an enabling environment for other private sector operators to replicate such internal system to ensure better governance within.

Introduction

On January 7, 2009 morning, India Inc. woke up at the news of a financial tsunami to the proportion of an Enron-like accounting scam in the Satyam Computers, winner of the much-coveted Golden Peacock Award for Corporate Governance under Risk Management and Compliance Issues in year 2008. The Chairman Ramalinga Raju had resigned from the Board of Satyam Computers by giving a notice to the Securities and Exchange Board of India (SEBI) confessing a severe falsification of Satyam's accounts for the year ended on 30th September 2008. It included, among others, the understatement of liabilities in the balance sheet to the extent of US \$ 1.19 billion and a misstatement of an accrued interest of US \$ 83.47 million, which was totally non-existent. There was a sharp reaction in the global stock markets with the New York Stock Exchange immediately halting trading in Satyam stocks and India's National Stock Exchange removing its stocks from the S&P CNX Nifty 50-share Index. The revelations put the credibility of Indian IT industry at stake.

According to the newspaper reports [The Economic Times, April 17, 2009], the confessions made by B Ramalinga Raju was prompted by a whistleblower action. It states that a former senior executive in the company, involved with its contract with the World Bank, acting as the whistleblower, sent an email to one of the Satyam board members that led to the chain of events culminating into the confession. It is also learnt that the company had an internal 'Whistleblower Policy' since 2005 (The Financial Express, March 2008). This case has triggered the question of the effectiveness of institutionalized whistleblowing mechanism in an Indian company in general, and the IT sector company in particular.

The popular definition of 'Whistleblowing' as given by Miceli & Near (1992) is the disclosure by the organizational members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action. Jubb's (1999) is a more explicit definition as he relates it to the act of dissent of an employee, which publicly implicates a company by disclosing wrongdoings externally.

Whistle blowing activities thus affect the image of a company adversely in the marketplace. As such, a number of companies in the U.S. have adopted internal whistleblowing policies, whereby the problems can be solved within. This is termed as the 'institutionalised whistle blowing'. According to Vanderkerckhove and Commers (2004), institutionalized whistleblowing refers to the set of procedure allowing potential whistleblowers to raise the matter internally before they become whistleblowers in the strict sense of the term.

During the post-Enron period, the famous Sarbanes-Oxley Act 2002 (SOX) has played a pivotal role to uphold the significance of institutionalized whistleblowing in the arena of corporate governance of publicly traded companies in the US. Section 301 of SOX requires: "each audit committee shall establish procedures for the receipt, retention, and treatment of complaints received by the issuer regarding accounting, internal accounting control, or auditing matters; and the confidential, anonymous submission by employees of the issuer of concerns regarding questionable accounting or auditing matters". Thus, the Act followed by a number of European laws and codes of corporate governance called for institutionalised whistleblowing policies and offered legal protection to the whistleblowers in the U.S. and Europe (Harold Hassink et al 2007). Such regulatory mandates have consequently influenced the whistleblowing behavior of employees within the organizations in the West.

Defining the Research Problem

In this backdrop, this study explores into the Indian corporate governance scenario to inquire into the status of internal whistleblowing mechanism, if any, existing in Indian companies. To narrow down the study and in view of the Satyam scandal as elaborated above, it selects the IT sector industries operating in the private arena for investigation. The Indian IT sector firms are global service providers and are generally acclaimed for their "best practices" throughout the globe. Many of them are enlisted with a number of stock exchanges, domestic and global, including NYSE and NASDAQ.

The research problem addressed here is therefore: What is the exact nature of institutionalized whistleblowing policy prevailing in Indian IT industries operating in the private sector in the background of the current framework of corporate governance in India? To find an answer to the above question, the study first goes for a literature review to examine the global studies as against the studies made in India. It then enquires into the prevailing corporate governance codes and their legal implications in the country. Finally, it goes for a 'content analysis' of the available whistleblower policies in the IT sector to ultimately make systematic and objective inferences.

Literature Survey

According to Hassink, Varies and Bollen (2007), there are five factors influencing the likelihood of whistleblowing actions – psychological factors, cultural and ethical factors, structural factors, retaliation and type of wrongdoing. Of the above, the present study looks into the structural factors including policies and regulations concerning whistleblowing, Near et al (1993) recommended in favour of corporate whistleblowing policies, facilitation the internal reporting of suspicious behavior. It shields the company from external whistleblowing, which in general is considered to be detrimental to all the groups, including the company, the whistleblowers (Callahan & Collins 1992) and society at large (Dworkin & Near 1997).

The empirical study made by Barnett et al (1993) showed that companies with internal whistleblowing procedures experience a significant decrease in the number of external disclosures after implementation as well as a significant increase in the number of internal disclosures. Lewis (1997) recommended it on the ground that internal reporting procedures are perceived by the managers as contributing to their image as both ethical and efficient organizations. In general, therefore, (Vanderkerckhove & Commers 2004) from an ethical and a practical view points, increased role of internal whistle blowing is preferred over external whistleblowing.

Schmidt (2005) argues in favour of internal whistleblowing as it helps avoid hesitant effects on organizational efficiency as well as binds the interests of an organisation's managers and its stakeholders. It ultimately makes use of self-regulation via governance code of conduct and flexible sanctioning.

The above studies establish the role played by the institutionalized whistleblowing worldwide. Such understanding necessitates a further in-depth analysis of the contents of the existing whistleblowing policies. In this context, two studies have been consulted. One is done by Lugli et al (2009) on the code of ethics of Italian companies quoted on the Italian Stock Exchange. The content analysis of the available codes was done to map out the main principles followed in writing the companies' code of ethics in the country. The other research on the same line was done by Hassink et al (2007), where the contents of whistleblower policies and parts of corporate codes of conducts and codes of ethics of 56 leading European companies were analyzed to create an exploratory framework. The present study finds the last one more relevant to replicate the same in Indian corporate scenario.

Objective and Scope of the Study

The literature review reveals the fact that no authentic research reports are available on such policies and their repercussions in Indian industries till date. Only one study is found to be made on whistleblowing in relation to India, where Keenan (2002) compares Indian managers with Americans on whistleblowing. He finds no significant difference between the two with respect to both organisational propensity for whistleblowing or fear of retaliation. The only difference he observes is in American managers having stronger personal propensity for whistleblowing than their Indian counterparts.

The study appears to be inadequate in terms of its sample size as well as the depth of the investigation. There seems to be a gap in the critical understanding of the Indian socio-legal factors which ultimately moderate people's whistleblowing behaviour. The present study therefore finds a deficiency in this field of study. It therefore attempts to address the following research questions:

1. What is the current status of 'institutionalised whistleblowing' in Indian corporate governance framework?
2. In the background of the above, what is the exact nature of institutionalised whistleblowing in the private sector industries in India?

Among the private sector players, this study concentrates on the Indian IT sector companies. For this purpose, it selects top 10 IT sector companies in India, as rated by NASSCOM (2008-'09) – National Association of Software & Services Companies - the premier organization setting the tone for public policy for the Indian software industry.

The present study therefore looks into the contemporary legal environment in India to ascertain the framework of corporate governance prevailing in the country. It then proceeds to make a content analysis of the available 'whistleblower policies' to make a qualitative assessment of the same in terms of their effectiveness. This study is expected to show results which will have practical relevance for the Indian companies to benchmark themselves as against the global firms.

Contemporary Framework of Corporate Governance encouraging Whistleblowing in India

The Public Interest Disclosure (Protection of Informers) Bill drafted by a former Supreme Court judge, Justice B P Jeevan Reddy in December 2001 as the Chairman of the Law Commission of India is known to be the first-ever attempt to give any protection to the whistle-blowers in the country. The former Supreme Court Judge suggested a number of measures to encourage and protect the whistle-blowers. (www.skdubeyfoundation.org/files/indianwhistleblowersact_179rptp2.pdf). The basic premise of the Bill as suggested by Justice Reddy was: "No corruption takes place without somebody somewhere coming to know about it. Hence are the measures to encourage and protect the whistle-blowers" (www.newindiaexpress.com dated 18th April 2004). This Bill, however, is now lying in cold storage.

The post-Enron Attempt: The Narayana Murthy Committee Report on Corporate Governance (www.sebi.gov.in/commreport/clause49.html):

The Sarbanes-Oxley Act 2002 (Sarbanes_Oxley_Act_of_2002.pdf.) in the US made exhaustive provisions to bring back the credibility of the corporations in society and give a boost to the investors' confidence during the post-Enron era. It gave special protection to the whistleblowers in publicly traded companies (Sec. 806 of the Sarbanes-Oxley Act of 2002).

The Narayana Murthy Committee on Corporate Governance 2003 formed under the aegis of the Securities Exchange Board of India (SEBI), followed the footsteps of the SOX Act of the US by adapting and incorporating whistle-blowing mechanisms for the employees of listed companies of India in its recommendations. This was a revolutionary attempt wherein the Indian capital market regulator, the SEBI, through its listing agreement, has been required to empower one of the important stakeholders of the listed companies - the employees. The recommendations are as follows (Recommendation 3.11: Whistleblowers Policy: Report of the SEBI Committee on Corporate Governance, India, submitted in Feb.2003):

- Personnel who observe an *unethical or improper practice (not necessarily a violation of law)* should be able to approach the *audit committee without necessarily informing their supervisors*.
- Companies shall take measures to ensure that this right of access is *communicated to all employees* through means of internal circulars etc. The employment and other personnel policies of the company shall *contain provisions protecting "whistle blowers" from unfair termination and other unfair prejudicial employment practices*.
- Companies shall *annually affirm that they have not denied any personal access to the audit committee of the company* (in respect of matters involving alleged misconduct) and that they have *provided protection to "whistle blowers" from unfair termination and other unfair or prejudicial employment practices*.
- Such affirmation shall form *a part of the Board Report on Corporate Governance* required to be prepared and submitted together with the annual report.
- The *appointment, removal and terms of remuneration of the Chief internal auditor* must be subject to review by *the Audit Committee*.

Corporate governance Requirement under Clause 49 of the Listing Agreement as designed by the Securities Exchange Board of India (SEBI):

On the basis of the above Report, Clause 49 of the Listing Agreement (Corporate Governance requirements) was amended in September 2003. The amendment initially required all listed companies to include Clause 49(iv) Whistle Blower Policy as mandatory information in the Report on Corporate Governance in the Annual Report of the company (www.sebi.gov.in).

SEBI, the apex capital market regulator in the country, however, in a master Circular issued in October 2004 (no. SEBI/CFD/DIL/CG/1/2004/12/10 dated Oct.29, 2004), withdrew the previous announcement and offered the status of a non-mandatory clause to the Whistleblower Policy. Such a revision (www.bseindia.com/cirbrief/notices.asp), which is still in force, requires that:

The company *may* establish a mechanism for employees to report to the management concerns about unethical behaviour, actual or suspected fraud or violation of the company's code of conduct or ethics policy. This mechanism could also provide for adequate safeguards against victimization of employees who avail of the mechanism and also provide for direct access to the chairman of the audit committee in exceptional cases. Once established, the existence of the mechanism may be appropriately communicated within the organization.

Other Recent Developments:

The Central Vigilance Commission Act, 2003 has been enacted under the Ministry of Law & Justice to empower the CVC to inquire into offences alleged to have been committed by the public servants in the public sector enterprises (PSEs) . The Right to Information Act, 2005 (RTI) is another piece of legislation to contain corruption

and to hold Governments and their instrumentalities accountable to the governed (http://commerce.nic.in/rti/rti_first.htm). These are, however, meant for the public sector companies and are not binding on the private sector industries in India.

The Public Interest Disclosure (Protection Of Informers) Bill, 2010 has recently received the approval of the Union Cabinet. It seeks to protect the identity of those exposing corruption and scams, officially called the Public Interest Disclosure (Protection of Informers) Bill, 2010. The Bill will now be tabled in Parliament and if passed and signed by the President, it will become an Act [Ibnlive.com as retrieved on 25 march, 2011]. The private sector industries are, however, not covered under this Bill.

The legal ambience in India as outlined above does not provide an encouraging picture for the potential whistleblowers in the country, especially in the private sector. Apart from the clause 49 of the Listing Agreement non-mandatory requirement, there is none other till date. As such, we cannot expect the private sector players, the IT sector in particular, in our context, to show much enthusiasm in this direction, excepting the global standard requirements, where they need to score in the level playing field with others.

With this background of corporate governance framework, we now proceed to investigate the initiatives taken in the Indian IT sector in terms of their whistleblowing policy (WB Policy). We take resort to the qualitative technique of 'content analysis' for this purpose.

The Content Analysis

This study follows the model designed by Hassink et al (2007). However, for practical purposes, the model has been modified and adapted in consonance with the situations prevailing in India.

Sample collection

The primary research population of this study is the private sector industries in India featuring the IT sector companies with business world-wide. The sample has been collected from the NASSCOM (the apex body monitoring the IT sector industries in India) Survey Report of 2008-2009 during the early phase of July, 2010 (<http://www.mphasis.com/news/newsroom/NasscomIndustryRankingFY08-09.html>). The Report provides the list of top 10 IT services exporters in India, where IT service exporters include IT services, engineering services, software products and offshore product development revenues. Ranking by NASSCOM is based on companies that have submitted the detailed form and does not include some companies whose revised audited results are not available. Also the list excludes some companies whose corporate head quarters are located outside India, but have significant India-centric delivery capabilities, as they have not shared their India-centric revenue figures.

The following process was then followed:

- i) The company website links were searched to find out the whistle blowing policy and code of conduct of the aforesaid ten companies.
- ii) For four companies, Whistle Blowing (WB) policy was readily available from company website. Two more WB policy documents were retrieved later from two other websites not directly related to the company websites (<http://www.secinfo.com/dr6nd.22dt.6.html> as retrieved on September 30, 2010).
- iii) For three of the remaining four companies, the WB policy document was not directly available. But the policy name was used in the company websites, while describing the code of conduct for the employees. For one of the ten companies, neither the WB policy nor the code of conduct / ethics was available.
- iv) Attempts were then made to retrieve the company contact information (email-id and phone number) in all cases, so that they can also be approached for interview and other relevant communications.
- v) Out of 10 companies, the required information was retrieved for 9 companies from their respective websites. For the remaining one company, no information was available.

Empirical studies

A questionnaire was prepared for interviewing the HR managers of the companies (5 in number) whose offices are situated in Kolkata. The questionnaire started with three basic enquiries:

1. Is your company listed? If yes, with which stock exchange?
2. Does your company have an explicit Whistle blower Policy?
3. If so, could you please provide us with a copy of the same for study?

The communication proceeded in the following lines:

1. Emails were sent to nine companies, excepting the one, no information of which was available in the net. None of the companies did respond to the emails.
2. Next was, therefore, the attempt to contact the nine companies through phone calls. Six companies agreed for interview. One of the companies declined to meet for interview or to share information. Remaining two did not respond at all.
3. Of the above, five having their company offices in Kolkata, were visited. Interviews could be arranged only with two companies, while other three, even after multiple visits, were unable to spare time for the meet. These two companies, where interview was conducted, however declined to hand over the WB policy document. One company (situated outside Kolkata), which initially agreed for telephonic interview, later on declined.

Hence, the sample collection findings can be **summarized** as follows:

- a) 40% of the companies display the WB Policy document on company website.
- b) 20% of the companies WB Policy documents are retrieved from websites, other than company website.
- c) 40% of the companies do not have WB Policy available in the website; these are, however, covered in their

Code of Conduct /Ethics.

- d) 90% of the companies display the Code of Conduct and/or Code of Ethics on company website.
- e) 10% of the companies do not share any data.

TABLE I: SAMPLE COLLECTION

Total No. of companies selected		10
Total WB documents required		10
Total Code of Conduct/Ethics document required		10
Total documents required		20
WB Policy		
No. of WB Policy collected from company websites	4	
No. of WB Policy collected from other websites	2	
No. of WB Policy unavailable on internet	4	
WB Policy collection rate (6/10)		60.00%
Code of Conduct/Ethics		
No. of Code of Conduct/Ethics document available from company websites	9	
Not available in the website	1	
Code of Conduct/Ethics document collection rate (9/10)		90.00%
Email		
No. of Email searched for companies	10	
Email id unavailable	1	
Email id available	9	
Email sent to company	9	
Email Response Rate (0/9)		0.00%
Phone Calls		
Phone contact searched for companies	10	
Phone contact available	9	
Phone contacts made	9	
Companies situated in Kolkata contacted through phone	5	

Companies outside Kolkata contacted through phone	4	
Companies not responded	2	
Response received	7	
Phone call response rate (7/9)		77.78%
Office Visit		
No. of companies visited in Kolkata for interview	5	
No. of companies cannot be visited due to offices not in Kolkata	5	
Total companies visited for interview(5/10)		50.00%
Interview		
No. of companies in Kolkata allowed interview	2	
No. of companies in Kolkata declined interview	3	
No. of companies outside Kolkata refused to give telephonic interview	2	
Useful interview rate(2/7)		28.57%

Empirical results

The available policies and codes were now analysed for their contents. The range of information gathered from the policies and the codes was classified into six groups of items:

1. General Contents, Scope & Tone
2. Nature of violations as mentioned in the policy for being reported
3. Reporting guidelines and formalities
4. Details concerning confidentiality and anonymity
5. Details concerning protection from retaliation
6. Details about the investigation of the complaint

It is to be noted here, that although the study tries to replicate the format of content analysis as done by Hassink et al (2007), the design has to be changed in the context of Indian situation. All empirical findings are summarized in table II.

Sample classification :

Initially the sample size was 10. But since no information is available for one out of 10, we take n = 9. This is further divided into two sub-groups:

1. Specific WB policy documents (for 6 companies) – **Sub-sample I**
2. WB Policy clause in Corporate Code of Conduct / Ethics (for 3 companies) – **Sub-sample II**

TABLE II: CONTENT ANALYSIS

Sl. No.	Description	Total Sample (n=9)	Sub-sample I (n=6)	Sub-sample II (n=3)
I	General contents, scope and tone			
	a. Listed companies with one or more stock exchanges	88.89%	100.00%	66.67%
	b. Compliance with national rules/regulations explicitly mentioned	88.89%	83.33%	100.00%
	c. Compliance with international rules/regulations explicitly mentioned	55.56%	33.33%	100.00%
	d. Motivation being the overall development including goodwill, work culture and standardization	100.00%	100.00%	100.00%
	e. Employees are explicitly encouraged to report	44.44%	50.00%	33.33%
	f. Reporting is a requirement/duty	55.56%	50.00%	66.67%
	g. Formed committees explicitly for listening whistle blowers	22.22%	33.33%	0.00%
	h. Audit committees, CS and/or Chief Compliance Officers listen to whistle blowers	55.56%	66.67%	33.33%
	i. Companies having single policy applicable to all employees under the	100.00%	100.00%	100.00%

	Group / Company.			
	j. Financial issues handled under the same policy	88.89%	83.33%	100.00%
	k. Allowing explicitly ex-employees to blow the whistle	11.11%	16.67%	0.00%
	l. Included a full secondary procedure with secondary contact details	11.11%	16.67%	0.00%
	m. Stated any result of the policy	0.00%	0.00%	0.00%
II	Nature of violations to be reported			
	a. Issues under the purview of WB policy mentioned explicitly:-			
	i> Financial reporting matters	77.78%	83.33%	66.67%
	ii> Legal violations(Civil/Criminal)	88.89%	83.33%	100.00%
	iii> Health/Hygiene guidelines violations	66.67%	50.00%	100.00%
	iv> National environment related laws(applicable laws)	44.44%	16.67%	100.00%
	v> Safety/Security infrastructure threats/damages	66.67%	50.00%	100.00%
	vi> Corruption	88.89%	83.33%	100.00%
	vii> Mismanagement	88.89%	83.33%	100.00%
	viii> Abuse of authority	88.89%	83.33%	100.00%
	ix> Conveying wrong/manipulated information intentionally	88.89%	83.33%	100.00%
	x> Insider trading, bribery or money laundering	88.89%	83.33%	100.00%
	xi> Fraudulent practices by third parties like suppliers or vendors	33.33%	50.00%	0.00%
	xii> Social misconduct	88.89%	83.33%	100.00%
	xiii> Unethical business conduct	77.78%	66.67%	100.00%
	b. General statement stating any unethical or improper activity shall be reported	44.44%	16.67%	100.00%
	c. Mechanism used for communication of information:-			
	i> Landline phone number	33.33%	50.00%	0.00%
	ii> Email Id	55.56%	66.67%	33.33%
	iii> Mobile number	0.00%	0.00%	0.00%
	iv> Postal address	11.11%	16.67%	0.00%
	v> Specific Department/Official for reporting	77.78%	66.67%	100.00%
	d. Emergency contact/hotline number	44.44%	33.33%	66.67%
	e. Email id as most common communication method	88.89%	100.00%	66.67%
	f. Availability of contact details through public website	44.44%	50.00%	33.33%
	g. Violation of code of conduct/ethics dealt under same system	100.00%	100.00%	100.00%
	h. Stated explicitly the officials or bodies to whom wrongdoing should be reported	100.00%	100.00%	100.00%
III	Reporting guidelines & formalities			
	a. Tools used to report violations:-			
	i> Phone Call	55.56%	66.67%	33.33%
	ii> Email	55.56%	83.33%	0.00%
	iii> Personal meeting	55.56%	33.33%	100.00%
	iv> Written document	66.67%	83.33%	33.33%
	v> Pre-specified form	0.00%	0.00%	0.00%
	vi> Hotline	55.56%	50.00%	66.67%
	b. Language to be used specified explicitly	11.11%	16.67%	0.00%
	c. Explicit mention of the following details while reporting:-			
	i> Subject	0.00%	0.00%	0.00%
	ii> Name of the target person / department	0.00%	0.00%	0.00%
	iii> Major issue	33.33%	50.00%	0.00%
	iv> Evidence	22.22%	33.33%	0.00%
	v> Identity of the complainant	22.22%	33.33%	0.00%
	d. Anonymous reporting is allowed	55.56%	66.67%	33.33%
	e. Anonymous reporting discouraged clearly	11.11%	16.67%	0.00%
IV	Confidentiality & Anonymity			
	a. Stated that the violations reported are treated confidentially	77.78%	100.00%	33.33%
	b. Stated that confidentiality cannot be guaranteed in certain circumstances	55.56%	100.00%	33.33%
	c. Stated that violations can be reported anonymously	77.78%	66.67%	33.33%

	d. Stated that third parties can also report anonymously	44.44%	66.67%	0.00%
V	Protection from retaliation			
	a. General statement (“There will be no retaliation”)	100.00%	100.00%	100.00%
	b. Stated clearly that protection is guaranteed through disciplinary action	77.78%	83.33%	66.67%
	c. Requirement of good faith	100.00%	100.00%	100.00%
	d. Knowingly making false or malicious report is punishable	100.00%	100.00%	100.00%
	e. Requirement of no personal gain	100.00%	100.00%	100.00%
	f. Requirement of reasonable ground or belief	100.00%	100.00%	100.00%
	g. Stated that same treatment will be given if the whistle blower is involved in wrongdoing	44.44%	33.33%	66.67%
VI	Investigation details:-			
	a. Guarantee of investigation or serious treatment of complaint	100.00%	100.00%	100.00%
	b. Obligation to cooperate in investigation	100.00%	100.00%	100.00%
	c. Stated the time-frame for providing investigation feedback to whistleblower	55.56%	66.67%	33.33%
	d. Investigation process is described	77.78%	100.00%	33.33%

Observations and Findings:

i) General Contents, Scope & Tone

- a) Of the total sample, 88% of the companies are listed with at least one Indian stock exchange. 50% of the companies stated clearly that they comply with international rules and regulations applicable in the line of the SOX Act 2002. 88% of the companies further declare their compliance with all national laws and rules applicable in India.
- b) Enhancement of company goodwill, improvement in work culture and benchmarking appears to be the dominant motivating factors for having whistle blowing policy in almost all cases.
- c) Only 50% of the companies under sub-sample I (where WB document is available) encouraged employees explicitly for reporting wrongdoings whereas the proportion is only 33% for sub-sample II.
- d) The WB documents available under sub-sample I reveals that only 33% companies formed committees meant for listening whistleblowers. Remaining ones have Company Secretary / Audit Committee / ombudsperson to listen to the grievances.
- e) In case of sub-sample II, the Code of Conduct / Ethics did not mention about the separate committees formed for this purpose. Concerns raised about wrongdoings can be lodged through either audit committee/ Company Secretary and/ Chief Compliance Officer.
- f) In case of a particular Group of companies, all firms are pursuing the same policy towards the whistleblowers. Interestingly, as per the WB policy document studies, only 16% of companies allow ex-employees to blow the whistle.
- g) In case the whistleblower is not satisfied with the proceedings of the investigation, he may want to raise the concern again. Even though the companies under study are serious about proper investigation, fair treatment of complains and the results thereon, 83% companies in sub-sample I and all in sub-sample II have not properly described the second time appeal procedure in their policy document.
- h) 55% of the total sample considers reporting as an obligation. 50% of the sub-sample I and 66% of the sub-sample II, mention employees “must”, “have to”, “should” or “are expected to” report violations making it mandatory part of their duty. Thus overall the tone is at least moderately authoritative for majority.
- i) In addition, at least 44% of the total sample, encourage employees explicitly to report violations, when they use the words - “employees are encouraged to report.” At several instances, the companies have used neutral statements like, “employees may report” or “employees can report”. The overall tone of the policies is found to be a mix of several tones.

ii) Nature Of Violations To Be Reported:

- a) In 88% of the cases, the common violations that can be reported included corruption, mismanagement, abuse of authority, information manipulation, insider trading, bribery, money laundering, social misconduct, and also the legal violations of all types.
- b) 77% of the companies were listening to financial issues as well as unethical business conduct under the same system. Though all the companies accepted the significance of reporting wrongdoings, about 44% companies gave general statement stating any unethical or improper activity shall be reported. All the companies mentioned clearly about the officials to whom wrongdoings shall be reported. All the policies studied included violation of Code of Conduct/ethics also.
- c) Email has been considered as most effective tool for 88% of the companies. Only 44% provided the facility for 24 hours contact through hotline.
- d) Majority (77%) of the companies mentioned only the official names/ designations or the departments to whom wrongdoings shall be reported. On the other hand, only 44% companies provided the relevant contact details through company website.

iii) Reporting Guidelines & Formalities:

- a) About 55% of the total sample study used phone calls, email, personal meeting, verbal communication and emergency contact numbers for listening whistleblowers. None of the companies under study had any pre-specified form / document for reporting but 66% companies expect to get the concerns raised in written form.
- b) The language to be used for reporting was not a major issue in the documents studied. Only one company (11%) mentions explicitly that the language to be used must be Hindi or English or the regional language applicable.
- c) Also, the details that must be part of the reporting are not mentioned very clearly. Of the sub-sample I, 50% of the companies expects that the complaint must be stated in clear terms, while the Code of Conduct/ethics (sub-sample II) have no mention about it.
- d) Also 33% of sub-sample I explicitly demands evidence and identity of the complainant disclosed mandatorily along with the complaint; otherwise proper investigation would be hindered. Sub-sample II has no such mention. Overall about 55% companies allows anonymous reporting.

iv) Confidentiality & Anonymity:

All the policy documents (overall 77% of total sample) states clearly that the reported violations will be treated confidentially. They have also made it clear that in certain circumstances (as per the demand of the situation e.g. in legal matters, for evidence in court etc.) confidentiality cannot be guaranteed. In 66% sub-sample I, anonymous disclosure is allowed though, majority of the companies expects the whistleblower to disclose their identity to facilitate fair treatment of the complaints lodged.

v) Protection From Retaliation:

- a) Generally, the employees are afraid of the negative reactions that may come up from seniors due to violation reporting. All the documents under study gives assurance on this aspect by generally stating, "There will be no retaliation." About 77% of the total study guarantees protection through disciplinary action.
- b) Whistleblowers should act in good faith, for no personal gain, and on reasonable grounds only. For all the cases studied, intentional, malicious reporting, manipulated information are not acceptable on any ground.
- c) About 44% clearly stated that whistleblower's malicious intentions will not be tolerated under any circumstances and if found guilty, they are equally punishable under the same system.

vi) Investigation Details:

- a) About 100% of the companies demand cooperation in investigation and assured serious treatment of complaint.

b) The investigation process is described in 77% documents of the total sample. About 55% of the total sample study stated explicit time-frame within which the investigation feedback must be provided to the whistleblowers and other employees. The time-frame for the selected companies varies from 14 days to 45 days.

vii) **Other observations:**

- a) Indian legal system, which is a crucial part of corporate governance framework, does not seem to be fully prepared to accept whistleblower policy as an integral mechanism to ensure better governance. This is evident from the fact that it still remains a non-mandatory clause in Clause 49 of the Listing Agreement.
- b) Moreover, the country does not have any legislation for whistleblowers' protection till date. The study reveals a number of Bills proposed from time to time since 2003. The 2010 Bill, that is yet to be enacted, does not cover the private sector organisations. Therefore, it has no implications for the IT sector firms under discussion.
- c) While 90% of the sample have publicly disclosed their WB policy either directly or as a part of the code of conduct / ethics, some companies are not ready to hand over the policy when asked for at the time of interview.
- d) Some other companies denied access to any sort of information, as they refused to give interview on this issue.
- e) One company out of ten, enlisted in a foreign stock exchange, but having India-centric activities as well as revenue, does not provide any information in the website.
- f) Further, in the absence of any legal compulsions as such in the country, till date, there seems to be lack of enforcement of the policy, even though it may be there in paper. This attitude becomes apparent at the time of interview as well as in case of denial of interviews. Some company officials are found not even being aware of the existence of such policy in the company, although it is put up in their company website.
- g) Some of the companies, however, have nicely drafted WB policies. The reason in some cases may be their bindings with the Securities and Exchange Commission in the US (as they are enlisted with foreign stock markets).

Conclusion and recommendations

This paper starts with examining the corporate governance structure prevailing in India, especially in terms of the internal mechanism for whistleblowing. It then analyzes the information on whistleblowing policies provided by the top 10 IT sector companies of India as graded by the NASSCOM, the apex body guiding IT related activities in the country. These companies represent the global best service providing private sector industry in the country. The legal environment relating to corporate governance and the content analysis combined with the interview experiences brings forth the fact that the Indian private sector companies are lagging far behind their western counterparts in so far as the institutionalized whistleblowing policies are concerned.

Based on the above observations, the following recommendations are made:

1. The whistleblowers' protection bill should be enacted without further delay. The bill needs to be redrafted to cover all listed companies in the country in the line of SOX Act in the U.S.
2. In every case, the protection of whistleblowers from all types of retaliation should be ensured. Although enactment does not guarantee the enforcement, this can surely create an ambience for its effective implementation and utilization in the industries in future.
3. Apart from the legal minima, the company executives need to be convinced about the effectiveness of institutionalized whistleblowing policy in enhancing the transparency of its functioning and thereby improving the public image. The Indian managers need to come out of their conservative outlook as is evidenced in this study.
4. Awareness programs must be regularly held sensitizing the employees about the effective use of such policy in good faith and without the fear of retaliation. Most of the time, the employees in the country

- avoid the use of whistleblowing mechanism in order to play safe. The attitude of indifference can be remedied only through regular awareness programs.
5. The Listing Agreement needs to be amended to make the whistleblowers' policy a mandatory requirement for the listed companies in the line of the Narayana Murthy Committee recommendations (2003). The Securities and Exchange Board of India (SEBI) should take positive move in this respect.
 6. It is not enough to just incorporate the policy and exhibit it before the public eye. Effective enforcement of the policy is important. The regulations are to be followed not just in letters but also in spirit. This requires spontaneity and self-governance, especially on the part of the leading businesses in the private sector.

This study finds that a few IT sector companies have started benchmarking themselves as per the global standards through the establishment, and effective utilization of the mechanism of institutionalized whistleblowing. They can be considered as the frontrunners. Their proactive initiatives in the soil of India may give some impetus to other firms to come up with greater transparency leading to better corporate governance procedures. This will not just give them competitive advantage through higher ethical grade in the market, but also create better work culture within. These firms are ultimately expected to create enabling environment within the country to be followed by others. Such steps are extremely important to prevent the repetition of Satyam-like catastrophe in future.

Limitations of the Study and Scope for Further Research

This is a Kolkata-based study which acts as its limitation. Some companies having their head-offices in Bangalore and Hyderabad could not be contacted for one-to-one interview with the officials. Perhaps, a better view could have been obtained otherwise. . The WB policies and Codes of conduct / ethics as available in the company websites were, however, consulted for the purpose. The next difficult part has been that none of the companies responded the e-mails. Otherwise, in a highly networked world of today, communications are not supposed to act as limitation.

The sample size in this study is very small (only ten). Future researches may be done on a bigger sample (say, at least 100 companies), to get a broader picture. Also this study is confined to the private sector enterprises. Future researches may highlight on firms in the public sector, as the Central Vigilance Commission of India overlooking the PSEs are expected to create a congenial atmosphere for internal whistleblowers.

Future researches can also be done to compare whistleblowing policies of India with those of the U.S. or European Union. This may bring out the similarities as well as dissimilarities, leading to practical suggestions about what the Indian companies can learn from its American counterparts. Finally, the data available in this study can be used to assess the impact of the internal WB policies on the whistleblowing behavior of the employees in the private sector organizations.

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Note: Contact authors for the full list of references.

DIRECTORS MANAGEMENT IN THE ELECTRONIC INDUSTRY AND ITS RELATIONSHIP WITH ENVIRONMENTAL PERFORMANCE STRATEGIES

Case: Maquiladoras Companies located in the metropolitan area of Guadalajara, Jalisco, Mexico.

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ABSTRACT

In this paper is explained the entrepreneurial behavior of several companies involved in the electronic sector located in the metropolitan area of Guadalajara, Jalisco, Mexico, and its relationship with the general and task environments. The purpose is to identify the type of actions needed to improve the impact in the environmental protection. We founded that these companies developed different practices that influenced their organizational culture. However, they have unliked commitments with the current environmental legislations and consequently it exists a lack of legal and social commitment that includes the internalization of the externalities that causes the pollution of the environment. In that sense, we emphasized the importance of combining the business competitiveness and environmental protection, so we proposed various strategies that can contributes to improve the performance of these organizations. Finally it is necessary, that entrepreneurs, employees, government and society get involved in the sustainable development of the región.

INTRODUCTION

Environment business relationships is first and foremost, a relationship that implies that the second depends on the first, since for it to exist requires the use of the resources found in nature. In this sense, human intervention on the environment and the consequences resulting are not facts or phenomena that take place in isolation but within a time continuum. It must then understand the relationships that exist in the social system, hence the importance of talking about the economic entity called environmental management company. In this regard, this paper presents the relationship between the electronics industry located in the metropolitan area of Guadalajara (ZMG) Jalisco, Mexico, and the environmental management that occurs in it.

THEORETICAL FRAMEWORK

The meaning of this section is to clarify the essential concepts that deal with business relations and the environment. It is therefore necessary to establish the basic theory, which in this case is the science of ecology and then begin to define and then explore its many close relationships, (Manuel Ludevid, 2000, 23). The company is the basic institution of the economic system. It is the organization that transforms natural resources into goods and services valued by humans. The company is considered as an integrated economic unit in a natural system.

The Ecology Science

(Paolo Bifani, 1997, 145) notes, "The social system develops in a biogeophysical space, which is, ultimately, the men natural habitat. This system, that includes people, is called Biosphere and it is defined in more general terms as that part of the land where life exists. " Establishing in a better understanding, the biosphere is the combination of all living matter and the physical environment that surrounds it. The term ecology was established in the nineteenth century and was defined as "the science of habitat (from the Greek oikos, meaning home)¹. Ecology is defined as a multidisciplinary science that studies the relationships between organisms and their environment. If it is argued that the ecology is the science that studies and analyzes all the possible implications arising from the interactions between living things and the receiving environment and the relationships between them living under natural conditions, then, ecology is the science that analyzes the functioning of the biosphere.

General Administrative Theory

The administration either as an art, technique or science, is a basic task to do things through people. In this regard (Zacarias Torres, 2001, 11) states "Management is the process of planning, organizing, integrating, managing and controlling the efforts of all members of the organization and to assign other resources available to achieve the objectives. "

Administration from a position almost unknown in 1900, has become the central activity of this period, besides being an innovative and powerful force which supports the material welfare of every society. The simultaneous administration is a crucial resource, a guide for the effective management of organizations and individuals.

Almost until the eighteenth century, the production of a limited number of goods was characterized by the use of muscle power or a combination of skills, ingenuity and creativity. It was with the Industrial Revolution emerged a new kind of human organization: the industrial enterprise, an organization with a clear commercial objective, to obtain benefits through coordinated use of people and machines to produce and distribute goods and services. Today we faced challenges as growth of the organization, sophistication of technology, information management, context of globalization, increased social engagement, and greater commitments to the natural environment, ethics and accountability among others. However, you can't denied that human organizations are structured systems. This is precisely the difference between a mass and an organization called the company and consequently, to all businesses that produce identical or closely related, is called industry.

The company

An enterprise is an organization, a group of persons that coordinates their efforts under a management system to achieve goals and also it is a social system of action. The action is essentially to transform some factors (inputs) into products or services (outputs), adding value. That is, the company interacts with the environment constantly by changing or trying to adapt or influenced it. The company phenomenon can be approached from very different approaches and mutually complementary, since they are characterized by their complexity and strong impact on daily life. Indeed, in business takes much of the adult life of most people, and work is a conscious activity which devotes more time and effort. On the other hand, companies today are the result of processes rooted in time, processes of search for knowledge and satisfaction of needs, technological processes, such as the pursuit of security and welfare, wealth and power by individuals and communities, processes such as division of labor or spontaneous or forced the creation of human organizations aimed at achieving goals outside the scope of isolated individuals.

Sustainable development

The industrial progress that has been occurring in recent years has resulted in the "modern man" requires use of natural resources for progress, however, this requirement has caused problems because nature can't tolerate damage incurred such as, pollution of air, water and soil, among others, and the destruction of forests and depletion of natural resources.

In the early sixties, society begins to question the possible consequences of insensitive development with the environment. In 1972, the United Nations held a conference in Stockholm Sweden, whose central theme was human development and the environment. In 1987, recognizing the seriousness of ecological problems which had come so modern in the industry and through the World Commission on Environment, also known as the "Brundtland Commission", established a new concept called sustainable development which defined as "one who meets the essential needs of the present without compromising the ability to meet the essential needs of future generations (World Commission on Environment and development (1987)).

As greater understanding, sustainable development is a process of social change in which exploitation of resources, the direction of investments, the orientation of technological development and institutional reforms are carried out harmoniously, to expand the current and future potential for meet the needs and aspirations. That is why in recent years, social pressure has increased to the point where it is recognized that the company should take responsibility for the environmental damage caused in the production process. Although it is common to find some confusion in the use of the terms sustainable, sustainable and sustained to denote the temporal characteristics of an event or process, some argue that it is synonymous, resulting from the different translations of the word sustain. However, we can find little nuances that differentiate each of these terms, since sustainable describes a possibility, condition or characteristic of an event or phenomenon that is a base, stand or lift to ensure its permanence in time, on the other hand, sustainable understood as a process or event that happened once can be active in time or continue efficient operation, and ultimately, sustained, may be a fact or event that is maintained consistently over time.

Economic development and the environment is not only not opposed but are two different aspects of the problem. Thus, the concept of development takes on new dimensions, arguing that, economic growth is a necessary foundation, fairness is the guiding principle of economic distribution, and quality of life, defined specifically for each urban and rural social groups, is a societal goal.

The environmental management is a means of achieving rational management of resources, while controlling the impact of human activities on nature.

The sustainable business

Since the industrial revolution to the present, the industry has had an amazing growth, concepts of competition, productivity and quality among others have developed continuously, however, until a few years ago it seemed important to the environment and natural resources for the organization as these are becoming scarcer and more difficult to acquire.

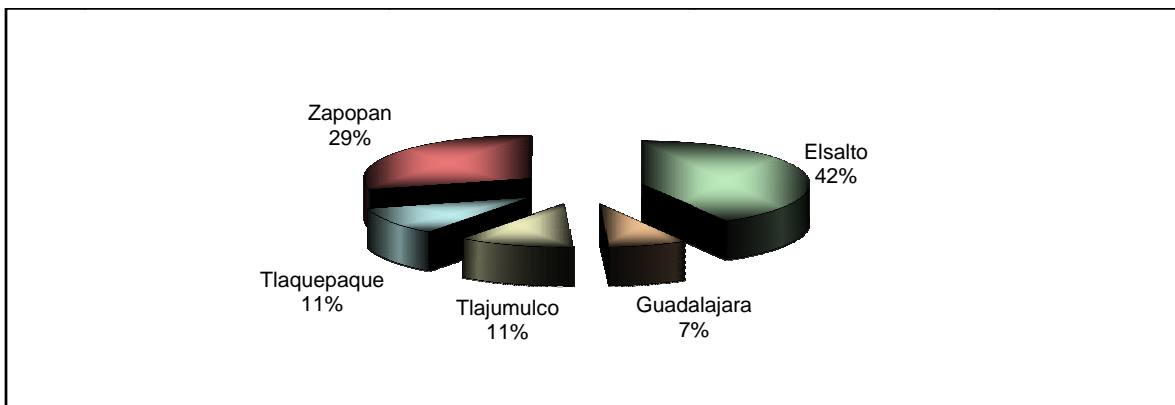
Managers of companies with business vision begin to take into account the environment in their strategies to gain competitive advantage over those managers who are bent on the old ways of doing business. Now more than ever it becomes necessary to link the decisions of the company with the company, the company operates in an open system where stakeholders have expanded, previously enough to take into account shareholders, employees and suppliers Now there are environmental groups, NGOs and endless associations that monitor the activity of the organization does not affect the welfare of community life.

STUDY CONTEXT

The electronics sector is considered of a strategic importance and priority to the country's economy development. Today is increasing the use of a variety of electronic tools and processes in the manufacture of all kind of products and services. The total exports of this sector are the highest in Mexican industry. It is also the sector with the highest import volume reported, and their surplus is the second largest, the best is the automotive sector.

In Jalisco, one of the best economic sectors is the export maquiladora industry in the electronics products, this industry has reached a transcending national leadership, and internationally recognized as the Mexican Silicon Valleyⁱⁱ, where the largest global firms are established in the municipalities that belong to the Guadalajara metropolitan area (GMA) and mainly in the industrial corridor of El Salto. (Fig.No. 1).

FIG. NO. 1: THE ELECTRONICS INDUSTRY, BY MUNICIPALITY OF THE GMA.



Source: SEIJAL (Jalisco Information System) 2008.

RESEARCH DESIGN

Industrialization has been occurring in Jalisco, Mexico, and has brought many economic benefits. However, like any development process, has also brought consequences that affect society as a whole. That is, the use and abuse of natural resources, damaging the environment industry and also causes a deterioration of the environment, a situation not unrelated to the regional development of the state.

Core Problem

Growth models applied so far in Jalisco, not been commensurate with the expected sustainable development, so it is essential to provide new bases that are consistent with the paradigm of environmental decision-making processes as the company production within the economic system and its social and cultural demands of her performance according to the interests of the community in general, this without prejudice to their responsibilities for providing employment. In this sense, environmental management encompasses all aspects of business management typically hence the importance of knowing the behavior of industry and environmental management relationship that can exist in her particular situation and in particular manufacturing companies electronics industry located in the GMA by the economic importance it represents for the state of Jalisco.

Research Questions

- What relationship exists between the electronics industry located in the GMA with respect to executive management and environmental performance?
- What is the level of business culture in the electronics sector companies located in the GMA?
- What are the significant environmental aspects of the electronics industry that can best impact?
- What is the degree of compliance with environmental legislation electronics companies in question?
- What is the environmental commitment to be getting the electronics industry to be socially responsible in a sustainable framework?

Regarding the research questions, the objectives are to develop:

General objective

- Understand the relationship between executive management in the electronics industry located in the GMA, and their effects on the receiving environment that allows suggest strategies for improving environmental performance under a sustainable framework.

Specific objectives

- Determine the level of business culture based on the use of performance improvement tools that influence the competitiveness and meet market requirements.
- Identify the main production processes in the electronics industry, significant aspects that impact the environment.
- Assess the degree of compliance with environmental legislation requiring the electronics industry.
- Establish environmental commitment to be getting the electronics industry for it to be socially responsible in a sustainable framework.

Type of research

This was exploratory and descriptive. In the first part contextualizes the framework embodied in this research. In the second field work was conducted to ascertain the situation of the companies selected in the sample with respect to environmental management and presents them to observe the phenomenon under study to obtain information and interpret it under the approach qualitative case study.

Selected sample

In this regard we applied a questionnaire (see Attachment 1) which consisted of four sections: the first to know the profile and organizational development of the companies in question, the second to contextualize them in relation to the environment, the third relation its compliance with current legislation in the field and in the fourth environmental perspectives.

Through the Maquiladora Industry Association of the West, were able to confirm that the GMA were established until the year 2009 approximately 126 companies engaged in production of electronics. In this universe,

we determined the displays 32 electronics companies chosen at random from different directories from the different chambers and business associations (see Attachment 2).

RESULTS

As a result of questioning applied to the sample of 32 companiesⁱⁱⁱ, we have the following information concerning the profile of these and organizational development based on the use of improvement tools that together define the corporate culture of the latter (see Tables 1 and 2 .)

Profile and organizational development

TABLE 1: ELECTRONIC ENTERPRISES RESPONDENTS LOCATED IN THE GMA.

1 Avnet Mexico, SA of C.V
2 BDT of Mexico
3 Benchmark Electronics, Inc. de CV
4 Cables CST SA de CV
5 Electronica Pantera SA de CV
6 Hemex Automotive Equipment
7 Flextronics Manufacturing Mex. Inc. de CV
8 GPI Mexicana de Alta Tecnología, SA de CV
And 9 High Precision Moulding Tools, Inc. de CV
10 Honda de Mexico, SA of C.V
11 IBM of Mexico, Manufacturing and Technology, SA de CV
12 Jabil Circuit de Mexico, SA de CV
13 Modus Media International, Inc. de CV
14 Molex de Mexico, SA de CV
15 Multek Mexico, SA de CV
16 Pegasus Control
17 Pemstar de Mexico, SA de CV
18 Digital Power, Inc. de CV
19 Precise Dental International
20 Qapi, Inc. de CV
21 R.S.P de Mexico, SA de CV
22 Saleslink Mexico, S. of R.L. de CV

23 Siemens Plant Guadalajara
24 Solectron de Mexico, SA de CV
25 Sumida Electronics Mexico, Inc. de CV
26 Takata of Mexico, SA de CV
27 Telect de Mexico, SA de CV
28 Emerson Power Transmission, Inc. de CV
29 Trend Technologies Mexico, S. of R.L.
Triquest-30 Nypro, Inc. de CV
31 Tulon Mexico, SA de CV
32 Yamaver, Inc. de CV

TABLE 2: MAJOR MANUFACTURED PRODUCTS.

Main products	number of companies
Electronic Components	20
Auto Parts	6
Tools and electrical and electronic materials	4
Computer equipment	1
Medical Instruments	1
Total	32

Source: Authors.

Most of the companies involved in the production of electronic components, representing 62.5% of the total sample, followed by the industries that produce parts for the automotive industry with 18.8%, in third place are the industries that engaged in the production of electrical and electronic accounting for 12.5%.

On the other side and to know the situation of companies in terms of organizational development to the stage of progress in its administration system, they were questioned about the existence of methods and software used. According to (Lilia Domínguez, 1999), she defines three levels of corporate culture: high, which houses the companies with the following systems, total quality, Material Requirements Planning (MRP), Statistics process control, continuous improvement program and supplier development program.

In the middle lie those with two or three of the previous programs and the level under which they have implemented only one or none of them (see Table 3)

TABLE 3: LEVEL OF CORPORATE CULTURE.

Company size	Number of enterprises according to their level of business culture			
	Large	Small	Total	Average

Large	15	0	15	3
Medium	10	0	10	3
Small	2	4	6	1.66
Micro	1	0	1	3
Total	28	4	32	2.66

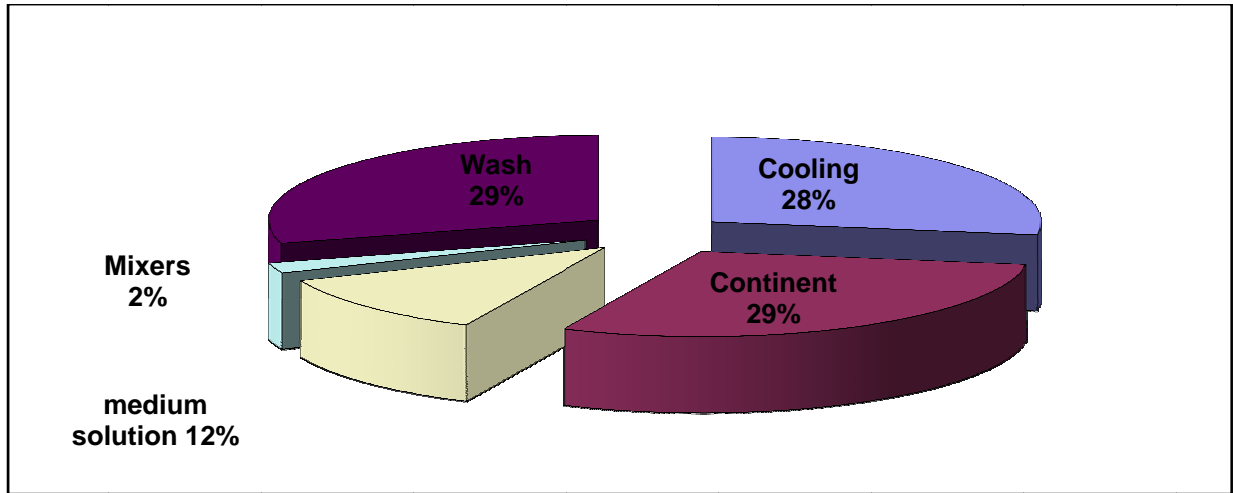
Source: Authors.

The electronics industry average is above the average, very close to the high level, this is because the vast majority of companies surveyed are large or medium and all of them with a high level of corporate culture, due to market demands and the competitiveness that is handled within the media, thereby completing the first objective of this particular work.

The company and the environment

The use of natural resources is a fundamental part in the production process, hence the importance of their management. In this sense, water resources and waste management represent significant environmental aspects in companies in the electronics industry, so it is important to know what happens to the water they use and what happens to the waste generated. In this regard, water is an important element of e-business in its production process as this vital fluid is used as a solvent or mixture directly and indirectly in the washing and cooling processes (see Fig.No. 2).

FIG.NO.2: MAIN ROLE OF WATER IN PRODUCTION PROCESSES.



Source: Authors.

As shown the three major water uses are as a continent or means of transportation, in operations such as washing and cooling processes, the magnitude of the discharge varies with the size of the company, and in some cases such as operations cooling water does not undergo any chemical or biological contamination so that it can be reused in another process. In the case of using water as a continent or in the washing operation is necessary that these processes are carried out as efficiently as possible to avoid waste, it also requires that some form of water treatment to reuse. In this regard, the business activities carried out in order to maximize the use of water, with the following systems (see Table No.4).

TABLE 4: WATER TREATMENT SYSTEMS USED IN COMPANIES.

Systems used	Number of companies	Average
Recycling system	3	9.4
Water recirculation system	5	15.6
Water Treatment System	9	28.1
System has no	13	40.6
Using the 3 systems mentioned	2	6.3
Total	32	100.0

Source: Authors.

Treatment systems reduce water pollution, once the activity has been the water is discharged to drain. Recycling systems treat water and allow reuse in companies in their production processes or the irrigation of green areas.

As shown in Table 3, the most widely used system is the water treatment, as just over 28% of companies indicated that they have this system. 40% of the industries do not have any water treatment systems or water recycling, however a large portion of them do not use water in their production processes. It is important to know the relationship between the companies if they use any of the above systems and the size of the company which according to the results of the survey was obtained as follows (see Table 5)

TABLE 5: SYSTEMS USED TO MAKE MORE EFFICIENT USE OF WATER BY COMPANY SIZE.

Systems used	Company size			
	Large	Medium	Small	Micro
Recycling system	1	2	0	0
Recirculation system	3	2	0	0
Water Treatment System	6	3	0	0
System has no	3	3	6	1
Using all the above schemes	2	0	0	0
Total	15	10	6	1

Source: Authors.

The large and medium enterprises are those with some system that allows them to maximize the use of water, only two companies have made investments that enable them to have all the required systems and is known as small and micro industries do not engage in any activity and carry out investments that reduce water use.

To determine the intensity of care of the water was analyzed based on the results of the questionnaire and providing an idea of what has been the environmental performance of industry in Jalisco. Are three ranges of intensity of care: high with three points that correspond to the companies that have reduced water consumption by reducing their cost and have more than two programs or systems in place to improve efficiency in water use within this range are only two companies, representing eight percent of the total sample surveyed. In the middle two points are located the company that have at least one program and also gained economic benefits due to the investment, they account for 40.0%. And finally in the lowest level are firms that do not have systems to maximize water use and these are the 52% of all industries surveyed (see Table 6).

TABLE NO.6: INTENSITY OF CARE IN USING WATER EFFICIENTLY.

Intensity of care	Number of companies	average	Score
Slow	13	52.0	13
Medium	10	40.0	20
Added	2	8.0	6
Total	25	100	39
Average			1.56

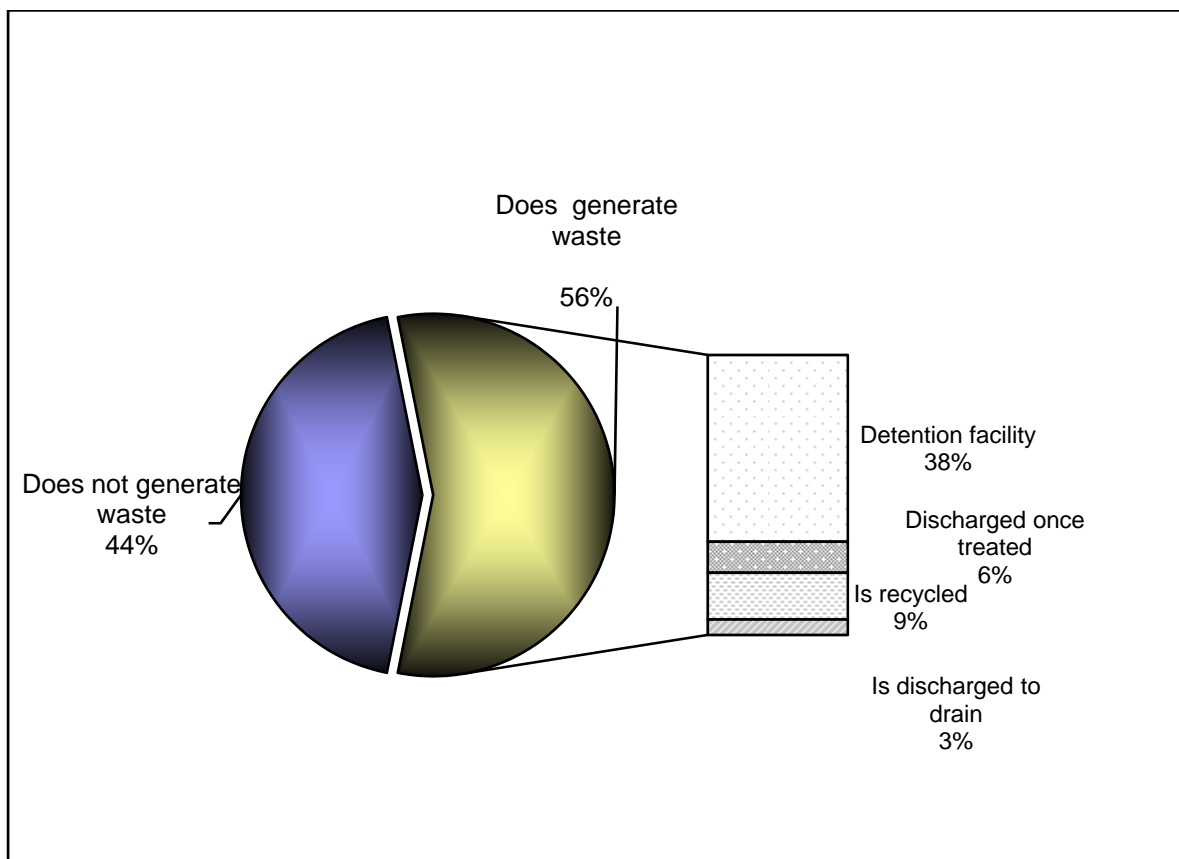
Source: Authors.

The average of all firms surveyed by the number of points obtained is 1.56, indicating that on average maquiladora electronics industry industrial corridor of El Salto, not even have a medium level in terms of intensity care in the

efficient use of water, so it is necessary to implement actions to improve this situation. However, despite the low average score, it is pertinent to note that it is undertaking a major change in business and that some of them have been conducting activities to promote the rational use of water, which indicates an improvement in culture business already mentioned.

On the other hand, in the process of production of the electronics industry generated among other liquid wastes such as solvents, sludge, processed water, paint and ink and wash water. For purposes of this analysis, questioned the companies selected in the sample if liquid waste generated and what was available to them (see Fig.No. 3).

FIG. 3: ARRANGEMENT OF LIQUID WASTE.

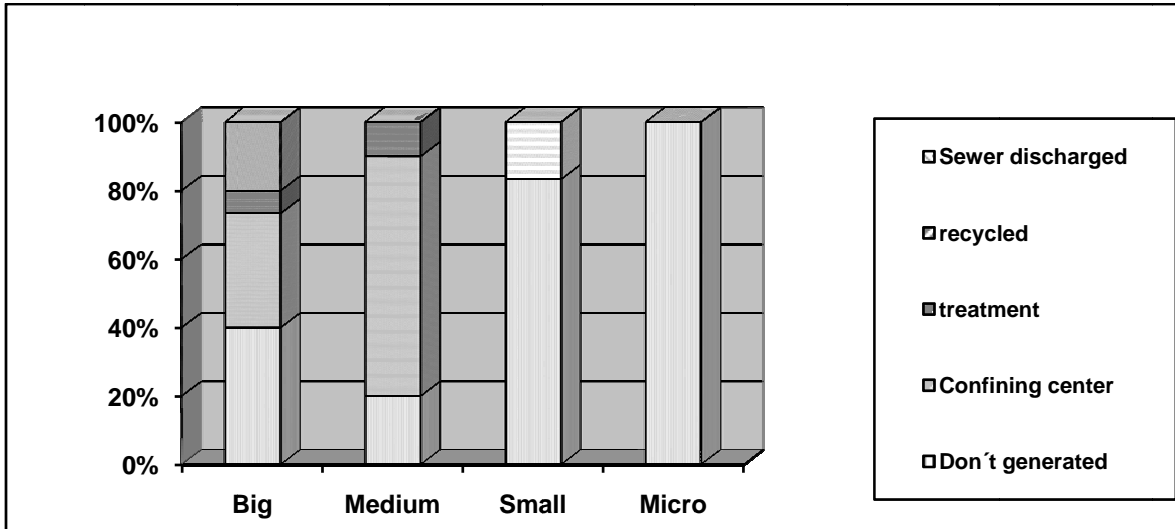


Source: Authors.

As noted, just over half the companies surveyed did generate liquid waste, most of the latter, 37.5% are sent to a detention facility, to contract these services companies were detached from the responsibility to adequate treatment of waste and they are handled with greater control of pollution by the contractor. 9.4% of the companies reuse their waste in other processes, holds 6.3% of water treatment and then be discharged to the drain and only 3.1% directly discharged to drain.

According to company size, are large and medium who generate liquid waste, but they who are responsible both to treat, recycle or send a company authorized this waste. Small and micro businesses do not generate waste and only one of them replied downloaded directly to the drain as shown below (see Fig.No. 4).

FIG. 4: ARRANGEMENT OF LIQUID WASTE BY FIRM SIZE.



Source: Authors.

As mentioned, the electronics industry is a major source of water pollution, however, the use of this resource in their production processes and waste generated from them, they become significant environmental aspects, thus giving effect to the provisions of the second specific objective of this work.

The company and compliance with environmental legislation

It is necessary for companies to become aware of environmental problems that generate the whole production process, for it is required to know what the law is demanded of these economic units. In this sense, the survey yielded information about the regulatory framework for companies located in the GMA electronic, almost 60% said yes, 19% said he was unaware of these standards and 21% of companies did not answer, some argue that because they do not pollute, do not know what the regulations, and does not apply to your industry.

Of the companies that know the environmental standards, 13 companies replied that they consider reasonable standards, four of them seem vague and only two companies believe the regulations imposed by the government is demanding. In this regard, the authority makes periodic visits to evaluate the environmental performance of companies and monitoring that they are giving to the rules imposed. The results are as follows (see Table 7).

Answer	Number Os Companies
yes	24
No	7
Did not answer	1
Total	32

Source: Authors.

The vast majority of companies if an environmental nature are visited by government institutions, however, they are not regular or constant, in some cases they "visit" is solely in filling forms and not a review depth of production processes. This can be advantageous for both parties, but is deteriorating environment, therefore, necessary that government intervention is more efficient in this area, and otherwise does not comply with current environmental regulations. Regarding environmental training programs, that enterprises had questioned them, the results are very encouraging as shown in the illustration (see Table 8).

TABLE 8: COMPANIES THAT HAVE ENVIRONMENTAL TRAINING PROGRAMS.

They have a training program	Average
Yes	53
No	47
Total	100%

Source: Authors.

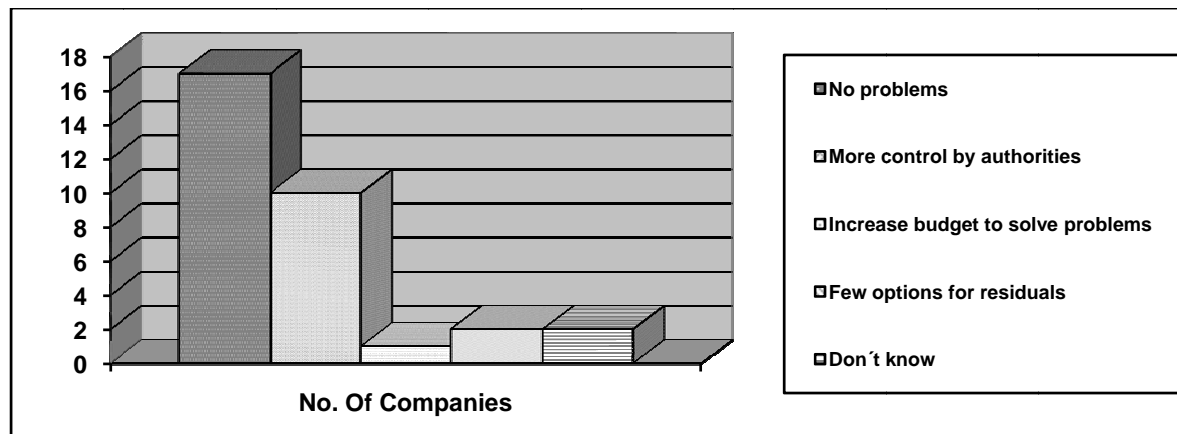
As shown in the table above, just over half the companies if they have an environmental training program, the rest has not been doing any activity that allows employees to know what actions could be done to help protect environment and prevent deterioration. Regarding the knowledge that companies have on the potential sources of pollution that might eventually generate in the water, it was found that the majority, 62.5%, if they have an inventory or known pollution sources, the rest (37.5%) have not made or are in the process of doing, some argue that it is not necessary because within their production processes are not performed polluting actions.

For all the above, the degree of compliance with existing environmental legislation is poor and the authority is partly responsible for this failure, a situation that requires both the government and the company meet this requirement of law for the benefit of society. With the above points are answered in the third specific objective of this work.

Environmental Outlook

An important point of analysis is to determine which companies are doing today to preserve and improve the environment. For this they are asked about some variables and perspectives that they had in the future. Questioned about it on the main environmental problems of a future, interestingly, most companies (53.1%) said not to provide any (see Fig.No. 5).

FIG. NO. 5: VISION OF THE FUTURE ENVIRONMENTAL PROBLEMS.



Source: Authors.

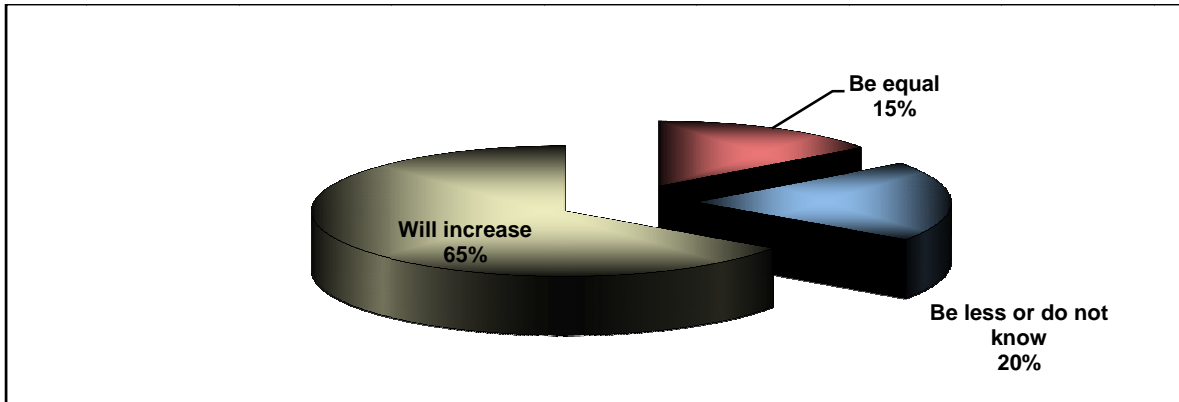
In this question, it's interesting that most companies do not provide for any kind of problem in the future, this is because the vast majority of respondents who answered this option are thinking only of your company as production unit, have no an overview of what happens in your environment, if your company pollutes or uses too much water, then, respondents felt that there will be no major problem in the future.

This point is important because the company apparently has not become aware of their role in the surrounding environment, and though while every economic manufacturing units are responsible for their own actions, should also be aware that belong to a economic group, and that their participation in this group must be active, and that the actions of one affect the other, and if others are not doing anything for scarce natural resources, this short-term impact on all companies .

31.3% of companies surveyed expected to require more control by government authorities, this is very important because if you work efficiently, can help solve environmental problems and the need for natural resources, besides awareness among businesses about the damage caused due to the production process, trying to make the change due to a change of culture and not only for meeting standards imposed. For 6.3% of companies indicating a problem, and which can be very serious, is the fact that there are few options for disposing of waste, this may jeopardize the improvement of waters in the state, and that media companies may opt to be avoided, so the participation of both industrial and government seems to be urgent. Another problem is that companies must absorb the cost of implementing technologies that allow them to efficiently use water or any other natural resource.

With regard to the future prospects of the companies on pollution control investment was found that the vast majority of respondents, ie 65.3%, felt that tend to improve or increase, to 15.1% investment will be equal, ie only large companies will be those who make the bulk of investment in pollution control equipment and programs and only 3.1% believe that investment will be lower in the future. The remaining companies do not know what will happen (see Fig.No. 6).

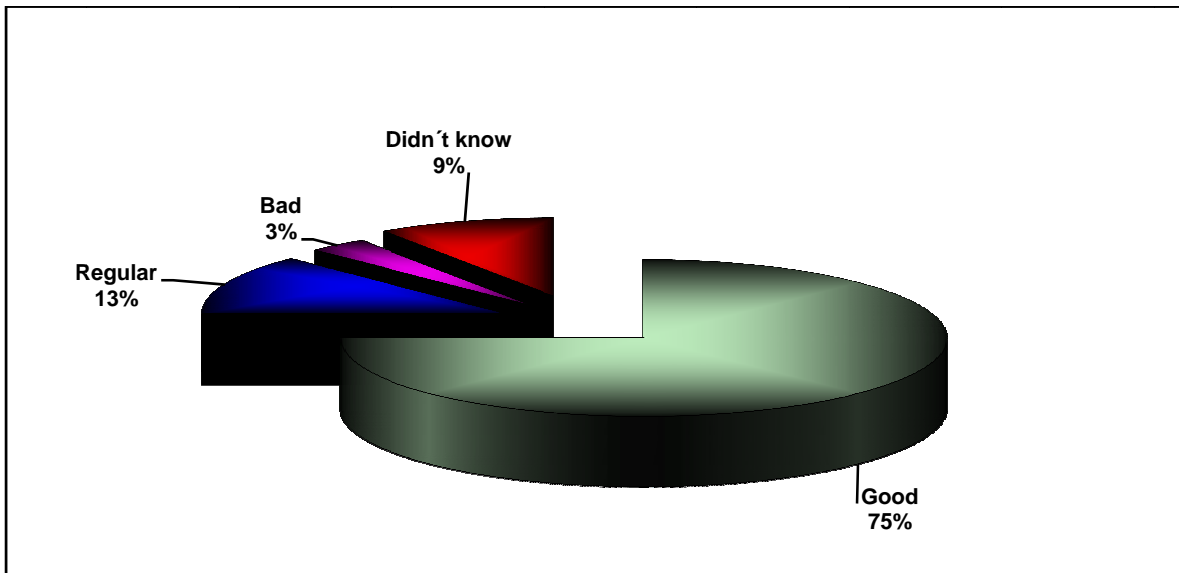
FIG. NO. 6: PROSPECTS FOR POLLUTION CONTROL INVESTMENT.



Source: Authors.

According to the results obtained by the survey, the companies anticipate that the relationship between government and business will continue as now good overall, according to the following (see Fig.No. 7).

FIG.NO. 7: PROSPECTS FOR THE RELATIONSHIP BETWEEN BUSINESS AND GOVERNMENT



Source: Authors.

Although for 75% of companies surveyed (24 companies), the relationship for the future between them and government institutions will be good, only 15 companies replied that the standards imposed are reasonable, for the 9 remaining companies are demanding standards and imprecise. Which indicates that companies would be hoping for an improvement in their relations, so it is compulsory for the government both federal and state and municipal plans are developed to enable them to work together with industrialists in order to achieve change corporate culture, and if

the state of Jalisco vocation is to belong to the manufacturing industry, then it must carry out actions that have clean industries in harmony with the environment, ie that development is sustainable for the benefit of all .

In this last and how compliance with the provisions of the fourth specific objective of this work, we recommend that the electronics industry located in the industrial corridor of El Salto, a holistic approach to environmental management and uncompromising commitment to social responsibility, which have the infrastructure necessary for the preservation of the environment, which simultaneously boost economic growth in the region but will include stakeholders with subsidiarity and strategic vision, relevant aspects of sustainable development.

PROPOSALS

No activity is free to generate environmental impact or arouse criticism from environmental groups, why the concern for the environment is a social and legal requirement that every company must address. In this sense and according to the results, the relationship is established between the electronics industry located in the GMA and environmental management which allows then to propose strategies for improving performance under a sustainable framework, as stated the overall goal of this research.

- According to information obtained and compared to the first specific objective of this work, it has good corporate culture, environmental management information placed in a prominent place, but be aware that this is not relevant if not used in solving problems, hence the company has the inescapable ethical obligations to dispose of it for society as a whole. The products and goods that are designed, will have to consider much more seriously its recycling capacity or revaluation at the end of its life cycle, ie the life cycle analysis must increasingly become a standard tool. In this regard, and given that these organizations have the right tools to influence an environmental culture both internally and externally, should adopt a proactive attitude of respect and care for the environment that allows you to make all parties concerned are their allies and carry out conservation efforts of nature, which undoubtedly will be the backbone of the company's future interaction with their environment.

- We identified two significant environmental aspects of water use and waste generated in production processes as noted in the second objective of this work, is you must have a social attitude bent on saving and conserving water for which must go beyond legal compliance in this area. Authorities are required for regulating water consumption, if it exceeds a certain amount every month should be forced to the ground to try and reuse this resource in order to avoid waste. It is necessary that both industrial society and consider that water is an economic good that must be used efficiently and rationally. The wastewater treatment is another alternative that should continue to promote more broadly for all companies in the industry. Wastewater recycling is saving support in every way, since the possibilities of use of treated water are very broad and can be used by the sector in its processes such as cooling and cleaning and irrigation of green areas. Similarly, there must be a constant search for innovation and development that would reduce its maximum waste generation.

- The questionnaire used, information was obtained on the third objective of this work in establishing a poor compliance with environmental legislation, the construction of a new model of growth of Jalisco, should promote a comprehensive and sustainable regional development primarily engage the industry to fully comply with current legislation, and promote the engagement of all sectors in specific tasks to ensure its realization for the environment. In particular territorial policy must go beyond a strictly regulatory approach and must become a process of promotion and induction of private and public investment in infrastructure and financing sustainable development in the region of El Salto de la ZMG in particular, which is one of the hardest hit state. This vision must include all municipalities, especially the least developed, for the purpose of having greater financial and administrative capacity, enabling them to aspire to higher standards of welfare and progress. That is, the state administration should build a management system that promotes inter-sectorial coordination, social participation and intergovernmental

competition for society as a whole. For this, it plans to establish environmental policies that protect and ensure the sustainable development of natural resources of the state and especially the GMA and that public opinion, ie the citizen, requires companies to act properly and in compliance with the law.

- Finally in the fourth specific objective of this work establishes the environmental commitment to be getting the electronics industry to be socially responsible in a sustainable framework; In this regard it must be recognized that environmental problems are externalities that must be corrected, this amounts to achieve those who generate environmental damage costs the bear, which can be achieved through various means including the establishment of regulations and their enforcement, persuasion and cooperation or through economic instruments. The latter are meant that officers receive appropriate signals from the price system to incorporate in its objectives or functions of well-being permanent motivation for sustainable management of natural resources and reduce pollution and waste generation, so that This will decrease the inherent negative environmental effects. It is therefore proposed to develop a new tariff system which pays more than the most consumed, even if it exists, it is desirable to review and amendments thereto providing for environmental pollution, which encourage the different sectors to use if the process allow treated water or treat water used and of course meet the waste generated by giving them a proper and sustainable disposal.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Industrial development has resulted in the depletion of natural resources and pollution of air, water, soil and biodiversity of the planet, a situation that was raised at the summit meeting of the United Nations held in 1972 in Stockholm, Sweden and recognized until 1987, when through the Brundtland Commission established the concept of sustainable development, defined as development that meets the needs of the present generation without compromising the needs of future generations.

On the other hand, development and environment are not only not opposed but are two different aspects of the problem and acquire a new dimension to sustain that economic growth is fundamental to social welfare only when it is extended under the framework of development sustainable. In this regard, the maquiladora is a significant development in countries and regions of the same venues and Jalisco is no exception, but of course, keeping a strict respect for the environment.

In this sense, this paper presents the relationship between executive management in the electronics industry located in the GMA and the receiving environment, which met four main aspects and the present situation that each saved due to the continuous physical exchange . In this exchange are used primarily natural water resources with its various uses including various types of discharges and waste generated during the production process of these companies.

An important result is the fact that there is a regulatory framework which should be adjusted industrial and has enabled them to somehow give a partial fulfillment for the environment.

As I can see, the electronics industry does not significantly contaminate the water used in their production processes; however, these companies use a large quantity of this vital liquid, a situation that should be considered as a relevant factor in environmental management to propose immediate solutions thinking sustainability as a way of life and future. In this regard, and as a result of this study, we propose strategies that lead to efficient resource use and waste reduction. That is, they must take concrete actions to increase efficiency in the environmental management and it is immersed in the overall management of the company, because according to (Mercado García, 1999, 221) "To the extent that reflects a waste pollution raw materials and energy, we can say also that a company

that has systematized his accounts and has launched programs in production management with continuous improvement and training programs designed to reduce wastage and improve quality of life of the goods produced, have a greater technological and administrative capacity to identify and solve environmental problems "

Recommendations

Knowledge of environmental management that are electronic companies established in the GMA, is a topic of interest, since it will depend on the measures to be taken into account by businesses and by the authorities in the field, to the effect that will continue with the state's economic growth without damaging the Santiago river basin and therefore compliance with the foundations of sustainable development meeting the improvements that impact on the harmony of the environment and hence on the quality of life of citizens.

An important point which has drawn attention, is that most respondents do not foresee any future environmental problem, because your company does not pollute or do not know. In this regard, employers in the electronics industry should be aware of their social responsibility and future, therefore it is essential that government intervention will generate information and lead the company's relationship with universities and schools of the place, course involving society in general.

As noted, the preservation of the environment by employers depends on a number of factors not only internal to the company, but some of them are external, such as stakeholders. While it is true that their actions such as improving their production systems to prevent waste is essential, and largely solves the problem, also the role of government is essential to promote this change in environmental management and there must be clear rules and consistent with the objectives that were intended to reach and all that is completed.

It should be emphasized that environmental management must be an aspect of business and must be integrated into the daily practice of company management, environmental management must be part of the overall business system that includes organizational structure, responsibilities, practices, procedures, processes and resources that determine the performance and company policy.

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ATTACHMENTS

Attachment 1

Questionnaire administered to the electronics industry located in the metropolitan area of Guadalajara, Jalisco, Mexico with regard to management and environmental policy.

1. ORGANIZATIONAL PROFILE AND DEVELOPMENT

1.1 Name of company:

1.2 Business Size : ___ Large ___ Medium ___ Small ___ Micro

1.3 Main line products manufactured

1 _____

2 _____

3 _____

1.4. Indicate whether the company has:

a) Quality Systems total _____

b) _____ MPR Systems

c) Statistical Process Control _____

d) Continuous improvement programs _____

e) Supplier Development Program _____

f) Other (specify) _____

1.5. Does the company have a formal job training program?

Yes ___ No _____

2. BUSINESS AND THE ENVIRONMENT

2.1. Processes to nest where they use more water

Product 1 Product 2 Product 3

Cooling ___ Cooling ___ Cooling ___

Continent____ Continent____ Continent____

___ Middle Settlement Middle Settlement Middle Settlement ___ ___

Mixtures____ Mixtures ____ Mixed____

Washes ____ Washes ____ Washes ____

Other_____ Other_____ Other_____

2.2. Does the company with an inventory of potential sources of contamination?

Yes___ No_____

2.3. What is your current water consumption (monthly, yearly, per unit of product, etc.)

2.4. Total volume of water discharge (average daily, monthly, etc.).

2.5. Has this consumption from the company had to comply with environmental standards?

Yes_____ No_____

2.6. Have you made any investments to make changes in consumption?

Yes___ No_____

2.7. Did you get any advantage in terms of cost reduction?

Yes___ No_____

2.8. The company have:

a) A recycling system _____

b) Recirculation _____

c) _____ Water Treatment

2.9. Liquid wastes are generated:

Yes___ No_____

2.10. How to have them?

3. THE COMPANY AND COMPLIANCE WITH ENVIRONMENTAL LEGISLATION

3.1. Does the company have a training program on the environment?

Yes_____ No_____

3.2. Please state environmental standards or other environmental regulations in their field:

3.3. As regards these rules: Reasonable_____ Exegetes_____ inaccurate or confuses_____

3.4. Does the plant meets the requirements beyond the environmental standards of its industry? Yes_____ No_____

3.5. "The plant has received regular visits for environmental?"

Yes_____ No_____

4. ENVIRONMENTAL OUTLOOK

4.1. How is your biggest problem of environmental impact in the future?

4.2. What is your opinion about the future of pollution control investment in your industry?

4.3. How expected to be the future relationship between the company and the authorities responsible for environmental policy?

4.4. Do you consider that compliance with environmental standards affect competitiveness?

Comments

Appendix No.2

Simple random sampling method

Is to select a sample of size n from a population of N units, where each element has a probability of inclusion and known as n / N . This method has the advantage of being simple and easily understood, for it was used the following formula, which is useful to calculate the sample size in finite populations. For its calculation we have the following equations:

$n' =$ provisional sample size = sample variance

population variance

Corrected later with other data, in line with population size

$n = \text{Sample size} = n'$

$1 + n' / N$

Where:

n: Sample size

N: Population size

Z: Value for the Gaussian distribution for $\alpha = 0.05$ 1.96

In this case we find that the standard error (I) was 15% and an occurrence Probability 50%

Then:

$I = 0.15$

$P = 0.5$

Through the Maquiladora Industry Association of the West, were able to confirm that in the Guadalajara metropolitan area was established until 2008 approximately 126 companies engaged in electronics production. Therefore took this as our universe. Then with the total population size (N) of 126 companies. The data were taken into account to obtain the sample size are:

Variable	Data
Z	1.96
A	0.05
P	0.5
Q	0.5
$I^{(IV)}$	0.15
Sample size	32

$n' = n' = 43 = 43 = 32 \text{ sample size}$

$1 + n' / N = 1 + 43/126 = 1 + 0.3413$

Endnotes

ⁱDocumentary material taken from the Master in Environmental Engineering Company. The biosphere. Definition and fundamental ecological characteristics. Open University of Catalonia, Barcelona, Spain. 2003

ⁱⁱAccording to the House of Electronic Industry. Bimonthly publication. Magazine "Manufacturing" Volume 3. December 2008.

ⁱⁱⁱThese were chosen at random from the directories obtained from the different cameras and electronic business associations located in the GMA.

^{iv}The implementation of the survey was conducted in the metropolitan area of Guadalajara to 32 companies in the electronics industry, selected at random from different directories from the different chambers and business associations.

Governance and Design in Infrastructure Public Private Partnerships: The Indian Experience with the Bangalore International Airport

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Abstract

Public Private Partnerships are attracting attention in both scholarly and policy discourses. Politicians, policy makers and researchers the world over are talking about them. The growing demand of a vocal public for better infrastructure services, coupled with constrained government budgets, has made PPPs an attractive public policy option. If PPPs are here to stay, we need to learn how to make them work. Academic scholarship has not addressed this imperative, and praxis is still grappling with it. My research proposes to use an integrative framework along with a case study approach to explore the characteristics and issues relating to an infrastructure public private partnership, and the policy processes and institutional structures that will make PPPs an effective and appropriate policy instrument.

My case study of the Bangalore International Airport involves three levels of analysis, national, local and project level. The study will cover three broad thematic areas of PPPs: public interest and accountability, private efficiency and profitability, and organizational and policy design. Borrowing concepts from public policy, economics, organization theory and finance/law, and a practical understanding of policy processes and political realities, i propose to prepare an integrative framework of critical issues relating to PPPs, using the experience of Bangalore International Airport.

PPPs are still a nascent phenomenon in developing economies; this is an area where, “theory is yet to catch up with practice” (Allan, 2001); PPPs have evoked interest in several disciplines, including economics, public policy, law, finance and organization theory. As PPP literature developed separately along conceptual and empirical traditions, with little cross-fertilization between the two, research became less grounded and more speculative in consequence. Though PPPs have evoked interest from several disciplines, each disciplinary tradition examines through its own lens and vocabulary, often resulting in a blinkered vision which ignores vital issues. The fit between theory and practice becomes elusive as the literature continues to follow these independent trajectories. Extant literature largely relates to developed economies, though PPP implications for developing economies are critical. Research which marries the theoretical concept of PPPs to the practice and process on the field, with a developing country focus and an integrative cross-disciplinary framework is therefore essential. This is the gap we propose to fill.

In doing so, we pose the following questions:

- How can we use governance and organization design to achieve public interest and private efficiency in a public private partnership in the Indian context?
- What is the context, actors and institutions and how do they interface with one another?
- How can design and governance elements be used to achieve the desired objective?

Using a qualitative paradigm and embedded case study design using data from archival sources and interviews, the study presents the following conclusions.

- The effective implementation of PPPs requires a shift of focus - from project to process
- PPPs require a second shift of focus-from the firm (SPV) to the partnership,
- PPPs require a broadening of our notion of governance-from the dyadic engagement between the public and private partners to domain-based governance and engagement with society and citizenry.\

I. INTRODUCTION.

Public private partnerships are attracting considerable attention in both scholarly and policy discourses. Politicians, policy makers, bankers, scholars, researchers the world over are talking about them. The growing demand of a vocal public for better infrastructure services, coupled with constrained government budgets, has made PPPs an attractive public policy option. As Greve & Hodge state “PPPs are now an increasingly relevant and popular public policy option throughout In spite of PPPs attracting widespread media attention, there is very little clarity in the public mind about what is a public private partnership. There is certainly no consensus about what outcomes we can expect from a successful PPP, or how we can execute them successfully, not just in the popular or policy discourse but even in scholarly debates about the subject If PPPs are here to stay, we need to learn how to make them work. Academic scholarship has not addressed this imperative, and praxis is still grappling with it.

Hammersley states that all qualitative research should be “relevant to some legitimate public concern” (1992). The purpose of my study is to examine two critical issues in the experience of Bangalore International Airport (hereinafter BIAL). These are (a) the decision relating to the location of the airport and (b) the controversy that broke out to retain the former HAL airport as a civilian airport even after opening of the BIAL. Though divided in time, these interlinked episodes give us an insight into the kind of issues that can arise while implementing large infrastructure PPPs in the Indian context. My approach helps to explicate the contemporary dilemmas that governments face in the changing economic globalized scenario today- balancing the traditional workings of political and bureaucratic practice and tested systems of public accountability to the new, at times conflicting and contradictory, demands of private foreign systems. My work involves three levels of analysis, the national context, the sub-national local context and the project level. Borrowing concepts from public policy, economics, organization theory and finance/law, as well as a practical understanding of policy processes and political realities, I utilize an integrative framework and a case study design to highlight the interplay of forces, actors and arguments in megaprojects such as BIAL.

II. Mapping the terrain: a review of literature.

Scholarly literature on public private partnerships can broadly be categorized into two groups: (a) conceptual pieces that deal with ppps as an economic, and/or organizational entity (b) contextual descriptive case studies of particular projects or policies. The evolution of ppp literature was influenced by three factors: ppps are still a nascent phenomenon in most countries, in particular developing economies; this is an area where “theory is yet to catch up with practice” (Allan, 2001); ppps have evoked interest in several disciplines, including economics, public policy, law, finance and organization theory, but with little cross-fertilization. Taken together, the literature gives us an intelligent and varied perspective on public private partnerships. However, as PPP literature developed separately along conceptual and empirical traditions, with little cross-fertilization between the two streams, research became less grounded and more speculative in consequence. The fit between theory and practice becomes more and more elusive as the literature continues to follow these independent trajectories. Research which marries the theoretical concept of PPPs to the practice and process on the field is therefore essential.

III. The context.

“Understanding the context, political, economic and cultural, in which the case study is embedded, is vital in a world where cultural barriers are becoming permeable” (Kamath, 2006). Around the 1980’s, winds of change swept over the way governments conducted their business. Nicknamed ‘Thatcherism’ and ‘Reagonomics’ after the political leaders who spearheaded it, the new wave was most powerfully felt in the UK and the USA, but left its mark on most countries of the world. India, anxious both to retain its socialist heritage and yet not lose out on the gains of capitalism, adopted a gradualist approach, liberalized its economy in 1991, bringing the public sector down a notch or two from the ‘commanding heights’ of the economy. A growing focus on infrastructure provision to cater to

corporate demands also characterized the new liberalized state. While national policy set the parameters within which growth occurred, sub-national governments began taking advantage of those opportunities for growth. Karnataka in early-2000 was symptomatic of this trend. The new congress government that came to power in 1999 emphasized governance reform, attracting investment and marketization, with primary focus on the corporate sector. A new idea of 'brand Bangalore' began to make the rounds in the 1990s, nationally and internationally.. The creation of a new urban landscape was characterized by certain flagship projects, which "are the material expression of a developmental logic that views megaprojects and place marketing as means for generating future growth and for waging a competitive struggle to attract investment capital" (Swyngedouw, 1989) (Ferguson, 1990) (Swyngedouw *et al*, 2002) (Short *et al* , 1993) (Hall & Hubbard, 1996) (Kamath, 2006).

IV. THE BIAL STORY.

The idea of a new airport for Bangalore was mooted in 1989 by a former director of the state owned national aeronautical laboratories, to meet the growing aviation needs of the city. From 1989 to 2008, the project has seen many changes in elected governments at the government of India and government of Karnataka. The story of BIAL is not over. The project still draws bouquets and brickbats, and litigations relating to the project are pending, this maiden effort at a Greenfield airport for Bangalore is truly rich in its political economy and public policy implications. In the ancient Indian language of Tamil there is a proverb that says: "the elephant alive is worth a 1000 gold coins, an elephant dead is also worth a 1000 gold coins". So also, this project is a repository of lessons, both in its achievements and its mistakes. For a researcher and policy maker, it offers an endlessly fascinating study.

V. PROCESS OF SITE SELECTION.

The Valluri report of 1989, based on a study of air traffic growth in Bangalore and the plans of several international airports, recommended four alternatives to build a new domestic airport. The Civil Aviation Ministry set up a committee in March 1991 under the chairmanship of a former Secretary to Government of India and Chairman of International Airport Authority of India "to examine alternative sites for construction of a modern and futuristic civil airport of international standards of international standards and make suitable recommendations". The committee, which comprised technical members from nal, hal, iaf iaai ,dgca and Indian Airlines; state government secretaries from pwd and Revenue departments, and industry representatives from cie, fkcci, Travel Agents Association of India and Air Cargo Association of India, submitted its report to the centre in June 1992. The contents of the report become especially important in view of latter day allegations in the media that the location decision was made casually and without much thought.

In the period between March 1991 to June 1992, the committee held five sittings in Bangalore on 19th/20th April 1991, 19th December 1001, 19th February 1992, 15th June 1992. In addition, a meeting was convened on 4th July 1991 and attended by members stationed in Delhi. A meeting of the special core group was held on 24th march 1992 in Bangalore to study issues of integrated airspace management. A detailed narrative in the report details the process followed by the committee. Its first step was to lay out the norms for site selection. Broadly, the criteria invoked during deliberations included: the capacity to meet both domestic and international traffic, safety requirements, operation of B-747; constraints of airspace management due to the existence of three airport in Bangalore, a runway length of 14500 ft suitable for airbus -300 and occasional landing of B-747; adequate provision of land area for construction of a parallel runway, taxi-tracks and additional passenger terminals, adequate space for all infrastructures such as 4 to 6 lane express highways, rapid mass transportation systems for access to airports, residential colony for workforce, terminals for international and domestic cargo, provision of water supply for airport and colony, location of oil terminal, a site dimension capable of accommodating a strip 6kmx2.5km, site should meet traffic growth for next thirty years. A formal document of technical parameters was prepared by NAA and provided to the state government

Different site options in the north of Malur, Kengeri-1, Kengeri-2, Vijayapura, south of Devanahalli and Yelahanka, and Kanminike village, near Mysore road, Bangalore south were proposed to the committee, of which two-

Vijayapura and Devanahalli- were shortlisted for inspection. While the committee members conducted ground inspection of the proposed sites-“the entire team walked around these areas”, the HAL member Capt. Ashok conducted aerial. The committee also formed a core group of officials of the NAA (resume of second meeting) to examine the sites in detail after receipt of data from the state government. The core group met on 03.07.1991 and prepared a detailed comparative statement. In pursuance of a suggestion from Dr.Valluri, who was apprehensive of the distance of Devanahalli from Bangalore, the Core Group of Director (Planning), Director (Operations) and Assistant Director (Planning), NAA visited air headquarters on 25.10.1991 and examined the feasibility of Yelahanka aerodrome.

The final evaluation therefore relied on the following: The deliberations of the committee;The spot inspection of committee members;The comparative statement of sites by the core group;Aerial survey by Captain Ashoka;The core group spot inspection and feasibility report on Yelahanka aerodrome site ;NAA’s Proforma for selection of site;The details furnished by the state government;The report on cargo handled at Bangalore air cargo complex;Perspective plan prepared by Indian airlines . The options narrowed down to Devanahalli. This site was 15 km north, north east from Yelahanka air force airfield on highway-7. It was 5 km south of Devanahalli, which was the taluka HQ, commencing in the revenue limits of Yarataganahalli village as its western boundary near the national highway and stretching east-west. The distance from the Vidhana Soudha, the state secretariat building in Bangalore was 29 km. This land was found suitable for an airport of international standards. It had enough land for a terminal building, runways, associated facilities and for cargo, engineering and maintenance base. There was also room for expansion in view of the availability of land. The site was only 29 kms from the central line connected by the National Highway 7 and also served by a narrow gauge rail line which almost ran parallel and adjacent to the national highway at the point where the western boundary of the proposed site ends. It was possible to provide the direct rail links to the terminal building in the proposed site after discussions with the ministry of railways and the state government. If this was done, the feeder services from the airport could be run connecting both the Bangalore cantonment and the city railway stations. This would eliminate to a great extent the need for commuting by cars and coaches to the airport, thus resulting in tremendous savings in fuel.

This is the story of the location decision, the selection and location of the new Bangalore airport in Devanahalli. As we saw, this process took place between 1989-92, and was approved by the government of India in 1994. Now let us fast forward to 2008, the new airport construction is almost complete, and the city and the airport readies for the inauguration after a twenty year wait.

VI. **The HAL airport: to close or not to close?**As the construction progressed and the aod was approaching, opinions came to be expressed through the media, seminars and debates that the HAL airport should not be closed for commercial operations. The union civil aviation ministry gazetted a notification on 16.5.2008 stating that the HAL airport would be closed down on 22.5.2008 midnight simultaneously with the opening of the new international airport at Devanahalli . This became the trigger for the “**Save HAL**” campaign.

Unions and employees associations.Substantial resistance came from the employees union of the airports authority of India. What began as a ‘non-cooperation’ drive became an indefinite nationwide strike of an estimated 18000 employees working at 135 airports across the country. Airport operations across the country came to a halt after talks between the Airport Authority Employee’s Joint Forum and Secretary, Civil Aviation failed and their demand to continue operations of the existing Bangalore and Hyderabad airports was rejected. Though the employees’ union protested privatization of airports in general, it also focused specifically on the development of new airports at Hyderabad and Bangalore by private players, which would eventually result in the closure of existing ones run by AAI. One of the union representatives stated; “our agitation is also in protest over the ongoing privatization of airports by the AAI”.

Corporates. If the unions were the hard muscle, the corporate sector was the suave voice of the protest. Information technology companies in the city represented by Nasscom president, Infosys Vice President, Chief Executive Officer, and Wipro CEO, appealed to the Karnataka chief minister to retain the HAL airport even after the opening of the Devanahalli international airport. In a memorandum to the chief minister during a breakfast meeting, they felt

that retaining the present airport would be appropriate instead of closing down of commercial operations. The federation of Karnataka chambers of commerce and industry president was quoted as saying the “road commuters will be the first to feel the heat. It doesn't make sense to travel for two hours to the airport to catch a 30-minute flight” and that some flights should be retained at the HAL airport, at least till a rail link or a dedicated road is established between the city and Devanahalli .

Private airlines. The media reported that leading private airline operators called upon the state and central governments to re-examine the decision to close the HAL airport to commercial traffic once the Devanahalli airport became functional. Their contention was that not only many global cities have more than one airport; certain flights are best operated out of a facility closer to the city. Managing Director, Air Deccan, apparently representing the private airlines’, confirmed that he was in talks with the government. “Bangalore is a global city, and all global cities have multiple airports. London has five. I met the chief secretary a few days ago, and he indicated he's open to the idea”.

- **Parliamentary and legislative committees.** At this juncture the parliamentary standing committee on transport, tourism & culture was requested to submit a report on privatization and modernization of airport of India. The committee visited Bangalore international airport on 15.9.2008, and conducted wide ranging discussion with various stakeholders including representatives of airport authority employees union. Subsequently it submitted its 142nd report to the parliament titled “functioning of private airports and related issues” which discussed exhaustively the demand for keeping the HAL airport open. The report highlighted several issues: The closure of the HAL airport was not mentioned in the tender for Bangalore greenfield airport and making an offer of closure of HAL airport, after notice inviting tender appears to be a clear violation of the due process; granting permission start a greenfield airport within a radius 150 km of the existing HAL airport, without a passenger sharing formula prima-facie seems to be in violation of the govt. Policy on airport infrastructure; the continuance of the Bangalore HAL airport with the consent of the management of BIAL and govt. Of India shows that if the govt. wants they can operationalize the old airport with notwithstanding the concession agreement; sec.5a of aircraft act 1934 under which HAL airport was notified to be closed talks of danger to the aircraft / country which reason is totally irrelevant for the instant case; the NOC for setting of Bangalore greenfield airport by the ministry of defence made it amply clear that the operations at HAL airport will continue even after BIAL becomes functional and the choice of airport to be utilize should be left to the operators / commuters / general public; there are examples of more than one airport coexisting in cities to cater to various types of passengers requirements. For all the above reasons the committee recommended that the HAL airport should be made functional.

Civil society. Ramesh Ramanathan, of Janaagraha, largely representing the voice of the residents of Bangalore south , wrote in a daily as follows: “so, a few weeks in advance, here’s a greeting to Bangalore’s air travelers: welcome to the most under designed, under connected, woeful piece of infrastructure that is the face of new India to the world. Maybe we can harness a new source of renewable energy in India: “angry citizen energy”. It’s available in plenty, and being replenished every day by our governments.” The first legal challenge to the goi notification in the high court of Karnataka also came from a Bangalore resident on the grounds that the provisions invoked by the civil aviation ministry for closing down the HAL airport, that is, section 5a of the aircraft act, 1934 and rules 11 and 78 of the aircraft rules 1937, and clause 5.5 of the concession agreement dealt with the opening of a new airport and not its closure; sufficient notice had not been given to the parties before the notification was issued

The arguments put forth by the advocates of the save HAL campaign were as follows:

- **Capacity constraints.** A team of AAI officers undertook the study from 16th June to 18th June 2008 at New Bangalore International Airport. The study was not released to the public and the details in it have not been corroborated by BIAL, but portions were leaked to the press and gave a fresh twist to the controversy. The study maintained that new airport has been built to handle 9.78 million passengers much less than the 11.4 million passengers claimed by BIAL; and at least 10% less than the capacity of the old HAL airport. The AAI study also recommended that the old airport, run by Hindustan aeronautics ltd, or HAL, reopen until such time additional capacity is added at the new airport on Bangalore’s outskirts.
- **The exclusivity clause.** When BIAL was conceived, a concession agreement was entered into with the government of India, wherein the latter granted the exclusive right and privilege to BIAL to carry out the development, design, financing, construction , operation and management of the airport for a period of thirty years from opening date with

an option to extend the concession for another 30 years. A number of other agreements were also in place to support the concession agreement. At the time of the concession agreement it was the policy of the government of India that airports serving the large metropolitan areas shall have monopolistic rights of carriage; that is they were assured that no competing airports would be permitted to operate within a 150 km radius from them. In line with this, BIAL too was assured in the concession agreement that no new or existing airport will be permitted to operate as a domestic or international airport within 150 km. But there were variations in the way this was implemented in different cities, Bangalore, Hyderabad, Pune, Mumbai, due to local considerations. Notwithstanding these, it was agreed in the concession agreement that when BIAL became operational, the old HAL airport would be denotified for commercial passenger traffic.

- **Access and connectivity.** As the deadline to switch airports drew near, there was increasing consternation among certain sections of the public that the new airport may be ill-suited to serve a portion of the existing demand. During the last decade or so, Bangalore witnessed rapid development of its southern and south-eastern suburbs, whereas the new airport lay far to the north of the city.. Mysore also lay to the southwest, and there was development along mysore road. As a result, a population, numbering over 2.5 million in the larger metropolitan region from south-west to south-east, including Hosur in Tamilnadu, faced the prospect of having to drive forty kilometers or more to reach the new airport, and sometimes through congested city areas, to reach Devanahalli. Given Bangalore traffic, it was estimated that travel from majestic city centre to the new airport would take two hours; and an hour more from Bangalore south; including the three hour advance time for international travel, a resident would need six hours to catch an international flight, the same as going by road from Bangalore to Chennai!
- **A rival airport?** In Delhi, it appeared that the one-airport policy would be discarded as the area under the exclusivity clause intruded into a second state, and the government of Uttar Pradesh was planning a new airport in greater Noida, only seventy kilometers from Indira Gandhi international airport. In Bangalore too plans for commercial operations were on in Puttaparthi airport in Andhra Pradesh. BIAL argued that a new airport in Hosur would be precluded by the concession agreement, but judging by the example of the new proposed airport at Noida, it was likely that neighboring states that were not party to the agreement would not feel bound by it. In that case Tamilnadu or Andhra Pradesh could insist on their independent right to develop an airport within their borders without being constrained by a concession agreement between BIAL and Karnataka. To forestall that, it would be more efficient to retain the economic benefits linked to HAL airport and even to try to draw traffic from the growing twin city of Hosur, giving less room for the development of an airport outside the state.
- **Dual airports as an international phenomenon.** It was pointed out that more than 25 cities, including New York, Washington DC, Paris are served by two or more airports each carrying several million passengers a year. The average catchment area of such is typically 300-400 square kilometers each, roughly half the size of the current municipal area of Bangalore. Major metropolitan airports of the country, Delhi, Mumbai and Chennai all have firm plans for the establishment of new airports. Whatever the merits of an exclusion zone granted to BIAL, it appeared that other metros were able to demand and obtain exceptions to the single airport policy of the civil aviation ministry. Therefore, if the 'one airport per metro' policy was applied only to Bangalore, and if the centre itself abandoned the policy in its new aviation policy it would be advisable for Bangalore to be certain that it suffers no discrimination among metros on account of this policy. (CPP, IIMB, 2008, p. 16).
- **Hub for domestic, low-cost, short-haul traffic.** Prophesying that "fears are coming true", supporters of save HAL claimed that BIAL would discourage travelers flying on short-haul routes -those that have a flight time between 30 minutes and an hour. "Those who are travelling before March 30, when the new airport opens, and plan to come back after march 30, are booking onward flight tickets but are wary about booking their return tickets. Passengers having to fly out of the city from the new airport are thinking twice if their chosen destinations are on the short-haul sectors". The argument was that the distance and the expense made rail and road options more attractive to the visiting-relatives-and-friends segment of passengers who formed over 70% of short-haul destination flights. "if people find train and bus travel to be a smarter option, then airlines will have to discontinue certain short-haul routes or rationalize their frequency on some". Short-haul routes are unlikely to increase despite the new airport's capacity a 26% increase in domestic flights compared to what HAL airport currently handled.
- **Economic activities linked to an airport.** Inevitably, a range of businesses come up around any airport directly linked to the travel industry, but also to serve the secondary needs of establishments. It was argued that over the

course of its operation in east Bangalore, HAL airport has created a large eco-system in the tourism, travel, software, engineering, services and other industries that critically rely on the connectivity it provides to other cities and the rest of the world. The likely economic impact of disrupting this ecosystem was highlighted. A number of large firms have made huge investments in south and southeast Bangalore, and would not like their choice of Bangalore as an investment destination disrupted by the closure of HAL airport. The air traffic now originating from the southern suburbs would cease or diminish its use of air travel itself as a result of the increased distance to the new airport. Would such firms relocate some of their key offices within Bangalore metropolitan area itself, or prefer to locate significant operations in other cities? Economic disruption was also anticipated for the thousands of other businesses that indirectly relied on HAL airport traffic. Whether these too would find alternate sources of revenue, or move their operations, or face closure was a question.

- **Monopoly profiteering.** One reason for the debate over HAL airport was that past estimates of demand for air travel in Bangalore proved to be severe under-estimates, as the city had grown dramatically. The early negotiations for the establishment of a new airport took place during a period of low growth in air travel; the concession agreement was finalized during a period of moderate growth, and the construction of the airport took place during a period of unprecedented growth. Given the growth in traffic volume, there was no question that BIAL would make out even better than the returns that it projected when it won the tender, even if HAL airport were kept open.

- **The options explored.**

Building public opinion. Based on its capabilities and pursuant to its interest in actively engaging policy questions in government, the CPP organized a half day seminar on 3/3/2008 to discuss questions pertinent to the looming closure of the HAL airport. The seminar's objective was to create a meaningful discourse between the stakeholders about an infrastructure project that could irrevocably affect the future of the city and the citizens of Bangalore and Karnataka. In addition, the CPP proposed to develop recommendations for the government on the choices available at the time.

A negotiated outcome. To explore these options, the government could engage in a consensus building exercise to determine whether a satisfactory middle ground between the various contending positions can be found. How viable this option was, and whether the various stakeholders remain open to a consensus building exercise to find a middle ground, was uncertain. The government could invite the participants to a second meeting, this time in a closed to the public format that would permit such an eventuality to be explored.

Litigation. Several individuals and citizen forums filed public interest litigations in the high court of Karnataka against the decision of closing HAL airport for commercial operations after opening of the new airport. The closure of the old airport was challenged in court by a citizens' group. Citizens groups and top companies in Bangalore lobbied for reopening the old airport complaining commute to the new airport takes up to two hours from the city and the union government is encouraging a private monopoly by letting it be the only one open in the city.

ANALYSIS

The controversy that broke out and the public campaign to retain the HAL airport is symptomatic of the dilemmas that governments face in implementing PPPs in the India context. The crux lies the balancing of the mandate contractual governance with the compulsions of popular politics. In most instances of Indian electoral politics, the general consensus is that the compulsions of populism override those of principle, law or even ethics. However, in the case of HAL, the governments of India and Karnataka chose to keep their contractual obligations above that of considerations of popularity. Despite mouthing sentiments in favour of keeping HAL airport open, they ultimately chose to take the legal rather than the political route towards resolving the issue. This is an unusual, at least in the light of popular perception about the polity of India. The implementation of long gestation megaprojects with 25-30 year timelines requires a stability of policy structure and political and bureaucratic decisionmaking. Shifts of popular sentiment, on the other hand, need display no such restraint. This leads states to display inconsistencies in its stand, compounded when there is a change of the ruling political combination or party. In BIAL's case, there was a change from the congress when construction began to successive coalition governments midway and finally the Bharatiya Janata party when the airport was launched. Foreign investors are ill-equipped to handle policy shifts,

particularly on critical issues such as exclusivity. The theme that any modification may affect future investment sentiment is reiterated again and again in the discourse of BIAL.

As we have seen, the location was selected after a careful comparative evaluation. It was by no means a casual or easy choice. From all available evidence it does not appear that there has been any political interference at any stage at the point of site. On being questioned on this aspect, the interview respondents who were involved in the site selection emphatically stated that there was no political interest or interference at that point of time. Nor was there any competition between different locations for being chosen for the purpose. To that extent, the committee was free to select an appropriate site, based on operational constraints only.

The question arises whether the committee itself could have been blind to the distance between the city and the Devanahalli site? It is clear that the committee had to keep in mind several parameters, physical conditions, type of terrain, surrounding obstructions; availability of utilities such as power and water, accessibility to ground transport, availability of land for future expansion, technical factors such as the presence of other airports in the vicinity, so distance was only one item among the multiple factors to be considered. Notwithstanding this, it is clear that the committee, particularly Dr. Valluri, was alive to the distance factor, motivated as much by fuel savings than passenger convenience.

From inception, industry associations were participants in the exercise, and completely privy to decisionmaking, again giving lie to later accusations of opaqueness and lack of transparency.

One development that the committee could not have foreseen at the time was the tremendous growth of the IT sector in Bangalore and its concentration in the south of Bangalore city. As we saw in chapter 4, this was the consequence of a series of policy and circumstantial factors. By the time BIA was constructed in 2008, the golden crescent of Whitefield, Hosur-Sarjapur and Koramangala had emerged as the main feeder to the airport, and it was this group that was most inconvenienced by the relocation to Devanahalli. As the IIMB report states: “during the last decade or so, Bangalore has witnessed rapid development of its southern and south-eastern suburbs, extending all the way upto Hosur in Tamilnadu, whereas the proposed new airport is far to the north of the city. Mobility patterns clearly indicate high concentrations of employment-related movement in the southern suburbs, and as newer establishments keep coming up in the area, this is likely to mount even further. And Karnataka’s own second city, Mysore, is to the south-west, and there has been plenty of development along Mysore road, which may accelerate once the infrastructure corridor project to that city is sorted out”. But this was certainly not something that could be foreseen in 1992. Aside from the public policy perspective, there is an interesting legal issue here. Non-contractibility, the incapacity of negotiating parties to completely anticipate and prepare for all contingencies, is a recurrent theme in PPP literature (Hart, 2003) (Besley & Ghatak, 2006) (Stewart-Smith, 1995) the exclusivity clause which became the focus of debate was in fact a demand that had been agreed upon much as early as the 1990s, much before the Siemens consortium entered the fray. It is obvious that the contingency of reworking the contract on such a critical point was not envisaged, leading both the union and the state governments to lay the onus of alteration on BIAL management. The power of an intelligent articulate section of society to rally around a demand was an important aspect of this episode. But the shifts of perspective and popular sentiment was manifest. The new airport for Bangalore was championed largely by the new IT economy and the middle-classes that formed the bulk of its workforce. For a period in BIAL’s early history an industrialist who epitomized the new economy in Bangalore, held office as its chairman. The need for a new airport is reiterated in popular middleclass discourse of the Bangalore south. But, when faced with the prospect of travelling 30 odd kilometers to the new airport, this group effected a complete turnaround, and began to criticize not just the distance, but almost every aspect of the airport’s design and features. This group was also able to intelligently articulate their views through a variety of devices, chiefly newspapers and blog spots. The fickleness of public opinion was nowhere more in evidence. Through the entire drama, the media had a field day. Dailies such as times of India tracked the save HAL campaign day after day. Headlines screamed: for several months this was a regular feature, until the improvement in connectivity, the familiarization of the new airport to passengers, and the litigating of the issue in the court removed it gradually from the forefront of public interest.

Conclusion.

The ultimate fate of the HAL airport will be decided in the courts. Yet the save HAL episode forms an important chapter in BIAL's history. For all the heat that it generated, the campaign was not successful in persuading either BIAL or governments to reopen HAL. This was for several reasons: the mandates of contractual governance proved greater than the compulsions of political popularity. Thus, even while mouthing sentiments such as: and exploring options, the governments ultimately joined the chorus rather than determining its direction. In itself, this was an important instance of political will in action, though not in vocabulary. Also, the campaign failed in its purpose also because the cause it propounded ultimately only a small section of Bangalore's population. The users of Bangalore south were only a small section of Bangalore's population, albeit prosperous and voiced. Most users who hailed from other parts of the city were either indifferent, or frankly relieved at escaping the obnoxious traffic of the old airport road. This, rather than the firmness of governments or the clauses of the concession agreement, have proved decisive so far.

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Examining “Letters to the Shareholders” of Fortune 500 Companies: A Content Analysis

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Abstract

The company’s annual letter to the stockholder attempts to set stakeholder expectations of the financial reports for both this year’s report and, perhaps, next year’s. What is included in the letter is not a matter of chance but the result of a great deal of deliberation on each word, each phrase, and each sentence. For this reason, content analysis may be quite revealing of values and strategies.

Earlier studies (including Bowman, 1984; Subramanian, Isley, & Blackwell, 1993) have shown that there are significant differences in the language used to convey negative news in a company’s “Letter to the Stockholders” as compared to conveying positive news. For example, the impact of negative news is tempered by the use of long sentences and passive voice. But, this level of analysis is, in a sense, at a “gross” level and does not get to the finer details of the language strategy used in corporate communication. These finer details are trapped in the arduous task of “decoding” the language in a consistent and valid way. DICTION (Hart, 2000), a computer-aided content analysis software program, allows us to explore common themes at the word level in corporate communication and therefore, is a deep grained analysis.

In this research we seek to identify measures of statistical difference between the language used by companies reporting positive financial results vs. companies reporting negative financial results. Our focus is on Fortune 500 U.S.-based companies. The analysis includes all of the available DICTION measures listed above with emphasis on the occurrence of the five “master” words in DICTION’s functionality – certainty, optimism, activity, realism, and commonality. We identify differences in the text of the two sets of Letters and offer explanations for these differences. We suggest follow-up studies to further refine the content analysis approach.

Keywords: Letters to stakeholders, text analysis, content analysis

Introduction

Analysts and investors intently wait for and pounce on any bits of information on a company of interest with hopes of discovering facts that will lead to a better investment decision. Among the more important and influential sources of such information is the company’s annual report due to their wide coverage and availability (Hooks, Coy & Davis, 2002; Marston and Shrivess, 1991) and also because its content is somewhat regulated by government agencies. Annual reports, these state-of-the-company disclosures, were first required by the Securities and Exchange Commission in 1934 (Flanigan, 1993). Today, annual reports are required for companies with more than \$10 million in assets whose securities are held by more than 500 owners. Federal regulators require that disclosures be “accurate and complete so as not to mislead”. Sarbanes-Oxley regulations extended this commitment by making CEOs and CFOs legally accountable for the veracity and integrity of their financial statements (Goodman, 2004).

While the annual report may be read by stockholders, stockbrokers, employees, regulatory agencies, customers, financial analysts, the press, general public, and investors, the primary audience is considered to be stockholders (NIRA, 2004; Kohut and Segars, 1992). Accordingly, the financial sections of the annual report affords all readers a common point of reference. The narrative sections, while somewhat regulated, offer investors a window to the company.

The Management’s Discussion and Analysis (MD&A) usually follows a pattern of an overview of performance followed by in-depth discussion of changes and trends in sales, expenses, and selling and administrative expenses. The Letter to the Shareholders, also called the president’s letter or the CEO’s letter, is

generally used to expand upon the MD&A and provide an overview and interpretation of the firm's financial position. It is generally written and signed as a personal letter from an executive. The MD&A is required (The SEC, 2004) while the Letter to the Stockholders is not.

While generally receiving less analyses than the financial sections, the narrative is an interesting opportunity to learn more about management's interpretation of company performance, the prospects for the company, and the underlying message(s) management wishes to convey to stockholders. It is in the narrative, especially the Letter to Stockholders, that senior managers have an opportunity to shape the perceptions of stockholders that cannot be accomplished in the financial sections. Executives are free to explain past, present, or future performance; free to divert attention away from financial performance in favor of broader, softer themes (e.g., social responsibility, company recognition, change in management, etc.); and, free to offer any spin they feel will benefit the company—especially its stock price. Plus, the narrative offers a rare opportunity to hear directly from those in key management positions in the company. These executives are deciding the direction of the company and their messages offer clues to future performance.

The importance of the narrative portion of annual reports is well documented and there is evidence that companies use the narrative strategically. The messages in these annual reports frequently offer a description of the company's managerial priorities. Research has indicated that the market responds to the quotes of officers in earnings press releases (Hoskin, Hughes & Ricks, 1986) and influence analysts' forecasts (Barron, Kile & O'Keefe, 1999). We see this managerial "manipulation" in the research by Kohut and Segars (1992) and their discovery that the messages hidden in annual reports differ in terms of the subject emphasized as the company's performance worsens. This might explain the Subramanian (Subramanian, Isley & Blackwell, 1993) finding that companies that perform well produce annual reports that are easier to read. Or, as another strategy, Letters to the Stockholders follow the Pollyanna Hypothesis and the language is predominantly positive (Thomas, 1997). This strategic use is prevalent as it is certainly more difficult to enforce "accurate and complete" information in the context of language usage in the Letter to the Shareholders. Even though the authorship of Letters to the Stockholders is uncertain, there is widespread agreement that executives are heavily involved in their preparation (Barr, Stimpert & Huff, 1992).

Studies of narrative texts produced by companies also allows the unobtrusive study of beliefs and cognitions of top-level executives that are hard to obtain (Bettman and Weitz, 1983, Morris, 1994; Duriau, Reger & Pfarrer, 2007). While the information in the financial section may be added, subtracted, multiplied and divided in ratios that allow comparisons to other companies, no such tools have existed for standardizing the narrative, or, more accurately, the tools have been rare, hard to use, and/or inaccurate.

Given the strategic salience of the narrative sections of an annual report, it is important that research examines the approaches used by companies. While content analysis has been the lens through which this has been done in extant research, prior studies have been limited in their depth due to the availability of content analysis tools. The purpose of this study is to offer a fine grained analysis of the strategic orientation of "Letter to the Stockholders" using an advanced content analysis software.

Content analysis in strategic management

Content analysis of text is a research methodology that uses a set of procedures to analyze and categorize communication (Weber, 1990). The methodology offers a number of potential benefits including the identification of individual differences among communicators (Weber, 1990), avoidance of recall biases (Barr, Stimpert & Huff, 1992), and the ability to obtain otherwise unavailable information (Kabanoff, Waldersee & Cohen, 1995). In the business disciplines content analysis has been used in accounting (Rogers, Dillard & Yuthas, 2005), management (Fiol, 1989), marketing (Simon and Houghton, 2003), and corporate strategy (Merchant, 2004; Yuthas, Rogers & Dillard, 2002). The source of the text being analyzed may be shareholder letters, transcripts from interviews and speeches, or other corporate communications. The selection depends on the extent of the match between the research question and the intended audience and intent(s) of the communication. In the strategic management area, content analysis has primarily been of shareholder letters and annual reports (Duriau, Reger, & Pfarrer, 2007). For example, Kloptchenko (Kloptchenko, Elkund, Back, Karlsson, Vanharanta & Visa, 2002) used text mining methods

to compare the financial ratios of quarterly reports to the quantitative sections for consistency of the message. They conclude that the two sections do not coincide; the quantitative section reflects past performance while the qualitative portions holds hidden indicators about the future financial performance.

There are three types of approaches to language analysis (Morris, 1994): human-scored procedures, artificial intelligence systems, and individual word count systems. With the first approach, coding rules are established, human coders are trained, and then the coders classify selected aspects of the text. Artificial intelligence approaches consider the lexicon, syntax, and semantics of text (Rosenberg, Schnurr & Oxman, 1990). With respect to individual word count methodology, individual words in the text are counted and the frequency of each word is compared to the frequency of these same words in other communication samples. Word frequencies outside of the range of frequencies in these comparative samples are an indication of differences between the samples.

DICTION (Hart, 2000a) is one of a number of word frequency programs. In DICTION the frequency of word usage in the analyzed text is compared to the frequency of word usage across various genres studied by Hart (Hart and Jarvis, 1997; Hart, 1984a; Hart, 1984b; Hart, 2000b; Hart, 2001). The genre(s) to which the analyzed text is compared may be selected from business, daily life, entertainment, journalism, literature, politics, and scholarship. Hart (Hart, 2003) analyzed from one to six sub-genres to derive word frequency norms for each genre. In total, the norms are based on the analysis of 22,027 texts of various genres written between 1948 and 1998.

The words from these genres are arranged in 33 dictionaries or word lists ranging in size from 10 to 745 words. No word appears in more than one dictionary. Brief descriptions of each dictionary may be found in Appendix A.

In addition to the absolute frequency counts, DICTION calculates four variables based on word ratios. These calculated variables are:

Insistence, a measure of “code-restriction” that indicates a “preference for a limited, ordered world”;

Embellishment, a measure of the ratio of adjectives to verbs;

Variety, a measure of conformity to, or avoidance of, a limited set of expressions (different words/total words); and

Complexity, a measure of word size based on the Flesch (Flesch, 1951) method.

Frequency counts from the various dictionaries along with the four calculated variables compose five master variables. Hart’s (Hart, 2003) master variables, intended to capture the tonal features of the text, are defined and formulated from the individual dictionaries as follows:

Certainty is a measure of language “indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra.”

$Certainty = [Tenacity. + Leveling. + Collectives. + Insistence] - [Numerical Terms + Ambivalence. + Self Reference + Variety]$

Activity is a measure of “movement, change, [and] the implementation of ideas and the avoidance of inertia;

$Activity = [Aggression. + Accomplishment. + Communication. + Motion] - [Cognitive Terms. + Passivity. + Embellishment]$

Optimism is a measure of “language endorsing some person, group, concept or event or highlighting their positive entailments.”

$Optimism = [Praise + Satisfaction + Inspiration] - [Blame + Hardship + Denial]$

Realism is a measure of language “describing tangible, immediate, recognizable matters that affect people’s everyday lives.”

$Realism = [Familiarity + Spatial Awareness. + Temporal Awareness. + Present Concerns. + Human Interest + Concreteness] - [Past Concern + Complexity]$

Commonality is a measure of language “highlighting the agreed-upon values of a group and rejecting idiosyncratic modes of engagement.”

$Commonality = [Centrality. + Cooperation. + Rapport] - [Diversity + Exclusion + Liberation]$

Researchers have noted the potential of DICTION for the study of leadership (Bligh, Kohles & Meindl, 2004a, 2004b), image management (Rogers, Dillard & Yuthas, 2005), communicative action (Yuthas, Rogers & Dillard, 2002), and the content of mission statements (Short and Palmer, 2010). Bligh (Bligh, Kohles & Meindl,

2004a) used DICTION to create a construct of tangibility for measuring levels of executive charisma (Concreteness + Insistence – Variety).

Davis (Davis, Piger and Sedor, 2006) used content analysis based on DICTION to measure levels of pessimistic and optimistic language in earnings press releases. They find that optimistic and pessimistic language in earnings reports reliably predicts future firm performance. Yuthas (Yuthas, Rogers & Dillard, 2002) , using DICTION, found that firms anticipating large earnings surprises use the narrative of the annual report to communicate information about managements' veracity and trustworthiness. They conclude that these narratives violate the Habermasian (Habermas, 1984, 1987) principles for communicative action for understanding which include norms for comprehensibility, truthfulness, sincerity, and legitimacy (Forrester, 1985).

Advantages of DICTION include freedom from coder bias as the search rules and algorithms pre-exist, development based on political discourse that would seem similar to the narrative disclosures of executives, and analysis of large sample sizes. A limitation of DICTION is that words are taken out of context and this omission of context likely leads to a noisy measure of the intent of the message. However, Bligh (Bligh, Kohles & Meindl, 2004b) reported a high degree of comparability between DICTION measures and human coding.

Specific research questions

In this exploratory investigation we were interested in understanding more about how managers wrote about their financial performance. Specifically we want to determine whether there were significant differences in the Letters to the Stockholders as written by companies reporting a positive financial performance year-over-year versus companies reporting a negative change year-over-year when both sets of Letters were compared to the language of the general business population as defined by the dictionaries included in DICTION. Specifically, the questions addressed were:

- Are there significant differences in the Letters provided by companies reporting positive financial change (“Positive Reporters”) versus those companies who were reporting negative financial change (“Negative Reporters”) with respect to the master variables (i.e., Certainty, Activity, Optimism, Realism, Commonality)?
- Are there significant differences in the Letters provided by Positive Reporters versus those Negative Reporters with respect to the four content-analysis master variables (i.e. Insistence, Embellishment, Variety, and Complexity), ?
- Are there significant differences in the Letters provided by Positive Reporters versus Negative Reporters with respect to the four content-analysis calculated variables?

For the Master variables of DICTION, we hypothesized as follows:

Certainty. As a measure of resoluteness, the group of Negative Reporters will be more certain in their language than Positive Reporters. This certainty will be revealed in higher scores for tenacity, leveling, collectives, insistence, numerical terms, ambivalence and self-references. Negative Reporters will also show this certainty by a reduced variety of words.

Activity. This measure of movement will show Negative Reporters with greater activity. Words of aggression, accomplishment, and communication will be higher for this group. They will also use more terms of passivity, and more embellishments.

Optimism. Positive and Negative Reporters will reflect their ratings in their choice of words in their comments. Positive Reporters will use more terms of praise, satisfaction, and inspiration. Negative Reporters will do the opposite; fewer terms of praise, satisfaction, and inspiration. In addition, while Positive Reporters will not avoid blame, hardship, and denial, Negative Reporters raters will use more of these terms than would be usual.

Realism. There will be no significant differences in the frequency of word use in any dictionary making up this master variable either for Positive or Negative Reporters.

Commonality. Positive Reporters will use above average numbers of words of centrality, cooperation and rapport while Negative Reporters will use fewer of these words. These raters will indicate their feelings of exclusion and liberation by more frequent use of these terms.

Methodology

For this exploratory study we restricted the data set to a random sample of companies listed on the Fortune 500. Since not all companies would have reported their fiscal 2010 results as of the time this research was conducted in late 2010, we used fiscal 2009 annual reports. Using a table of random numbers, we picked companies, categorizing each in terms of their year-over-year result as having a positive or a negative change as determined by their annual financial statements. We continued this process until we had identified approximately fifty companies in each category. There were instances when the randomly picked company was not usable: no annual report (13 times), no Letter to the Stockholders (3), the 2009 annual report was not yet available (1), extensive changes to the company made comparing year-to-year financials difficult (1), and a text coding problem where the Letter to the Stockholders could not be copied (1). In each case we returned to the table of random numbers and selected the next company. In total, we selected 47 companies with negative financial changes to report and 53 with positive changes to report.

The Letters to the Stockholders for each of these 100 companies was captured as a text file from annual reports downloaded from Investor Relations Information Network (IRIN). All files were then cleaned to correct misspellings and abbreviations that would impact the word frequency counts. No other changes were made to the corpus. A single, combined text file of all the Letters from Positive Reporters was created and submitted to DICTION. Similarly, text files of Negative Reporters and a Combined Positive + Negative Reporters were created and submitted to DICTION. All words were processed (DICTION allows sampling of the corpus) and no custom dictionaries were created for the analysis.

An exploratory analyses of specific research hypothesis

Table 1 displays the DICTION reported results for the two groups of ratings, Positive Reporters versus Negative Reporters, for each of the five master variables and their corresponding component variables. Also indicated in the right-hand column is our hypothesis for negative vs. positive reporters. A “<” symbol indicates that we hypothesized that those with negative growth to report would display this text characteristic significantly less than would those Letters reporting positive results. A “>” means just the opposite, we would expect the negative messages to include this text characteristic more, while “=” is a hypothesis that both groups would be significantly different from the business norm offered by Hart. A blank indicated that we hypothesized no difference either between the Positive and Negative reporters and both sets of reporters compared to the business norm. All results that are significant are identified by bold font and are underlined.

In a private email communication on February 8, 2011 Hart shared the means and standard deviations of the norm group on each dictionary and on the master and calculated variables. We noted that a number of standard deviations were larger than their means, an indication that the scale has many low values but a very wide range from very, very low to some highs. From the data it is easy to see which variables are quite skewed and which approach symmetry and perhaps even a normal curve. To get a sense of symmetry we calculated the average of the minimum and maximum (the midrange) and noted that when the average was close to the mean then the data set may be close to symmetrical. For those data sets that may be symmetrical, if then calculated the range and divide by six. Results close to the given standard deviation indicated when the data set was approximately normally distributed. For the majority of variables this did not happen.

It must be pointed out that Hart used one standard deviation from the norm as statistically significant. He rationalized this decision as the need to account for lack of precision in the ability of the dictionaries to capture the nuances of the language sample. We used this one standard deviation rule but prefer to call it “practical” significance to distinguish it from the more rigorous “statistical” significance.

TABLE 1 – DICTIONARY, CONSTRUCTED, AND MASTER VARIABLE RESULTS FOR
“NEGATIVE” AND “POSITIVE” REPORTERS

Variable	Freq. Negative	Freq. Positive	Mean + 1 SD	Mean – 1 SD	Hypothesis Neg v. Pos
CERTAINTY =					
+Tenacity	<u>10.53</u>	18.7	36.62	12.35	>
+ Leveling Terms	2.96	5.19	16.94	-0.90	>
+ Collectives	5.08	6.23	13.38	0.96	>
+ Insistence	30.55	31.70	182.19	0.27	>
- Numerical Terms	20.62	9.88	53.23	-4.38	>
- Ambivalence	2.75	2.14	17.96	1.69	>
- Self-reference	1.07	2.60	16.69	-8.13	>
- Variety	0.64	0.60	0.70	0.42	<
TOTAL CERTAINTY	24.04	46.60	160.55	23.08	>
ACTIVITY =					
+ Aggression	3.11	2.14	7.23	-0.36	>
+ Accomplishment	<u>38.46</u>	23.49	30.38	5.35	>
+ Communication	1.94	4.40	10.53	-0.30	>
+ Motion	1.40	1.97	13.13	-6.99	
- Cognitive Terms	4.56	10.43	15.95	1.46	
- Passivity	<u>23.70</u>	4.72	8.79	0.36	>
- Embellishment	0.97	2.38	4.11	-2.26	>
TOTAL ACTIVITY	15.69	14.84	25.26	-2.96	>
OPTIMISM					
+ Praise	4.48	6.95	12.40	0.01	<
+ Satisfaction	1.52	<u>8.37</u>	7.59	-1.47	<
+ Inspiration	<u>11.70</u>	6.62	9.80	-1.11	<
- Blame	1.79	1.80	3.63	-0.97	>
- Hardship	3.12	0.52	7.87	-1.38	>
- Denial	0.81	6.23	12.89	-1.26	>
TOTAL OPTIMISM	<u>12.32</u>	<u>13.39</u>	5.40	1.04	=
REALISM					
+ Familiarity	109.80	121.28	142.22	91.37	
+ Spatial Awareness	5.05	9.15	14.79	0.21	
+ Temporal Awareness	<u>30.68</u>	12.31	25.87	2.40	
+ Present Concerns	3.68	12.78	21.75	2.83	
+ Human Interest	39.21	<u>46.61</u>	41.28	2.02	
+ Concreteness	12.13	14.20	35.27	8.47	

- Past Concerns	3.42	3.62	6.51	-0.82	
- Complexity	5.18	4.90	5.34	4.34	
TOTAL REALISM	191.93	207.80	269.33	103.78	=
COMMONALITY					
+ Centrality	2.61	3.76	10.11	0.10	<
+ Cooperation	3.21	8.04	11.71	-0.14	<
+ Rapport	2.09	0.66	4.18	-0.61	<
- Diversity	0.51	1.59	4.70	-0.81	
- Exclusion	3.69	0.19	5.60	-1.23	>
- Liberation	0.42	0.90	5.17	-1.61	>
TOTAL COMMONALITY	3.29	9.78	10.53	3.00	<

The results indicate that for the five master variables of DICTION our combined hypotheses were confirmed for one master variable and inconsistently confirmed for the component variables. The first surprising result occurred with the master variable Certainty where our hypothesis for a difference from the negative reporters was not confirmed. In fact, only one of the eight component variables, Tenacity, was “practically” significant with negative reporters using this text characteristic significantly less than the norm. We had hypothesized they would use it more.

The second surprising result occurred with the master variable Activity. There was no difference in overall indication of Activity in the messages. However, negative reporters were practically different in having more Accomplishment terms and more Passivity terms.

For the master variable Optimism our hypothesis was confirmed. Both negative and positive reporters were practically different from the norm. In addition, negative reporters used more inspiration terms than either the positive raters or the norm group. Those reporting positive growth used more terms of Satisfaction than either negative reporters or the norm business group.

For the master variable Realism we did not hypothesize any difference in direction of results for the master variable. Those reporting negative growth used more terms of Temporal Awareness while those reporting positive results used more Human Interest terms.

For the master variable Commonality our hypothesis was not confirmed and, opposed to our hypotheses, none of the sub-variables was significantly different from the business genre norm.

Discussion

From Table 1 it is observed that our hypothesized results were only confirmed once for the five master variables. It is interesting that this one master variable, Optimism, not only was used more in the text of these Letter to the Stockholders than would be normal in business genre, but also that both groups observed here used features signaling optimism, regardless of the results being reported. Given that a purpose of the Letter narrative is part cheerleading, it seems consistent that these messages would be filled with optimism. It seems to be the case that optimism is built into the text in different ways depending on the growth results. Those reporting negative growth seek to paint a picture of a management with attractive virtues that will serve the future shareholder well. Those reporting positive results seems to point out their moment of victory.

It is of some concern that only nine of the 70 possible sub variables (35 variables for each message type) were of practical significance. The question that must be pondered is why such unexpected results? A few possibilities must be thoroughly examined.

- 1 – Is it the case that Letters to the Stockholders are less strategic than previously thought? Or, as a corollary, maybe more credit for message manipulation is being given to those crafting these narratives than is deserved.
- 2 – Could it be that narrative authors resort to the language of other genres besides business (e.g., politics)? To make this determination we may need to analyze the language of these Letters by comparing them to other genre norms in DICTION.
- 3 – Although much has been written about the DICTION program in various articles by Hart (Hart, 1984a; Hart, 1984b; Hart, 1987; Hart and Jarvis, 1997; Hart, 2000a; Hart, 2000b; Hart, 2001) and others who have used it for research one must question its validity and reliability which have not been reported. Furthermore, there is no readily found description of the computation of mean and standard deviation, or computation of the standard Z scores and Hart fails to demonstrate why he breaks with long-held convention and describes absolute Z scores greater than 1.0 as outside the normal range and thereby significant.
- 4 – Hart's (Hart, 2001) five master variables appear to be independent constructs arising from a factor analysis – there is little to no correlation among these constructs. The component variables comprising the five master variables did not seem to consistently display the direction of difference expected by our hypotheses, perhaps a misunderstanding on our part of the definition of the involved terms?
- 5 – It is impossible for us to determine how the DICTION program searches for discrepancies in various Letters that could result in misclassification. For example, it is not known whether the DICTION program can properly classify a comment as it was intended. If the DICTION program cannot properly distinguish among language nuances, both its reliability and validity, as a measuring instrument can be questioned.

Further exploration will provide answers to the above.

Conclusions

In this exploratory study we sought to identify textual distinctions between Letters to the Stockholders written by companies reporting negative year-over-year growth versus those reporting positive growth. We were able to identify some differences between groups in the component variables of optimism and a difference between both groups and the norm for business genre. This evidence supports the contention that writers of annual report narratives do attempt to manipulate optimism in these messages and, interestingly, manipulate optimism in different ways, depending on the negative or positive news.

Despite the surprising findings which indicated discrepancies with several of our hypotheses we remain encouraged by the results of this exploratory study. Once we satisfactorily address the aforementioned dilemmas described in the Discussion section we plan to extend the study and address additional questions of message intent.

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For a full list of references, please contact the author(s).

Appendix A

Descriptions of the Dictionaries and Scores

Accomplishment: Words expressing task-completion (establish, finish, influence, proceed) and organized human behavior (motivated, influence, leader, manage). Includes capitalistic terms (buy, produce, employees, sell), modes of expansion (grow, increase, generate, construction) and general functionality (handling, strengthen, succeed, outputs). Also included is programmatic language: agenda, enacted, working, leadership.

Aggression: A dictionary embracing human competition and forceful action. Its terms connote physical energy (blast, crash, explode, collide), social domination (conquest, attacking, dictatorships, violation), and goal-directedness (crusade, commanded, challenging, overcome). In addition, words associated with personal triumph (mastered, rambunctious, pushy), excess human energy (prod, poke, pound, shove), disassembly (dismantle, demolish, overturn, veto) and resistance (prevent, reduce, defend, curbed) are included.

Ambivalence: Words expressing hesitation or uncertainty, implying a speaker's inability or unwillingness to commit to the verbalization being made. Included are hedges (allegedly, perhaps, might), statements of inexactness (almost, approximate, vague, somewhere) and confusion (baffled, puzzling, hesitate). Also included are words of restrained possibility (could, would, he'd) and mystery (dilemma, guess, suppose, seems).

Blame: Terms designating social inappropriateness (mean, naive, sloppy, stupid) as well as downright evil (fascist, blood-thirsty, repugnant, malicious) compose this dictionary. In addition, adjectives describing unfortunate circumstances (bankrupt, rash, morbid, embarrassing) or unplanned vicissitudes (weary, nervous, painful, detrimental) are included. The dictionary also contains outright denigrations: cruel, illegitimate, offensive, miserly.

Centrality: Terms denoting institutional regularities and/or substantive agreement on core values. Included are indigenous terms (native, basic, innate) and designations of legitimacy (orthodox, decorum, constitutional, ratified), systematicity (paradigm, bureaucratic, ritualistic), and typicality (standardized, matter-of-fact, regularity). Also included are terms of congruence (conformity, mandate, unanimous), predictability (expected, continuity, reliable), and universality (womankind, perennial, landmarks).

Cognitive Terms: Words referring to cerebral processes, both functional and imaginative. Included are modes of discovery (learn, deliberate, consider, compare) and domains of study (biology, psychology, logic, economics). The dictionary includes mental challenges (question, forget, re-examine, paradoxes), institutional learning practices (graduation, teaching, classrooms), as well as three forms of intellection: intuitional (invent, perceive, speculate, interpret), rationalistic (estimate, examine, reasonable, strategies), and calculative (diagnose, analyze, software, fact-finding).

Collectives: Singular nouns connoting plurality that function to decrease specificity. These words reflect a dependence on categorical modes of thought. Included are social groupings (crowd, choir, team, humanity), task groups (army, congress, legislature, staff) and geographical entities (county, world, kingdom, republic).

Communication: Terms referring to social interaction, both face-to-face (listen, interview, read, speak) and mediated (film, videotape, telephone, e-mail). The dictionary includes both modes of intercourse (translate, quote, scripts, broadcast) and moods of intercourse (chat, declare, flatter, demand). Other terms refer to social actors (reporter, spokesperson, advocates, preacher) and a variety of social purposes (hint, rebuke, respond, persuade).

Complexity: A simple measure of the average number of characters-per-word in a given input file. Borrows Rudolph Flesch's (1951) notion that convoluted phrasings make a text's ideas abstract and its implications unclear.

Concreteness: A large dictionary possessing no thematic unity other than tangibility and materiality. Included are sociological units (peasants, African-Americans, Catholics), occupational groups (carpenter, manufacturer, policewoman), and political alignments (Communists, congressman, Europeans). Also incorporated are physical structures (courthouse, temple, store), forms of diversion (television, football, CD-ROM), terms of accountancy (mortgage, wages, finances), and modes of transportation (airplane, ship, bicycle). In addition, the dictionary includes body parts (stomach, eyes, lips), articles of clothing (slacks, pants, shirt), household animals (cat, insects, horse) and foodstuffs (wine, grain, sugar), and general elements of nature (oil, silk, sand).

Cooperation: Terms designating behavioral interactions among people that often result in a group product. Included are designations of formal work relations (unions, schoolmates, caucus) and informal associations (chum, partner, cronies) to more intimate interactions (sisterhood, friendship, comrade). Also included are neutral interactions (consolidate, mediate, alignment), job-related tasks (network, détente, exchange), personal involvement (teamwork, sharing, contribute), and self-denial (public-spirited, care-taking, self-sacrifice).

Denial: A dictionary consisting of standard negative contractions (aren't, shouldn't, don't), negative functions words (nor, not, nay), and terms designating null sets (nothing, nobody, none).

Diversity: Words describing individuals or groups of individuals differing from the norm. Such distinctiveness may be comparatively neutral (inconsistent, contrasting, non-conformist) but it can also be positive (exceptional, unique, individualistic) and negative (illegitimate, rabble-rouser, extremist). Functionally, heterogeneity may be an asset (far-flung, dispersed, diffuse) or a liability (factionalism, deviancy, quirky) as can its characterizations: rare vs. queer, variety vs. jumble, distinctive vs. disobedient.

Exclusion: A dictionary describing the sources and effects of social isolation. Such seclusion can be phrased passively (displaced, sequestered) as well as positively (self-contained, self-sufficient) and negatively (outlaws, repudiated). Moreover, it can result from voluntary forces (secede, privacy) and involuntary forces (ostracize, forsake, discriminate) and from both personality factors (small-mindedness, loneliness) and political factors (right-wingers, nihilism). Exclusion is often a dialectical concept: hermit vs. derelict, refugee vs. pariah, discard vs. spurn.

Familiarity: Consists of a selected number of C.K. Ogden's (1968) "operation" words which he calculates to be the most common words in the English language. Included are common prepositions (across, over, through), demonstrative pronouns (this, that) and interrogative pronouns (who, what), and a variety of particles, conjunctions and connectives (a, for, so).

Hardship: This dictionary contains natural disasters (earthquake, starvation, tornado, pollution), hostile actions (killers, bankruptcy, enemies, vices) and censurable human behavior (infidelity, despots, betrayal). It also includes unsavory political outcomes (injustice, slavery, exploitation, rebellion) as well as normal human fears (grief, unemployment, died, apprehension) and incapacities (error, cop-outs, weakness).

Human Interest: An adaptation of Rudolf Flesch's notion that concentrating on people and their activities gives discourse a life-like quality. Included are standard personal pronouns (he, his, ourselves, them), family members and relations (cousin, wife, grandchild, uncle), and generic terms (friend, baby, human, persons).

Inspiration: Abstract virtues deserving of universal respect. Most of the terms in this dictionary are nouns isolating desirable moral qualities (faith, honesty, self-sacrifice, virtue) as well as attractive personal qualities (courage, dedication, wisdom, mercy). Social and political ideals are also included: patriotism, success, education, justice.

Leveling: Words used to ignore individual differences and to build a sense of completeness and assurance. Included are totalizing terms (everybody, anyone, each, fully), adverbs of permanence (always, completely, inevitably, consistently), and resolute adjectives (unconditional, consummate, absolute, open-and-shut).

Liberation: Terms describing the maximizing of individual choice (autonomous, open-minded, options) and the rejection of social conventions (unencumbered, radical, released). Liberation is motivated by both personality factors (eccentric, impetuous, flighty) and political forces (suffrage, liberty, freedom, emancipation) and may produce dramatic outcomes (exodus, riotous, deliverance) or subdued effects (loosen, disentangle, outpouring). Liberatory terms also admit to rival characterizations: exemption vs. loophole, elope vs. abscond, uninhibited vs. outlandish.

Motion: Terms connoting human movement (bustle, job, lurch, leap), physical processes (circulate, momentum, revolve, twist), journeys (barnstorm, jaunt, wandering, travels), speed (lickety-split, nimble, zip, whistle-stop), and modes of transit (ride, fly, glide, swim).

Numerical Terms: Any sum, date, or product specifying the facts in a given case. This dictionary treats each isolated integer as a single "word" and each separate group of integers as a single word. In addition, the dictionary contains common numbers in lexical format (one, tenfold, hundred, zero) as well as terms indicating numerical operations (subtract, divide, multiply, percentage) and quantitative topics (digitize, tally, mathematics). The presumption is that Numerical Terms hyper-specify a claim, thus detracting from its universality.

Passivity: Words ranging from neutrality to inactivity. Includes terms of compliance (allow, tame, appeasement), docility (submit, contented, sluggish), and cessation (arrested, capitulate, refrain, yielding). Also contains tokens of

inertness (backward, immobile, silence, inhibit) and disinterest (unconcerned, nonchalant, stoic), as well as tranquility (quietly, sleepy, vacation).

Present Concern: A selective list of present-tense verbs extrapolated from C.K. Ogden's list of "general" and "picturable" terms, all of which occur with great frequency in standard American English. The dictionary is not topic-specific but points instead to general physical activity (cough, taste, sing, take), social operations (canvass, touch, govern, meet), and task-performance (make, cook, print, paint).

Past Concern: The past-tense forms of the verbs contained in the Present Concern dictionary.

Praise: Affirmations of some person, group, or abstract entity. Included are terms isolating important social qualities (dear, delightful, witty), physical qualities (mighty, handsome, beautiful), intellectual qualities (shrewd, bright, vigilant, reasonable), entrepreneurial qualities (successful, conscientious, renowned), and moral qualities (faithful, good, noble). All terms in this dictionary are adjectives.

Rapport: This dictionary describes attitudinal similarities among groups of people. Included are terms of affinity (congenial, camaraderie, companion), assent (approve, vouched, warrants), deference (tolerant, willing, permission), and identity (equivalent, resemble, consensus).

Satisfaction: Terms associated with positive affective states (cheerful, passionate, happiness), with moments of undiminished joy (thanks, smile, welcome) and pleasurable diversion (excited, fun, lucky), or with moments of triumph (celebrating, pride, auspicious). Also included are words of nurturance: healing, encourage, secure, relieved.

Self-Reference: All first-person references, including I, I'd, I'll, I'm, I've, me, mine, my, myself. Self-references are treated as acts of "indexing" whereby the locus of action appears to reside in the speaker and not in the world at large (thereby implicitly acknowledging the speaker's limited vision).

Spatial Awareness: Terms referring to geographical entities, physical distances, and modes of measurement. Included are general geographical terms (abroad, elbow-room, locale, outdoors) as well as specific ones (Ceylon, Kuwait, Poland). Also included are politically defined locations (county, fatherland, municipality, ward), points on the compass (east, southwest) and the globe (latitude, coastal, border, snowbelt), as well as terms of scale (kilometer, map, spacious), quality (vacant, out-of-the-way, disoriented) and change (pilgrimage, migrated, frontier.)

Temporal Awareness: Terms that fix a person, idea, or event within a specific time-interval, thereby signaling a concern for concrete and practical matters. The dictionary designates literal time (century, instant, mid-morning) as well as metaphorical designations (lingering, seniority, nowadays). Also included are calendrical terms (autumn, year-round, weekend), elliptical terms (spontaneously, postpone, transitional), and judgmental terms (premature, obsolete, punctual).

Tenacity: All uses of the verb "to be" (is, am, will, shall), three definitive verb forms (has, must, do) and their variants, as well as all associated contractions (he'll, they've, ain't). These verbs connote confidence and totality.

Source: Hart (Hart, 2003)

Intellectual Property Rights and Corporate Governance challenges- a case of Britannia and Danone

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Abstract

The intellectual property rights issues have emerged between Britannia Industries and French Dairy and beverages giant, Group Danone regarding the ‘Tiger’ brand of biscuits. Simultaneously, corporate governance issues on stakeholder management and corporate disclosure policies have arisen.

Britannia’s chairman Nusli Wadia resigned on 19 September 2008 from the IPR panel to ensure there was no argument of interest in dealing with Tiger IPR matter and talks between Wadia Group and Danone over shareholder issues. Danone wants to go for arbitration on the issues.

Key words: Corporate Governance, IPRs, Britannia, Corporate Finance

1. Introduction

Mr. Nusli wadia had resigned from IPR panel to ensure no conflict of interest in dealing with IPR matter. The difference of opinions between Britannia Industries and Danone over intellectual property rights of Tiger brand of biscuits had initiated proceedings in the courts with the Indian firm initiating legal action against the French food giant in Singapore. Britannia has obtained legal advice and IPR experts’ support on the premise of brand ‘Tiger’ against the Danone group.

Danone had wanted a third party judge to arbitrate and settle issues amicably. When contacted, a Danone spokesperson said it had a different position from Britannia regarding the IPR of Tiger. “We have tried to find a solution harmoniously. So a third party as a judge will be great to arbitrate,” the Danone spokesperson said.

2. Britannia IPR Committee

The IPR committee was created in May 2006 to deal with all IPR matters of the company and for the last year had been meeting to decide the issue of use and registration of Tiger brand by Group Danone in several countries without the consent of Britannia Board.

Recently, Danone had sold its global biscuits business to Kraft foods except in India, where it is one of the promoters of Britannia. Now the Britannia IPR committee will now be headed by Vijay Kelkar, an independent director and will consist of Britannia managing director Vinita Bali and two other sovereign directors Nimesh Kampani and Keki Dadiseth. Wadia and Danone hold almost equal stake in Britannia through UK-based Associated Biscuits International Holding.

3. Company Backgrounds

French dairy giant Group Danone, was waiting in the wings for regulatory approvals to make a big bang entry into India, has decided to sell its 25.1% stake in domestic biscuit company Britannia Industries, subject to Britannia allowing Danone to operate separately. Danone which used to blend Britannia’s revenues in its financial results has ceased to do so since the first quarter of the financial year ie April-June 2006.

Now, Britannia is only accounted for as a financial investment in Danone's books. The French company is currently negotiating with Indian partner Nusli Wadia to resolve issues related to the Indian joint venture, Wadia BSN India Ltd. The Wadia BSN joint venture, which was set up in 1996, has been practically obsolete, with no business for the past 11 years. But the Indian partner has been up in arms over the foreign partner's endeavor to ride alone in India. Wadia has so far refused to issue a no objection certificate to Danone. The French company is also very clear that its India strategy will be limited to fresh dairy products, essentially yoghurts and beverages (bottled water). Britannia Industries has refrained from sharing its results for the quarter ended September with Group Danone in a surprising move that could further widen the gap building up between the Wadia group and the French foods giant.

The Bangalore-based maker of Tiger and Pure Magic biscuits is believed to have cited corporate governance issues in support of its decision. A Britannia board meeting on August 6 is said to have approved the move.

As a result, Danone's financial figures for its third quarter ended September do not include Britannia's performance. This is the first time in the joint venture's 12-year-old history that such a development has taken place. The exact reasons behind Britannia's sudden decision is not known. Indian stock exchange regulations forbid prior revelation of price sensitive information to any one particular shareholder group. However, it is not known if the prohibition applies to joint venture partners and parents of domestic subsidiaries. Many firms are known to share their financial performance with the parent to enable consolidation in the global accounts if the parent is also a listed company overseas. However, in the case of Britannia, Danone is only a joint venture partner and not the owner. The firm owns about 25% through Associated Biscuits International Holdings which in turn is owned jointly by Danone and the Wadia group.

Group Danone is also in talks with the Indian government to clarify its stand on various issues. Danone, which has an FIPB sanction to invest in India, is now in discussion to reactivate that approval. Group Danone is likely to take on a mass-market strategy for its fresh dairy products. India is one of the largest markets for fresh dairy products, but a lot of it is limited to the unorganized sector.

The intellectual property rights conflicts between Britannia Industries and French Dairy and beverages giant, Group Danone is heading for an early breakthrough. Sources close to the development said that the matter is likely to come up for hearing in Singapore early next week.

Britannia Industries dragged Danone to a Singapore court last year seeking a immediate redressal of the Tiger brand issue. Both parties have been locked in a dispute over the trademark of Britannia's mass market biscuit brand Tiger. Danone which holds 25.5% indirect stake in Britannia through a holding company Associated Biscuits International Holdings (ABIH) has been accused by the management of Britannia Industries of registering the Tiger Trademark globally without the approval of Britannia.

The case which was filed by Britannia last year has reached the critical pre-trial stage at the Singapore court according to sources if the parties reach a settlement at the pre-trial conference (PTC) stage, they would not need to go for a full trial. Danone applied for registration of the Tiger trademark in over 70 countries. It had made an application to register the Tiger trademark in Singapore way back in November 1999 and received a certificate in July 2003, according to the Intellectual Property Office of Singapore.

Britannia Industries discovered that its trademark had been registered in nearly 35 countries by Danone only a couple of years back when the company aggressively pursuing its International expansion. Britannia submitted its trademark application for tiger in Singapore only in April 2007 and the same still pending. Danone is fighting the case through its wholly owned French subsidiary generate biscuits. Its trademark registration at Singapore however will expire by November 2009.

The Tiger trademark contains an animated image of the tiger and the word tiger is a key component of the ongoing tussle between the Indian textiles to airlines conglomerate Wadia group and Danone. Both of them have an equal stake in ABIH which in turn holds 51% in Britannia. The management of the companies said that sources are in discussion to hammer out the terms of Danone to sell its stake in ABIH to the Wadias. Danone would have to exit the biscuits business in India and dissolve its partnership with the Wadias. This move will pave the way for its solo entry into the marketing yoghurt and beverages in India.

4. Taxability of IPRs¹

Service tax has been imposed on intellectual property services rendered by holder of an intellectual property right by the Finance Act, 2004 with effect from 10th September, 2004. The gross amount charged to any person in relation to intellectual property services is chargeable to service tax, i.e. services provided by holder of intellectual property rights to any person.

Intellectual properties are the creation of the human mind and human intellect and that's why such assets are called intellectual property. Intellectual properties help to sustain the leadership, initiative and investment of holders with technical know-how and successful marketing ideas that foster huge commercial returns. On legislative framework, in a country like India, intellectual property finds its recognition in entry No. 49 in the Union List of Seventh Schedule under

Article 246 of Indian Constitution. The entry finds place as patents, invention and designs, copyright, trade marks and merchandise marks. To regulate these intellectual properties, we have following legislations -

. Patents Act, 1970

. Copyright Act, 1957

. Trade & Merchandise Marks Act, 1958

. Trade Market Act, 1999.

5. Meaning of Intellectual Property Right

Section 65(55 a) defines "intellectual property right" to mean any right to intangible property, namely, trademarks, designs, patents or any other similar intangible property, under any law for the time being in force, but does not include copyright".

Intellectual property rights (IPRs) are intangible property rights arising out of intellect. Intellectual property refers to the results or benefits arising out of application of intellect which may be in the form of any design, patent, trade mark, invention, formula, goodwill, etc. IPRs refers to the rights arising out of creation of intellectual property enjoyed or owned by its owner. The rights can be relinquished, delegated, shared, sold, assigned or transferred, whether temporarily or permanently. IPR's do not include copyright which are covered under Copy right Act. Intellectual property rights are the rights granted by state to provide parties or persons to encourage creativity of mind like artistic or literary work, invention, marks, symbols etc. IPRs provide creators with certain rights which in turn have commercial value. Ideas, knowledge, processes, invention, designs etc. are today important part of trade. IPRs could relate to following -

Patents - New technical concepts, inventions

Copyright - Text, graphics, software, data compilations, art, music

Trade marks - Brands (Product/Service) image and reputation

Confidential Information - Ideas, information, know-how etc.

Design Rights - Form and appearance, decoration

Trade mark has been defined under Section 2(zb) of the Trade Marks Act, 1999 as under -

"trade mark' means a mark capable of being represented graphically and which is capable of distinguishing the goods or services of one person from those of other and may include shape of goods, their packaging and combination of colours; and -

(i) in relation to Chapter XII (other than Section 107), a registered trade mark or a mark used in relation to goods or services for the purpose of indicating or so as to indicate a connection in the course of trade between the goods or services, as the case may be, and some person having the right as proprietor to use the mark, and

(ii) in relation to other provisions of this Act, a mark used or proposed to be used in relation to goods or services for the purpose of indicating or so to indicate a connection in the course of trade between the goods or services, as the case may be, and some person having the right, either as proprietor or by way of permitted user, to use the mark whether with or without any indication of the identity or that person, and includes a certification trade mark or collective mark".

Mark has been defined under Section 2(m) of the Trade Marks Act, 1999 as under-

"mark' includes a device, brand, heading, label, ticket, name, signature, word, letter, numeral, shape of goods, packaging or, combination of colours or any combination thereof".

Design has been defined under Section 2(d) of the Designs Act, 2000 as under-

"design' means only the features of shape, configuration, pattern, ornament or composition of lines or colours applied to any article whether in two dimensional or three dimensional or in both forms, by any industrial process or means, whether manual, mechanical or chemical, separate or combined, which in the finished article appeal to and are judged solely by the eye; but does not include any mode or principle of construction or anything which is in substance a mere mechanical device, and does not include any trade mark as defined in clause (v) of sub-section (1) of section 2 of the Trade and Merchandise Marks Act, 1958 (43 of 1958) or property mark as defined in Section 479 of the Indian Penal Code, 1860 (45 of 1860) or any artistic work as defined in clause (c) of Section 2 of the Copyright Act, 1957".

"Brand name" or "Trade name" has been assigned meaning under Chapter Note 12 of the Chapter 71 in Central Excise as:

'Brand name' or 'trade name' means a brand name or a trade name, whether registered or not, that is to say, a name or a mark, such as symbol, monogram, logo, label, signature, or invented word or writing which is used in relation to such specified services for the purpose of indicating, or so as to indicate a connection in the course of trade between such specified services and some person using such name or mark with or without any indication of the identity of that person.

Patent has been defined under Section 2(m) of the Patents Act, 1970 as a patent granted under the Act. Dictionary meaning of patent is a license to an individual or an organization conferring a right or title for a set period, especially the sole right to make, use or sell some invention. Patentee is a person or organization that obtains or holds a patent for something. Copyrights are governed by the Copyright Act, 1957. Copy rights subsists throughout India in certain classes of works i.e., original literary, dramatic, musical and artistic works; cinematograph films and sound recording. Intellectual property right, thus implies the following basic ingredients -

- (a) it is a right
- (b) right should be to intangible property
- (c) intangible property could be a patent, design, trademark or any other intangible property
- (d) such intangible property should be recognized under any law in force
- (e) IPR excludes a copyright.

Meaning of Intellectual Property Services

Section 65(55b) defines "intellectual property service" as under -

"intellectual property service" means -

- (a) transferring, temporarily; or
 - (b) permitting the use or enjoyment of,
- any intellectual property right".

IPR services would cover both - permitting the use or enjoyment of IPR or temporary transfer of IPR. IPR service would, therefore, include both - transfer of an IPR on temporary basis and allowing the use of an IPR or right to enjoy IPR to some one else, other than the owner or holder of an IPR.

IPR service would mean -

- (a) permanent transfer of IPR (only prior to Finance Act, 2005)
- (b) transfer of IPR, which may not be a permanent transfer (say, assignment of an IPR for a fixed term)
- (c) permitting the use of IPR
- (d) permitting to enjoy the IPR.

Meaning of Taxable Service

Taxable Service has been defined under Section 65(105)(zzr) to mean any service provided or to be provided to any person, by the holder of intellectual property right, in relation to intellectual property service.

A taxable service should meet the following conditions -

- (a) service should be provided to any person
- (b) service should be provided by the holder of IPR
- (c) service should be any service in relation to IPR.
- (d) IPR should be transferred temporarily or permitted to use without transfer.
- (e) IPR should not pertain to copyright.
- (f) Such IPR should be recognised under Indian laws.

According to Circular No. 80 dated 10th September 2004, a permanent transfer of intellectual property right does not amount to rendering of service. On such transfer, the person selling these rights no longer remains a "holder of intellectual property right" so as to come under the purview of taxable service. Thus, there would not be any service tax on permanent transfer of IPRs. The definition also stands amended by the Finance Act, 2005 w.e.f. 15.06.2005.

According to clarification issued vide Circular No. 80 dated 10th September, 2004, intellectual property emerges from application of intellect, which may be in the form of an invention, design, product, process, technology, book, goodwill etc. In India, legislations are made in respect of certain Intellectual Property Rights (i.e. IPRs) such as patents, copyrights, trademarks and designs. The definition of taxable service includes only such IPRs (except copyright) that are prescribed under law for the time being in force. As the phrase "law for the time being in force" implies such laws as are applicable in India, IPRs covered under Indian law in force at present alone are chargeable to service tax and IPRs like integrated circuits or undisclosed information (not covered by Indian law) would not be covered under taxable services.

In *Araco Corporation v. CCE, Bangalore* (2004 - TMI - 221 - CESTAT (BANGALORE)) where the appellants had transferred the technical know how under the licence, it was held that the service falls prima facie, under the category of intellectual property services and not under consulting engineer's services.

In *Aviat Chemicals Pvt. Ltd. v. CCE (ST)*, (2004 -TMI - 145 - CESTAT, NEW DELHI), it was held that right to use trade mark is a transaction in property and not consultancy or advice and that no consultancy or advice is involved in lease or sale of trade mark as it is a transaction in intangible property.

In *India Pistons Ltd. v. CCE* (2007) 8 STJ 276 (CESTAT, Chennai), it was held that telegraph transfer is distinct and separate from engineering consultancy service. The royalty paid to foreign collaborators in terms of technical assistance agreement entered between them was not exigible to service tax as service received was different from engineering consultancy service. [Also see *Prudent Communication System Pvt. Ltd. v. Commissioner of Service Tax*, (2007 -TMI - 1008 - CESTAT, BANGALOR); *Colgate Palmolive Company v. CCE & C, Goa* (2007) 6 STT 169 (CESTAT, Mumbai); *Shore to Shore MIS Pvt. Ltd. v. CCE, Chennai* (2006 -TMI - 837 - CESTAT, CHENNAI)]

Supply of technical know-how and royalty paid for technical know-how was not taxable as consulting engineers service. [*Hindustan Hardy Spicer Ltd. v. CCE, Nasik* (2006 -TMI - 1528 - CESTAT, MUMBAI)] [Also see *Bharat Electronics Ltd.v. CCE* (2007) 7 STT 206 (CESTAT, Bangalore); *Hero Honda Motors Ltd. v. Commissioner of Service Tax* (2007) 8 STJ 429 (CESTAT, New Delhi)]

In *Hero Honda Motors Ltd. v. CCE* (2008) 13 STT 193; (2008), 10 STR 185; (2008) 13 STJ 59 (CESTAT, New Delhi), it was held that right to use trade mark on containers for lubricant oil for a consideration would be prima facie covered under IPR service and as such pre-deposit was not waived fully.

In *Bharat Heavy Electricals Ltd v CCE, Bhopal* (2008 -TMI - 30075 - CESTAT, NEW DELHI), it has been held that transfer of right to use patented technology and brand name is taxable from 10.9.2004.

In *Modi Mundipharma Pvt Ltd v CCE, Meerut* (2009 - TMI - 34273 - CESTAT, NEW DELHI) , where goods were manufactured in own brand name by appellant and royalty was paid by way of deferred payment for know how received in 1990, it was held that service was rendered in 1990 when it was not taxable and payment made as per agreement only. Therefore, no IPR service was rendered in 1990 so as to be called a taxable service [Also see *Switzer Instruments Ltd v CST, Chennai* (2009 -TMI - 75120 - CESTAT, CHENNAI)

In *R.M. Dhariwal (HUF) v CCE, Pune -III* (2009 -TMI - 75867 - CESTAT, MUMBAI), it was held that royalty as a consideration for transfer of trade name and formulae for manufacturer of pan masala, gutka etc was covered by intellectual property service rather than scientific & technical consultancy service .

So far as service tax is concerned, transactions involving temporary transfer of IPR and grant of licence to use IPR, whether on exclusive or non-exclusive basis, are exigible to service tax. Service Tax is not levied on IPRs recognized under the Plant Varieties Act, the IC Design Act, the GIG Act, the Bio Diversity Act and Copyright Act. Service Tax is also not levied on the IPR not recognized under the Indian law.

6. Value of Taxable Service- In the event of holder of intellectual property rights assigning an intellectual property right without any consideration, the value of taxable service will be nil.

The value of taxable service would be determined by holder of IPR who provides the service based on his own valuation and criteria. There cannot be any benchmark to the valuation.

In case a transfer or use of an IPR attracts cess under Section 3 of the Research and Development Cess Act, 1986, the cess amount so paid would be deductible from the total service tax payable. The value of taxable service will not include the amount of cess paid towards the import of technology under Section 3 of the Research and Development Cess Act, 1986 in relation to any intellectual property right. (vide Notification No. 17/2004-ST, dated 10th September, 2004).

7. Specific Exemption-The value of taxable service will not include the amount of cess paid towards the import of technology under Section 3 of the Research and Development Cess Act, 1986 in relation to any intellectual property right. Vide Notification No. 17/2004-ST dated 10-9-2004.

8. Person Liable- A holder of an intellectual property right shall be liable to pay service tax and shall be treated as an assessee for service tax purposes.

Way Forward and Arbitration

An arbitration case between the two parties is also pending at the Bombay High Court if the talks between the managements fail, arbitration could take place in London where ABIH is officially registered. Danone recently formed a joint venture with Yakult Honsha of Japan and launched a probiotic drink called Yakult in the country.

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For a full list of references, please contact the author(s).

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Board Room to Battlefields of Family Wars- Learning From Reliance- Mtn Deal

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Abstract

RCom and MTN deal was a simple share swap but it fell apart due to family dynamics. It brought about the thinking and governance beyond board rooms.

The deal between MTN and RCom to form a \$70 billion world's largest Telecommunication Company has led to significant corporate governance challenges when RCom and MTN had initiated talks. The deal focused on swapping shares of RCom and MTN. RCom decided to sell 66% of shares to MTN¹. The merger would lead to making RCom the biggest shareholder and the subsidiary of MTN. The opinion differences between the two brothers Anil Ambani and Mukesh Ambani owner of Reliance Communication and Reliance Industries respectively led to legal hurdles resulting in the unsuccessful merger. Mukesh Ambani was of the view that Reliance Industries had the Right of First Refusal (ROFR) especially, for the deals that have a direct effect on the control structure of the Company. RCom was threatened of the challenge in the court by RIL for any transfer of equity. Anil Ambani thought of restructuring the deal in such a manner that his controlling stake is not affected in RCom. This research case looks the governance challenges arising during corporate deals that may have succeeded had there been consensus among the business families and the clause 'First Right of Refusal' duly, appropriately invoked.

Key Words: Corporate Governance, Family Businesses, Reliance Group, First Right of Refusal, Ownership Structure, Family wars, Media and Telecom sector

JEL No- G32, G34

1. Introduction

It was 18th July 2008 morning when Vashist saxena, opened the day's English Daily to read the business column after a brief search for his glasses. He was following RCom and MTN deal because he has just purchased 1000 shares of the company. He, being a conservative, office executive to analyse how cross border transactions will enrich his small kitty of shares and other investment. He was shocked to see that the deal was given in the front page simply as "deal called off". He felt peeved and could not comprehend- "why does a good deal gets flushed down the drain?" and started looking into the small library collection of books on stock investing. He found the company background and performances too.

2. MTN - RCom Company details

MTN is a South African telecom giant and Africa s biggest wireless company with over 68.2 million subscribers and operations in South Africa, Nigeria and Iran. It has a market capitalization of \$33 billion, operates in over 20 countries across the world. The news came in the early April 2006 that MTN is willing to sell of a part of its stakes

and this attracted a lot of telecom giants all across the world and in the list were Reliance, Bharti Airtel and Vodafone from India.

RIL claim is legally untenable and baseless as said by RCom officialsⁱⁱ. RIL also threatened MTN of exemplary charges for procuring a breach of agreement, if it enters into a deal with RCom. The intensification of the issues would lead to further complex legal challenges which are yet to be solved.

Talks were taking place in full stretch, but at the end it was RCom who got the lucky number. But, things didn't go well as everyone thought it would be. The proposed deal between Reliance Communications (RCOM) and MTN may involve an open offer by MTN to the shareholders of RCOMⁱⁱⁱ. The deal, results in a transfer of Anil Ambani's two-third equity stake in RCOM to MTN shareholders, against his acquisition of one-third equity in the foreign company. Also under Indian laws, any acquisition above 15% triggers an open offer for a further 20% stake for minority shareholders. In the two-step structure as discussed, MTN will become the holding company of RCOM and in return, Mr. Ambani will have a direct one-third equity stake in MTN and an indirect holding of nearly 20% in RCOM. In effect of this deal, Anil Dhirubhai Ambani Group (ADAG) will become the largest shareholder of the combined entity^{iv}. The deal would also need approval from the Indian and South African authorities as well as from 21 other countries where MTN operates all across the world.

Just within five hours after MTN called off talks and broke off from a proposed alliance with Bharti Airtel, Reliance moved into the fray and achieved what Bharti, India's largest telecom provider was not able to do a 45 days exclusivity period with MTN. If the deal was to happen, it would have created one of the world's largest emerging-markets telecom operators with 115m subscribers spread across the world^v. MTN would have entered the Indian dynamic market.

3. The deal

Both companies had the opportunity of expanding their business all across the world. For RCom, MTN would have definitely offered its experience in running GSM networks and it would be very important for RCom since, it had plans to launch a pan-Indian GSM network which is a CDMA operator. MTN is also expertise in offering 3G services in South Africa that RCom could have leveraged in India^{vi}. MTN, on the other hand, had the chance to leverage Reliance's non-mobile business enterprise and its large submarine cable network across 60 countries around the world^{vii}. The coming together of MTN and RCom would bring benefits to 115 million customers of 23 countries and will edge out the Airtel deals with MTN. Airtel is a worthy competitor having 62 million customers in comparison with RCom that has a customer base of 45 million.

The combined Balance Sheet in 2008 of MTN-RCom would have indicated a \$14.4 billion or Rs.58000 crore companies and have been very profitable next to the Chinese telecom giant, China Mobile in the entire world. RCom's market capitalization also would have soared from \$28 billion, taking the stake value in MTN to \$12 billion. MTN also stands to gain as the single largest shareholder in RCom in addition to the management rights. RCom's shareholding pattern has been consistently changing since 2006 when it was first listed in stock exchange.

4. Proposal for Deal between MTN and RCom

RCom has proposed an acquisition with South African telecommunication MTN. In order to finance for the same it is planning to raise a part of the capital \$5 - \$6 billion from the banks. As in reply to the same, many international banks, Indian banks and also some European banks like HSBC and Barclays, have offered an underlying commitment for the purpose of the deal. Given an overall equity holder's contribution of \$4 billion and an extra \$7

billion to \$8 billion by RCom would cover the financial constraints of the deal. MTN Group was to issue as much as 20 per cent fresh equity to Anil Ambani's Reliance Communications (RCom) as part of a multi-stage merger deal^{viii}. The fresh equity will have special voting rights helping Ambani gaining authoritative control over the company and make them the largest stakeholder of MTN. MTN also will be part of RCom to assist reverse merger process.

Mr Mukesh Ambani-backed RIL sent a letter to RCom claiming first right of refusal [ROFR], if Mr Anil Ambani decides to sell equity to South African telecom company MTN. AAA com, company of Anil Dhirubhai Ambani Group (ADAG) which has a share of 63.38% of the paid up capital in Reliance Communication Ltd (RCOM) has charged Mukesh Ambani's Reliance Industries with causing it substantial damage. AAA Com claimed that RIL's unwanted interference had derailed merger negotiations between RCOM and MTN and has created confusion between the two companies.

The statement came a day when both RCOM and MTN mutually called off their talks. In the letter to RIL, AAA Com said that it was not part to any non-compete agreement, dated January 12, 2006 between RIL and RCOM and said that the agreement was not binding on AAA Com's shareholding, that its shares cannot be subjected to right of first refusal by RIL, that it was claiming at the time of negotiation between RCOM and MTN^{ix}. But, on the other hand, RIL claims that RCOM had entered into a non-compete agreement under which RIL has right of first refusal on Anil Ambani's holding in RCOM - when the Reliance empire was divided in January 2006. Negotiations between RCOM and MTN on the day after RIL moved to start arbitration proceedings on its right of first refusal on RCOM shares and it was publically announced by both companies that "due to certain legal and regulatory issues, the parties are presently unable to conclude transaction".

5. Right of First Refusal (ROFR) - a contractual right

Right of First Refusal is actually an agreement with the property owner that gives another person the right to buy or rent the property before it goes to the open market^x. It is a contractual right which gives the property owner the option to enter a business transaction with others, strictly according to specified terms, before the owner is entitled to enter into any sort of transaction with the third party. Right of first refusal is similar in concept to a call option^{xi}.

A call option is much of a financial contracts between two parties or persons- the buyer and the seller^{xii}. The buyer of the option has the *right* to buy an agreed quantity of a particular financial instrument or a commodity from the seller of the goods at a certain time within the expiration date for a certain price^{xiii}. The seller is obligated to sell the commodity or financial instrument should the buyer so decide. An ROFR differs from a Right of First Offer (ROFO, also known as a Right of First Negotiation), even though both of them are similar. In ROFR, the owner undergoes exclusive good faith negotiations with the rights holder before negotiating with other parties or persons^{xiv}.

A ROFR gives us an option to enter into a transaction on exact or approximate transaction terms on the other hand ROFR can be merely an agreement to negotiate. For example, if X owns a house that he plans to sell to Y for 10 lakhs. However, Z holds a right of first refusal to purchase the house. Therefore, before X can sell the house to Y, he must first offer it to Z for the exact amount of 10 lakhs. Y can only buy the house if Z declines the offer at the proposed 10 lakhs price. An ROFR can cover almost any sort of assets which includes personal property, real estate, a screenplay, a patent license or an interest in a business^{xv}. It can also cover business transactions which are not strictly assets, for example the right to enter a joint venture or distribution arrangement^{xvi}. Since ROFR is a contract right, the holder's remedies for breach are mostly limited to recovery of damages^{xvii}.

6. Challenges and Issues- An analysis

Mukesh Ambani, the owner of Reliance industries (RIL) asked for first right of refusal and requires the South African giant MTN to stop the deal till the family issues are resolved. The series of aggressive statements made by RIL have put a stop on the deal. This was going to be one of the largest merger and acquisition telecommunication deal by an Indian company. In a complex share swap agreement, Reliance communication (RCom) owner Anil Ambani was to part with his portion of stake in RCom.

According to MTN dialogues are still under process as said by MTN spokes person Nozipho Bardill. The RIL stands say that the RCom has to be offered to Mukesh Ambani before being sold to anyone. The family settlement was signed in august 2005 after informal discussion between the two brothers. The ownership settlement clearly divided the two businesses. Anil was given the telecomm business and Mukesh Ambani was given the lucrative petroleum and petrochemical business. RIL didn't reply on this but according to RCom group "RIL is hampering one the biggest telecomm deal which would have made billions of Indian proud".

The Anil Ambani group claimed that RIL has talked to MTN group and have made a false claim of stakes in RCom. RCom was served with copy of letter send by RIL to MTN^{xviii}. For RCom, (Anil Ambani) MTN deal is very important. If deal is on than telecomm network will spread from the Cape of Good Hopes to Himalayas. This merger will create a telecomm giant with the base of 100 million customers and further growth of telecomm sector. This has to be seen whether the RIL claim will hamper the merger and acquisition between the two giants^{xix}. But according to analyst any seller would go back if there were controversial statements and disputes. According to the RCom, RIL is claiming on the agreement made on January 12th, 2006 which was unilateral signed by only RIL officials^{xx}. RIL claim is out of frustration and envious because of the continuous success of RCom. RCom has informed stock exchange on May 26th 2008, regarding the negotiation with MTN for a potential combination of two businesses. Also an agreement was signed between brothers according to whom family should be kept informed of any majority stacks is any of the group companies.

7. The collapse of the deal

MTN communicated that the deal was mainly called off due to unfavorable regulatory issues that had terminated the birth of world's largest telecom company \$70 bn telecommunication company with 120 mn customer base. RIL was of the view that the merger would not help the shareholders RCom and would only benefit Anil Ambani. Mukesh Ambani further added that most of the shareholders of RCom were also shareholders of RIL and that it was hid duty to protect their interests and rights. As per RIL, the benefit received by RCom should be returned to RIL.

Corporate know that both the groups have spanners kept in the other company to keep a track of activities undertaken by the other but none knew that the spanner would actually work as it has in the MTN case. This also led to the sliding of price of RCom. The market capitalization showed a meltdown of nearly a third to reach a level of \$18 bn. Before the deal was called off, ril had claimed the right of first refusal over sale of RCom shares to MTN^{xxi}. The ADA group however scraped the claim. In order to protect the deal, two of the ADAG companies had filed caveats in the Bombay high court to ensure that no ex-parte order is issued if RIL goes for RoFR^{xxii}.

However RIL had proposed for mutual conciliation before the commence meant of formal arbitration. Rcom believed that mutual conciliations was just a way of ril to remove its frustration. The younger sibling warned the elder brother by threatening to retaliate if RIL goes legal. It would vigorously defend and would also claim for the cost and damages from RIL. It also added that RIL's claim was baseless, legally and factually untenable^{xxiii}. RIL

sending letters to intermediaries, banks and MTN without even communicating to RCom was reflecting the unfair and mala fide motives of the Mukesh Ambani led group^{xxiv}.

Terming RIL's threats as "false bogey of litigation and damages," the RCom sources expressed surprise that without knowing of the nature of a possible transaction between RCom and MTN, how RIL has jumped to the conclusion that it would be covered by the alleged agreement of January 12, 2006^{xxv}. RIL also threatened MTN of exemplary charges for procuring a breach of agreement, if it enters into a deal with RCom. Anil claimed that Mukesh was jealous of younger brother's success and was trying to sabotage the deal and that the combines entity would be operating at a profit of Rs 50,000 cr which was higher than Mukesh Ambani's group, RIL was trying to curb the formation of the world's largest telecom giant. RIL's communication to MTN was based on a 'unilateral' agreement of January 12, 2006 signed by RIL officials, ADAG replies that the agreement for effecting the family settlement was held "unfair and unjust" by the Bombay High Court later the last year itself^{xxvi}.

RIL has referred to arbitration to solve this issue on 'First right of Refusal'. All the companies MTN did not want to enter into a legal tussle of the two brothers. The collapse of the deal has intensified the battle between the two brothers. This case speaks about how RIL claimed its first right of Refusal and RCom in turn fought back heavily by claiming that the agreement (which was made during demerger of reliance industries in 2005) was mala fide. Of course, because of Legal and regulatory hurdles RCom failed to save the deal. The case also talks about opposing views speculating in media and about possible solution and the corporate governance issues arising out of the dispute. This corporate war would see a lot of legal aspects coming into picture over the coming years.

Vashist Saxena, after an extensive study of the newspaper, found many opposing views speculating in media and about possible solution and the corporate governance issues arising out of the dispute. He also wondered aloud if Kokila Ben should Step in to solve the problem as she did in 2006 and intervene to silence corporate India's worst bitter battle between brothers on a single issue. He, finally raised hands and said 'God save the companies' and turned to browse the share quotations for the day.

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The widening horizons of commercial corruption in developing countries – A case study

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Abstract

Commercial corruption in developing countries appears in different stages. The first stage involves petty bribery with payment of bribes to public officials and bureaucrats as grease or facilitation payments. Then as the economies develop it moves on to the next stage involving the purchase of big ticket items and the award of infrastructure development projects. These involve immense amounts of money where even a small fraction or a percentage in bribe or kickback adds up to enormous amounts. With the advent of the revolution in information technology a third type of corruption has now emerged. This involves the telecoms sector with mobile phones and broadband services and the outsourcing of information technology services. This paper seeks to examine some aspects of commercial corruption in this context with a case study involving a recent scam concerning the issue of 2G telecom licenses in India.

Introduction

What is corruption

There is a correlation between power and corruption. Good governance is the essential requirement for human development in any society. Sadly, in developing countries good governance is generally known by the lack of it in varying degrees. The two plinths of good governance are competence and integrity on part of those who govern the country. Power is entrusted to those who govern to achieve a defined and socially desirable end so that it can benefit the governed. Power exercised corruptly and without integrity makes good governance impossible. Power can be and is abused for personal ends or for ends that have nothing to do with their intended purpose.¹

The abuse of power and corruption covers a wide spectrum that may be difficult to describe but not difficult to recognize. One definition of corruption states that it is the ‘misuse of public office for private ends or private gain’. The bribery, the most common form of corruption was described by the Privy Council in the case of *Attorney General of Hong Kong v. Reid* as “an evil practice which threatens the foundation of any civilized society”. It described the bribe as any “gift accepted by a fiduciary as an inducement to him to betray his trust”. The World Bank has defined corruption as the ‘abuse of public power for private benefit’. The actors involved are public figures, civil servants, politicians, bureaucrats and bribe-givers such as companies or individual business persons. Whatever the context, the notion of corruption connotes a betrayal of trust and a misuse of power, resulting in unfair advantages or illicit enrichment.² Most people intuitively know the broad meaning of corruption by seeing a link between power and its abuse. In most countries both the taking and the giving of a bribe is a crime.

Commercial corruption thrives in the absence of good governance. It is a fact of life especially in the developing countries. It has the ability to adapt to the growing economies where it appears in different stages. The first stage would be petty bribery. This involves payment of bribes to public officials and bureaucrats as grease or facilitation payments. Then as the economies develop it moves on to the next stage which involves the purchase of big ticket items like ships, aircraft and the defense supplies, as well the award of projects for infrastructure developments such as the building of highways, ports, and airports. These involve immense amounts of money, where even a small fraction or a percentage in bribe or kickback would amount to enormous amounts. These amounts can be spirited away into foreign bank accounts, or can be held for the benefit of the bribe taker by his relatives or nominees. For example shares can be issued to a relative which results in a bonanza to the bribe-taker when the enterprise makes a public issue of shares. A third type of corruption has now emerged where technology is involved. The stakes are high as the world is taken in by a technological revolution spurred by information

technology. This involves growth of the telecoms sector with the use of mobile phones and of broadband services and the outsourcing of information technology services.

This paper seeks to examine some aspects of commercial corruption in the context of a case study involving a recent scam concerning the issue of 2G telecom licenses in India. But before we go to the case proper it would be advantageous to consider some aspects of corruption to put the case in perspective.

What is wrong with corruption?

Where criminal conduct becomes a practice in any society, something which is routine and tolerated as a fact of life with little prospect of disclosure and punishment, such a society becomes a dysfunctional or a failed society. Such a society has no place for the rule of law and other features that distinguish it from a civilized society.

Corruption has been described as an 'evil practice' because of the severe effect it has on the poorest and most vulnerable segments of society as well as society at large. In poor societies, there is but one complaint that is common to their citizens and it is that the people in power are corrupt, that they are rogues who steal public money, and these sentiments are accompanied by feelings of disempowerment, shame and rage.³

From the earliest times, bribery and corruption have been regarded as vile. Most societies regarded them as vile because, next to torture, they are the most oppressive abuse of power of the state over its citizens, who are usually poor and powerless. The opposition to corruption in all forms is therefore closely linked to justice and the citizens' conception of what makes a society just and worth living in.

It has been pointed out, citing a report by the Stanford University's Graduate School of Business, how corruption breeds inefficiency, which means lower profits. The report found that corruption in its various forms, leads to inflation of employee ranks and drags down efficiency. This in turn slows the growth of a nation's wealth. Corruption is associated with lower per capita gross national products and lower rates of investment, which damages national economies by making businesses inefficient. Specifically, corruption adds extra costs to businesses and consumers, which in turn deter investment. Many capital exporting countries now have laws that prohibit their companies and nationals from giving bribes to foreign officials. As a result, the big players that are subject to laws prohibiting overseas bribery will avoid countries where giving bribes is a requirement for doing business. It has also been observed that bidders for projects will go for big ticket items like roads and airports that cost tens of millions of dollars where the percentage of the costs paid as bribe amounts to a large sum of money. Often in such cases the contract is over-priced and the quality of the finished product is inferior. Accordingly the officials will shun smaller projects like schools and hospitals, even though these are desperately needed, because there is little or no payment in bribes.⁴

Case study of 2G Licenses in India

Scandals of all types occur in India with unsurprising regularity. Some of the more recent scandals include those involving Satyam Computer Services, the Commonwealth Games, and the Adarsh Housing Society, to name a few. While the issues relating to these are yet to be resolved a new scandal has emerged relating to the issue of 2G telecom licenses that has been making the news headlines. India is the world's second-largest cellphone market, with over 700 million subscribers and the profits of private operators depend on licenses for spectrum. In 2008 the telecom ministry issued 2G spectrum licenses at below-market prices causing the national exchequer a loss of US\$39 billion. The scam has now come to head and is currently still in the process of unraveling. *The New York Times* (NYT) aptly summed up the scandal as "Tycoons with friends in high places. Public tenders conducted by irregular rules. Tens of billions of dollars in potential losses for the national treasury. Allegations of government ministers on the take, and of a respected prime minister too aloof to notice."⁵ The scam has spotlighted the dangerous nexus between the government officials and big business houses. The corruption problem has been blamed upon "crony capitalism" where everyone did favors for and received favors from dominant corporations.⁶

The unfolding of events

The issue came to light in November 2010 when India's Comptroller and Auditor-General (CAG) in a report, based upon the amount of money collected from the auction of 3G licenses, found a loss of over US\$39 billion to the national exchequer due to under pricing of the 2G spectrum. As a consequence the Union Cabinet Minister for Telecommunications and Information Technology at the time, Andimuthu Raja resigned from his ministerial post on 14 November 2010, was arrested for corruption⁷ and lodged in Tihar Jail along with a number of corporate figures.⁸ Raja who is a politician from DMK, a regional party in Prime Minister Manmohan Singh's national Congress-led coalition, has denied any wrongdoing. An Indian parliamentary panel questioned several business leaders including industrialist Ratan Tata of the Tata Group and Mr. Anil Ambani of the Reliance ADA Group in connection with the alleged irregularities.⁹

Raja's trial commenced on 13 April 2011. Earlier the police laid charges in the corruption scandal, said to be the biggest in independent India's history. Raja, who is accused of abuse of power, cheating, forgery and criminal misconduct appeared in court with eight senior company executives and bureaucrats.¹⁰ Subsequently Ms Kanimozhi, the daughter of DMK Chief M. Karunanidhi, the No.1 coalition partner of the Congress party was also arrested for corruption charges for her alleged role in the scam and lodged in the same jail.¹¹ The charge sheet filed by the CBI before the Supreme Court establishes how Rupees 200 crore connected with the scam traveled from a partnership firm of businessman Shahid Balwa of Swan Telecom to the Karunanidhi family-owned Kalaingar TV.

The scam involved the issue of 122 licenses of the 2G spectrum to 85 companies including many new telecom companies with little or no experience in the telecom sector at prices set in the year 2001. The scam involved allegations regarding the under pricing of the 2G spectrum resulting in a loss to the exchequer and illegal manipulation of the spectrum allocation process to favour select companies. The scam came to public notice when the Supreme Court of India admitted the writ petition filed by the President of the Janata Party, Mr. Subramaniam Swamy.¹²

Disregard of rules and established procedures

The CAG report highlighted how the telecoms ministry under Raja circumvented the established procedure and disregarded repeated warnings to use the auction mechanism to ensure transparency and equitable distribution of licenses. Instead licenses were sold on a first-come-first-served basis to benefit a select few bidders at 2001 prices contrary to government directives and rules. The ministry's actions were not in tune with the policy decision of the Telecom Regulatory Authority of India (TRAI) to replace fixed license fees with a pricing mechanism that would more accurately capture market prices with a combination of a nominal fee and a market-determined spectrum fee through competitive bidding. The 2001 prices reflected a totally nascent market and Raja's ministry also ignored efforts to bring in transparency through actions and updated spectrum valuations by the prime minister, the ministries of finance and law & Justice, TRAI, the telecom commission and a ministerial group and others.

Even though the telecom ministry professed a first-come-first-served policy in allocating 2G spectrum there was something wrong the way it was administered. This actually favoured a few bidders who seemed to have been privy to advance information. The ministry's Department of Telecommunications (DoT) issued a press release on 24 September 2007 saying it would stop accepting spectrum applications a week later on 1 October 2007, effectively putting an artificial cap on the number of licences. But it later advanced the cut-off date to 25 September, or 24 hours after the press release. The telecom ministry issued 121 licenses on 10 January 2008. It had received 575 applications, 408 of which were filed after the 24 September press release. A notice through another press release gave applicants less than an hour to collect the licenses, for which they had to submit bank guarantees. CAG noted that some licensees "who could proactively anticipate such procedural changes were ready with the demand drafts and could avail of the benefit of the first right to allocation of spectrum, having jumped the queue." It added, "the entire process lacked transparency and objectivity and has eroded the credibility of the DoT." According to the report, it turned out that 85 licensees did not meet basic eligibility conditions; some had provided incomplete

information and submitted fictitious documents. The new telecoms minister, Mr Kapil Sibal has said that he will issue show-cause notices to the 85 licensees for violation of the eligibility criteria, and also to 69 licensees that have failed to meet spectrum rollout obligations.¹³

Role of the Political Opposition and the Media

Mr. Subramaniam Swamy, the President of the Janata Party, had filed a petition in November 2008 seeking permission to prosecute Raja but that was ignored, leading the Supreme Court of India to ask the Prime Minister's Office, after Raja was arrested, to explain why it took 11 months to respond to the petition. The Government's answer was that it was premature to sue Raja and that Swamy should wait for the outcome of an ongoing investigation. The other petitioners include Paranjay Guha Thakurta, a journalist who was among the very first to write on the irregularities in awarding the 2G spectrum; Prashant Bhushan on behalf of the Centre for Public Interest Litigation; Anil Kumar, on behalf of the civil society organization Telecom Watchdog; and others among whom are the former chief election commissioner and former central vigilance commissioner (CVC). Following the allocation of the 2G spectrum in 2008 the media had highlighted its flaws but nothing came out of it. However, the CAG report in November acted as a catalyst to spur the opposition parties to make a concerted effort to remove Raja. Meanwhile there were reports in the media of secret phone recordings implicating Nira Radia, a high-profile corporate lobbyist whose clients included the big names in the industry including the Tata Group and Reliance Industries, of using top journalists to help secure the appointment of Mr Raja as the telecoms minister. The main source of these leaks are over 100 tapes of 5,000 recordings made by India's Enforcement Directorate and Income Tax authorities as part of their surveillance of Ms. Nira Radia. Radia lobbied government ministers and politicians on behalf of India's business elite.¹⁴

Companies and Individuals Charged

Mr Raja resigned as the Telecoms Minister in November 2010. In mid November the Comptroller issued show-cause notices to the companies involved, Unitech, S Tel, Loop Mobile, Datacom(Videocon), and Etisalat to respond to his assertion that all of the 85 licenses granted to these companies did not have the up-front capital required at the time of application and were in other ways illegal. However it is speculated that these companies will receive large fines but not have their licenses revoked. The CBI conducted raids on Raja and four other telecom officials in December 2010.¹⁵

The CBI will charge India's top conglomerates the Essar Group and Reliance ADAG with criminal conspiracy and cheating. This corruption scam was brought directly under the control of the Supreme Court of India as the government failed to move against powerful businessmen and politicians. The CBI has said that the two companies Loop and Swan Telecom were used as front companies by established telecom operators Essar and Reliance Communications to get more licenses. It is noted that this defeated the entire exercise and there is ample circumstantial evidence to prove that the telecom minister Raja and his cronies connived with the companies to give precious spectrum for a song. Massive kickbacks were given through real estate companies like DB Realty whose top billionaire owners are under arrest.¹⁶

The CBI filed its first 80,000 page chargesheet on 2 April 2011 before a Special Court in Delhi naming nine individuals and three companies. The nine accused individuals are: (1) A. Raja, the former Telecom minister, (2) Siddharth Behura, former Telecom secretary, (3) R.K.Chandolia, Raja's former personal secretary, (4) Shahid Usman Balwa, former Director of Swan Telecom (now Etisalat DB), (5) Sanjay Chandra, Managing Director of Unitech Limited and Unitech Wireless, (6) Gautam Doshi, Group MD, Reliance Anil Dhirubhai Ambani Group, (7) Hari Nair, Senior Vice-President, Reliance Anil Dhirubhai Ambani Group, (8) Surendra Pipara, Senior Vice-President, Reliance Anil Dhirubhai Ambani Group and Reliance Telecom Ltd, and (9) Vinod Goenka, Director, Swan Telecom and Managing Director of DB Realty. The three companies are: (1) Swan Telecom, (2) Unitech Wireless, and (3) Reliance Telecom. In the first chargesheet the CBI had named lobbyist Nira Radia and 124 others as witnesses. The CBI filed a second charge sheet on 25 April 2011 wherein it named five more accused individuals: (1) Kanimozhi, Rajya Sabha Member (DMK) and daughter of M. Karunanidhi, Tamil Nadu Chief Minister, (2)

Sharad Kumar of Kalaingar TV, (3) Karim Morani of Cineyug Films, (4) Asif Balwa of Kusegaon Realty and (5) Rajiv B. Agarwal of Kusegaon Realty.¹⁷

The Charges

All the accused have been booked under sections 120(b) (criminal conspiracy), 468 (Forgery for purpose of cheating), 471 (using as genuine a forged document or electronic record), 420 (cheating and dishonestly inducing delivery of property) and 109 (abetment if the act abetted is committed in consequence, and there is no express provision is made for punishment) of the Indian Penal Code. Kanimozhi has been charged with sections 7 and 11 of the Prevention of Corruption Act.¹⁸

Aftermath of the Scandal

It has been observed that among the many corruption scandals that India has been reeling under the telecom scandal may beat the rest in shock value, brazenness, arbitrariness and size.¹⁹

India's new telecom minister, Kapil Sibal, has proposed a slew of changes to the country's telecom policy in an attempt to streamline the industry. There are currently 15 service providers catering to nearly 800 million subscribers. As the subscriber base continues to grow the companies will look to consolidate. He has said that the merger and acquisition rules will be relaxed to allow consolidation of the sector. Mr Sibal also indicated that as part of the new policy, the government will separate mobile licences from spectrum fees.²⁰

The Fallout

As *Time* has pointed out "The impact of any irregularities in spectrum allocation – if such irregularities are ultimately proved – may, in fact, be felt in other institutions. Corruption has become the No.1 concern in public conversation in India, according to a recent poll by the BBC, and opposition demands for a probe have disrupted the functioning of the legislature in the world's biggest democracy. The press, too, has come under fire, with several prominent journalists featuring in the Radia tapes as power brokers and go-betweens. Repairing the damage to - India's reputation may take much longer."²¹

It has been suggested that the telecom scandal may just be the tip of the iceberg. A broader and more serious independent inquiry is now required to find any evidence of widespread corruption as powerful Indian businessmen like Ambanis and Tatas use their power, influence and cash to garner resources or projects. The role of the media is also under scanner. Instead of playing their role as watchdogs in a democracy, many in the Indian media have chosen to collaborate with corrupt politicians and greedy businessmen to enrich themselves. Indian media are guilty of manufacturing consent in favor of a powerful few against the interest of the vast majority of India's population that is among the poorest and the most deprived in the world.²²

Beyond the political infighting, the scandal has broad implications for India, the world's second-fastest-growing economy. Growth depends increasingly on turning large swaths of the state-controlled sector over to the private sector, whose capital and expertise are critical as India embarks on plans to build roads, bridges, ports and power plants. But analysts say that the telecom scandal is just one indicator of crony capitalism and inadequate oversight that fuel public skepticism about capitalism and slow down reforms. The scandal has reinforced the perception of an Indian economy dominated by a small, tightly connected elite. NYT quoted Eswar S.Prasad, a professor of trade policy at Cornell University and an advisor to India's Finance Ministry, as saying "Even as government cedes control over large parts of the economy, its graft-ridden approach to privatization could leave long lasting scars that hold India back from reaching its potential. Open corruption and rising disparities in wealth are a volatile mix that could affect social stability if benefits of growth don't filter down."²³

Wharton's Professor Jeetendra Singh feels that foreign investors may view corruption in India 'as the cost of doing business' undermining the business confidence. There is a need to rebuild confidence in India as a destination for foreign capital. India would attract more foreign investments and business interest if it had a stronger

reputation as being non-corrupt. Singh says that corruption is “heterogeneous and multifaceted”, ranging from a simple bribe to systemic corruption, where retrograde cultural norms get well-established in specific settings, such that non-corrupt newcomer may well find it impossible to survive”. According to him inferior cultural norms are the toughest to tackle, and those values could prove very difficult to unhinge. “In its abstract form, the gains in a transaction get disproportionately appropriated by actors in relation to their role in the creation of this value,” he says, “This distorts incentives and ultimately, values in a society and leads to inequitable distribution of income and wealth, and inefficient allocation of capital”. He warns of “collective consequences such as institutionalization of inferior cultural norms [for example, ‘in order to succeed, you have to be dishonest, because everyone else is dishonest’] may take generations, even centuries, to sort out meaningfully.” Unfortunately, there is no solution with a silver bullet, but he says that the citizenry have the right to vote out of power forever all corrupt leaders and elect better replacements.²⁴

Need for Good Governance and Transparency

The ongoing scandals involving corruption will only confirm the lingering doubts about doing business in India. Though India’s economy has been growing at a respectable rate in recent years and attracting foreign investors, the ongoing corruption scandals would have discouraged many more from investing in India. A recent survey by KPMG on bribery and corruption in India makes for a dismaying reading. A full 100% of the survey respondents said that “Corruption skews the level playing field and tends to attract organizations with lesser capability to execute projects.” Only real transparency and swift, effective prosecution of corruption charges will change that, and India has a long way to go. For every well-publicized set of arrests, there is another behind-closed-door session and another round of rumors.²⁵

India makes a dismal showing in the 2010 Corruption Perception Index rankings issued by Transparency International, a premier non-governmental organization devoted specifically to corruption, where it takes the 87th spot among 178 countries listed.²⁶ The top rank is shared by Denmark, New Zealand and Singapore with 9.3 points out of 10. India scores a meagre 3.3 points, but this ranking was compiled before the telecom scandal erupted.

Transparency International has identified several factors that generally exist in an environment conducive to and associated with bribery. Some of these factors are (a) low public-sector salaries; (b) immunity of public officials; (c) secrecy in government; (d) worsening public procurement practices; (e) the privatization process; (f) increase in foreign investment and trade; (g) restrictions on the media; (h) financial liberalization; and (i) multiparty elections. It would be observed that most of these factors are relevant in India’s case and India would have to tackle these issues in a serious manner in order to extricate itself from the current sorry state of its affairs.

Legal framework to fight corruption

As India plugs into the global economy owing to its new-found role as one of the two economic drivers of the world economy (the other being China), India needs to come on par with international standards. This is because India cannot afford to have third world standards in its domestic setting while it seeks to take on global role for which it must adopt international standards. While this assertion is valid for all fields across the board it is particularly relevant in the context of this paper, that is, to begin with it has to set its house in order with regard to its legal framework and enforcement in criminalizing corruption on par with international standards.

India does have a legal framework for criminalizing corruption. As indicated above the charges were brought against the accused in this scam under various sections of the Indian Penal Code, and under the Prevention of Corruption Act. The problem however is perhaps not the lack of laws but the enforcement of them. Nevertheless there is plenty of scope to update the legal framework and the enforcement of the laws.

This is where India can take a leaf from other countries and organizations that have enacted legislation and other measures to fight corruption. Some of these notable examples include USA which was the first country in the industrialized world to pass a law against corruption, the Foreign Corrupt Practices Act (FCPA). This statute applies to all companies that are listed on the US stock exchange. UK passed the Bribery Act in 2010 which is a comprehensive statute that criminalizes bribery which is due to fully come into effect on 1 July 2011.²⁷ It imposes

criminal penalties on companies and other organizations on whose behalf bribes have been paid. To escape sanctions, the burden rests on the company or organization in question to prove that it had in place adequate procedures designed to prevent persons associated with it from undertaking the conduct that was forbidden. Singapore and Hong Kong have earned the reputation as the top corruption-fighters in Asia with their legislation and excellent infrastructure in fighting corruption.

In addition there are regional and international Conventions on corruption. The Organization of Economic Cooperation and Development's (OECD) Convention on Bribery obligates its members to pass laws criminalizing bribery. OECD countries have enacted legislation to give effect to this Convention. For non-OECD countries including large countries such as India and China, there is the UN Convention Against Corruption (UNCAC). There is also the UN Global Compact whose Principle 10 requires the businesses to work against corruption in all its forms, including extortion and bribery.

India will do well to take a serious look at and implement the provisions of a UN Convention Against Corruption that it ratified on 1 May 2011. The UN General Assembly approved the text of the United Nations Convention Against Corruption (UNCAC) in October 2003 and it came into force in December 2005. To date more than 140 countries have signed the UNCAC and more than 60 have ratified the Convention. India signed the Convention on 9 December 2005 and ratified it on 1 May 2011.²⁸ To note a few salient features, Article 8 requires that countries promote integrity among their public officials, inter alia, by considering the establishment of codes or standards of conduct; Article 9 provides that countries shall establish transparent, competitive and objective systems of procurement and shall promote transparency and accountability in the management of public finances; Article 12 requires countries to take measures to prevent corruption and to enhance accounting and auditing standards in the private sector; Article 23 mandates the criminalization of the laundering of proceeds of crime; Article 26 requires countries to establish the criminal, civil, or administrative liability of legal persons for participation in the offences established in accordance with the UNCAC. These are but a few random examples, but needless to say that it is evident that they are all so strikingly relevant in the context of the subject matter of this paper. India needs to seriously abide by the principles contained in this Convention that it has now ratified.

Conclusion

India is at the crossroads where the forward thrust of its economic development is undermined by rampant corruption. Admittedly there is a dire need to tackle corruption. The ongoing saga of 2G Telecom scandal has called into question the government's willingness and the ability to do it. India's image has suffered nationally and internationally. There is not the slightest doubt in everyone's mind that India needs to clean up its act. Whether it will take up the challenge and rise up to the occasion in this regard remains to be seen.

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Methodology of determining the basis of corporate social responsibility towards employees

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Abstract

Paper deals with framing corporate social responsibility (CSR) in the European business environment. The authors introduce the *Integrative model of CSR*, which is created in accordance with European theoretical fundamentals of CSR. The model presents a unique way of measuring and evaluating CSR level towards different stakeholders. The basis of CSR is set in terms of economical, legal and ethical responsibilities towards all stakeholders and the methodology of measuring CSR level is described. *The Integrative Model of CSR* is later on concretized for a selected stakeholder – employees to outline the process of evaluating CSR level towards a particular stakeholder.

The main aim of the paper is to present the methodology of determining the basis of CSR towards employees and to provide a guideline according to which it is possible to concretize CSR towards different stakeholders.

Key words: corporate social responsibility, Integrative model of CSR, business ethics, stakeholder theory.

Introduction

Corporate social responsibility (CSR) is a topic that has been widely discussed for almost six decades. Scholarly literature on the subject dates back to at least 1950s though according to Crane *et al.* (2008, p. 3) commentators on business have written about the subject for considerably longer. At the beginning it was discussed only by American authors and since 1980s it has spread to Europe as well as other parts of the world.

For a subject being discussed for such a long time it is not usual to lack a generally accepted definition or a common set of core principles but that exactly is the problem with CSR. Researchers still do not share a common definition or set of core principles and they still argue about what it means to be socially responsible (Crane *et al.*, 2008, p. 4). For example, Carroll (1999) reviews and discusses over 25 different conceptual definitions of CSR within the academic literature. According to Lockett *et al.*'s conclusion from a study of the CSR literature over a ten-year period “CSR knowledge could best be described as in *continuing state of emergence*. While the field appears well established ... it is not characterized by the domination of a particular theoretical approach, assumptions and method” (Lockett *et al.*, 2006, p. 133).

The main reason why it is so complicated to agree on a single definition, is that understanding CSR is determined by different cultural, historical, political, legal and social conditions of individual countries as well as different subject fields of scholars discussing the issues. Crane and Matten state that, “CSR as a view of business responsibility in society has been particularly strong as a concept in the USA, from where much of the authors, literature, and conceptualization have emerged. In Europe, however, the concept of CSR has never been quite as influential” (Crane, Matten, 2004, p. 46). We can say the opposite about business ethics. After business ethics was established as an independent scientific discipline, European authors have intensely engaged in the issues. According to Búčiová (2010, p. 34) it can be assumed that European scholars did not take an interest in CSR during the first four decades of its existence as it originated from different cultural, legal and historical background that was not close to the European culture. Until 1980s CSR addressed issues that did not reflect European business situation. Raising the question of corporate ethical responsibilities caused that European scholars got interested in the issues and joined the discussion on core principles of CSR. For European scholars it is business ethics what matters and thus it represents the bottom line of CSR. “In the USA from where CSR has emerged, business ethics is viewed as “alternative” or “complementary topic” to CSR. On the other hand, in Europe business ethics was broadly

accepted by scholars and developed over years. It has also become an integral part of understanding CSR” (Búciová, 2010, p. 35).

An important attempt to define CSR was made in 1979 by Carroll (1979, p. 500) stating that “the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point of time.” According to Wood and Jones (1996, p. 45) Carroll’s four-domain framework for defining CSR has “enjoyed wide popularity among SIM (Social Issues in Management) scholars”. Carroll’s definition has been broadly accepted by scholars, but its interpretation significantly differs in Europe. Stakeholder theory is an integral part of the CSR notion, which means that accepting social responsibility towards all stakeholders is seen as a must. Ethical responsibility is very important part of CSR and encompasses a lot of CSR issues. CSR in Europe is seen as economic, legal and ethical responsibility towards all stakeholders as the reevaluation of the role of corporations in society is more evident. Philanthropic responsibility is seen as a complementary issue. To be socially responsible a corporation does not have to “pay part of its profit back to society” but to make certain that the profit is being achieved in a socially responsible way.

According to Teach (2005, p. 31) quoting Lyndenbergs perspectives to CSR, “the European influence will be very hard to resist over the long run.” These words are underlined by a recent article by Peter Knight, the president of Context America. He has commented on the criticism of some observers claiming corporate social responsibility in the USA has been falling as the corporations are not giving enough back. In his opinion “this criticism displays a lack of understanding about the responsibilities of business. Corporate responsibility is about integrity and ethics, rather than choosing to give away shareholders’ money” (Knight, 2011).

In Slovakia as well as other European countries there is an increasing number of corporations claiming CSR and reporting it on the basis of some CSR guidelines or standards or without using any. The problem occurring in practice is that since there exist neither common definition of CSR nor a common system for measuring it, corporations may misuse the situation and claim CSR for marketing purpose only without deeper interest in CSR activities and practices. On the other hand, corporations that are seriously interested in CSR may become confused as they are not familiar with the precise extent and complexity of the issue (Búciová, 2010, p. 32) Therefore we find it very important to create a new model for measuring CSR in accordance with European theoretical fundamentals of CSR – *The Integrative model of CSR*. As the evolution in CSR thinking worldwide seems to approach European understanding of CSR, the model will be applicable not only in Europe but also in the other parts of the world.

The main aim of the paper is to introduce *The Integrative Model of CSR* and to present a unique way of measuring and evaluating CSR level towards different stakeholders. Our partial goal is also to explain the methodology of measuring CSR level towards different stakeholders. On the example of one selected stakeholder (employees) we will outline the methodology of determining the basis of CSR. The article provides a guideline according to which it is possible by analogy to concretize CSR towards other stakeholders.

Theoretical foundations of the *Integrative Model of CSR*ⁱ

The Integrative Model of Corporate Social Responsibility is based on the notion of a corporation being a „corporate citizen” who is obliged to meet its legal and ethical commitments and at the same time has some specific responsibility based on its status of an economic entity. Furthermore, it is based on an integrative approach to business ethics developed by a Swiss professor P. Ulrich (1997; 2002) being also accepted by A. Remišová (2004; 2011) and her school of business ethics.

Description, analysis and comparison of individual approaches to CSR, simulation, and textual analysis of relevant CSR guidelines and standards have been used to develop *The Integrative model of CSR*.

Theoretical foundations of *The Integrative Model of CSR* are as follows:

- (1) Generally accepted definition of CSR by Carroll according to which “the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point of time.” (Carroll, 1979, p. 500)
- (2) The notion of an organisation being an entity with social responsibility (i.e. accepting the idea that a corporation can act and acts as a subject of social responsibility which means that CSR cannot be understood merely as a sum of individual employee responsibilities). Understanding an organization as a subject of social responsibility, CSR should be understood as an institutionalization of certain principles and rules into everyday life of an organization.
- (3) The Stakeholder Theory according to which an organization should take responsibility for all relevant stakeholders in both its internal and external environment.
- (4) Emphasis on ethical responsibility of an organization as an integral part of all corporate activities.

Principle 1: Definition of CSR generally accepted by the authors all over the world states that the social responsibility encompasses 4 components – economic, legal, ethical and philanthropic responsibilities, with the first three components being an integral part of corporate activities, whereas philanthropic responsibility is being understood as desirable behaviour of corporations from the side of society. On the grounds of the above mentioned we have come to the conclusion that corporate social responsibility must inevitably include ethical, economic and legal responsibilities. Without being economically, legally and ethically responsible towards its stakeholders, an organization cannot be considered socially responsible entity. Accordingly, it is **necessary to set the basis of corporate social responsibility** which would define fundamental requirements for socially responsible behaviour of organizations in the area of economic, legal and ethical responsibilities. Moreover, in case an organization has accepted philanthropic responsibility towards its individual stakeholders it will, according to *The Integrative Model of CSR* increase the level of its social responsibility. However, if an organization carries out philanthropic activities without simultaneously being able to meet essential requirements for economic, legal and ethical behaviour towards its stakeholders, it cannot be considered socially responsible. The model does not accept the possibility of “compensation” of the criteria of CSR basis that have not been met by other activities beyond the core principles of economic, legal and ethical responsibilities.

Principle 2: *The Integrative Model of CSR* is described by Venn diagram (Fig. 1). Venn diagram is used to describe CSR also by Schwartz and Carroll (2003) in *the Three-Domain Model of CSR*. However, the interpretation of their model is different from the interpretation of *The Integrative Model of CSR*. The fact that in *the Integrative Model of CSR* the Venn diagram is used merely to describe the three basic components of corporate social responsibility and not to assess intentions of individual corporate activities makes significant difference. In our opinion, **corporate social responsibility should be assessed on the basis of the rate of institutionalization of economic, legal and ethical responsibilities into corporate activities** and not on the basis of the intention of the actions (as it is in *the Three-Domain Model of CSR*). It is important to bear in mind that even if the intention is of significant importance in the assessment of ethical conduct, it is in fact very difficult to reveal the true intention of an organization. The intention is thus not included as an indicator in *The Integrative Model of CSR*. The real intentions of corporate actions do not have to be obvious at the time of the assessment and thus we find the assessment of the intention of corporate activities very difficult and inaccurate. However, in case the rate of institutionalization of social responsibility principles is assessed, it is possible to come to accurate conclusions about the level of CSR within the given organization.



FIG. 1: THE INTEGRATIVE MODEL OF CORPORATE SOCIAL RESPONSIBILITY

Principle 3: In our opinion, it is only possible to talk about CSR **in the case an organization consciously accepts responsibility towards all relevant stakeholders**. An organization should consciously accept responsibility towards these groups at least to the extent stated by the *basis of CSR*. Provided that an organization has excluded even the only one of its stakeholders towards which it fails to meet the CSR basis (e.g. an organization sells harmful products, does not pay taxes, exploits its employees or suppliers, does not follow the rules of economic competition, significantly pollutes the environment etc.) it cannot be regarded as socially responsible.

Principle 4: Corporate ethical responsibility should be viewed in a broader context – in the way it is presented by a great number of European authors. Organizations should accept the responsibility and commit themselves to follow these moral rules and the essential condition of business ethics “*Do not harm others!*”

Defining the basis of corporate social responsibility

Defining the basis of corporate social responsibility appears to be the main contribution of *The Integrative Model of CSR*. CSR basis includes three areas – economic, legal and ethical bases of corporate social responsibility.

The basis of legal responsibility results from compliance with the law in force governing the relations of an organization to a particular stakeholder. Compliance with the basis of legal responsibility shall be demonstrated by acting in compliance with the law in force in relation to all stakeholders of a corporation. A corporation fails to comply with the basis of legal responsibility in case the relevant authority has taken final decision and definitely found an organization guilty of violation of law in force in at least one case in relation to one or more of its stakeholders in the period concerned.

The basis of economic responsibility is specified for each stakeholder on an individual basis and reflects minimum requirements of individual stakeholders for corporate economic responsibility (e.g. the basis of economic responsibility in relation to employees constitutes liability to pay salaries/wages to its employees and pay all mandatory contributions to insurance companies and funds). A corporation fails to comply with the basis of economic responsibility in case it has broken whatever requirements specified within the period concerned.

The basis of ethical responsibility represents specification of ethical principle “*Do not harm others!*” in relation to individual stakeholders. Compliance with the basis of ethical responsibility shall be demonstrated by the

institutionalization of specific ethical processes and procedures. The basis of ethical responsibility is met as long as there is demonstrably both strategic concept and functioning system of the execution of this concept in every area specified for each individual stakeholder. Provided that there is no defined strategic concept in some of the above mentioned areas and/or a company fails to demonstrate functionality of the execution system the company fails to comply with the basis of ethical responsibility.

As was already shown in Fig. 1, organization can be considered socially responsible just in case it accepts economic, legal and ethical responsibilities towards all its stakeholders in both the internal and external business environment i.e. only the organization **which complies with the basis of economic, legal and ethical responsibilities** towards all these groups. Philanthropic corporate responsibility is not depicted in the picture as it is not considered an essential requirement for corporate social responsibility.

Considering that companies achieve different level of social responsibility, it is important to continue monitoring the extent and content of socially responsible corporate activities beyond the basis of CSR they have met (i.e. to take in account all additional philanthropic activities and other activities of a company not covered by the basic requirements for corporate responsible behaviour). The given model is fully applicable in practice when measured by CSR. The following chapter deals with a brief description of CSR measurement based on CSR basis.

CSR evaluation and measurement based on the *Integrative model of CSR*

In *The Integrative Model of CSR*, the need to define the basis of corporate social responsibility towards its individual stakeholders is accentuated, compliance with which is a prerequisite for the basis of socially responsible business practices. CSR evaluation system based on this model distinguishes activities forming the basis of corporate social responsibility and activities an organization carries out beyond the essential requirements for socially responsible behaviour.

CSR towards each stakeholder is measured on an individual basis and it is important to create two categories of specific indicators of socially responsible behaviour – indicators identifying particular requirements arising from CSR basis and indicators for evaluating corporate activities beyond the scope of minimum economic, legal and ethical requirements. Based on the results of CSR measurement, an organization may fall into one of the following three categories: non-achievement of CSR (an organization is below the CSR line), CSR achievement and CSR enhancement (Fig. 2).

CSR measurement should be carried out in two separate steps. Compliance with CSR basis should be evaluated first, followed by an evaluation of activities beyond the CSR basis. A corporation scores no points for compliance with CSR as the CSR basis represents the minimum of corporate social responsibility. However, in case a corporation has failed to meet whatever requirement of CSR basis, it is awarded a minus point (one point for each requirement that has not been met). As long as a corporation achieves a negative value (this happens if an organization has failed to meet even one criterion of CSR basis), it gets below the line of CSR and thus cannot be regarded as socially responsible in relation to a given stakeholder. In such case the organization cannot be given any points for additional activities it has been carrying out in favour of a given group of stakeholders beyond the CSR basis. In corporation which have been found to comply with CSR basis (and thus are found above the CSR limit) the second part of CSR measurement – evaluation of other activities an organization has been performing towards a given stakeholder – shall follow.

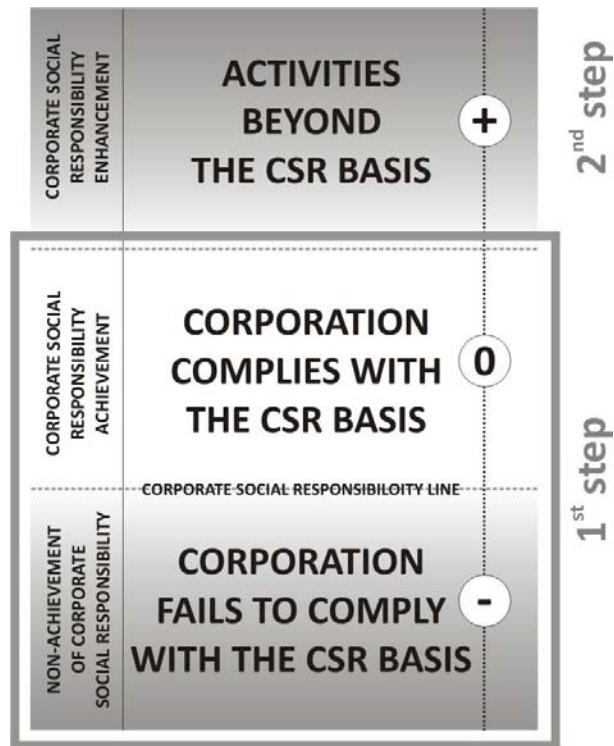


FIG. 2: CSR MEASUREMENT BASED ON THE INTEGRATIVE MODEL OF CSR

The Integrative Model of CSR includes specific indicators, for achieving of which an organization is given positive points. The final total score an organization has achieved determines the **range** of socially responsible activities of a company in relation to a given stakeholder. **Content** and **quality** of those activities are described in a final evaluation report on corporate social responsibility of a particular company.

Concretizing CSR towards employees

The authors have carried out a theoretical research to concretize *the Integrative model of CSR* towards one selected stakeholder – employees to prove its functionality and validity. Based on the analysis of the most frequently used guidelines and standards in the area of CSR, seven main areas of CSR towards employees were identified: (1) compensation issues, (2) health and safety, (3) work conditions and corporate social politics, (4) labour relations and collective bargaining, (5) work dignity and protection against discrimination, (6) individual work relations and internal communication, (7) enforcing employee rights. In these areas indicators for measuring CSR were set in both categories – indicators identifying particular requirements arising from CSR basis and indicators for evaluating corporate activities beyond the scope of minimum economic, legal and ethical requirements.

The basis of economic responsibility towards employees was set in terms of paying employees on time and paying all taxes and other legally required payments to social and health insurance funds, etc. If a corporation fails to pay its employees on time in at least one case in the period concerned or/and if it fails to make all the necessary payments resulting from employment relationship, the basis of economic responsibility is not met.

To meet the basis of legal responsibility towards employees means to comply with the labour legislation of a particular country in the above mentioned areas. If the final decision was taken by the relevant authority that the

corporation violated law in force in at least one case in the period concerned (usually a year), the basis of legal responsibility is not met.

The basis of ethical responsibility presented concretization of the ethical minimum in the employer – employee relations. Sixteen different indicators were identified within the seven basic areas of CSR towards employees. In order to meet each of the indicators, a corporation must prove the existence of a strategic concept as well as a fair policy to implement the strategy into everyday life.

For the second step in measuring CSR fifty other indicators signalling CSR towards employees beyond basic requirements were identified. The indicators were tested on two large companies conducting business in Slovakia and proved to be applicable for measuring CSR towards employees.

Conclusion

Corporations form an integral part of society in which they operate and without which they could not exist. The role of business in society is to contribute to a common good, not to harm it. Therefore corporations are obliged to analyse consequences of their everyday activities in order to minimize the negative impact on each of their stakeholders.

The Integrative model of CSR makes it possible to measure CSR in a completely new way that respects the European theoretical fundamentals of CSR. CSR is viewed and measured in terms of economic, legal and ethical responsibilities towards all stakeholders. According to the model it is not possible to limit CSR only to philanthropic responsibility. To be socially responsible means to act economically, legally and ethically responsible in day-to-day business towards all stakeholders.

Defining *the basis of CSR* presents a shift in understanding and measuring CSR. The authors argue that without complying with basic economic, legal and ethical requirements towards each stakeholder, the corporation cannot be viewed responsible regardless of its philanthropic activities. Compliance with CSR basis is a prerequisite for further CSR evaluation of activities an organization carries out beyond the essential requirements for socially responsible behaviour.

According to *the Integrative model of CSR* it is possible to concretize the content of socially responsible practices towards each stakeholder separately. Concretizing the responsibilities helps in intentional achieving and developing CSR as it enables the corporations to grasp the issue in a more complex and systematic way.

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ⁱ The foundations of *the Integrative Model of CSR* as well as the main principles of CSR measurement based on the model has also been presented in BÚCIOVÁ, Z. (2011). *Integrujúci model spoločenskej zodpovednosti podnikov. Spoločenská zodpovednosť firiem – transfer vedeckých poznatku do praxe*. Olomouc: MVSO.

Section 4

Managerial, Leadership & HRM Issues

Change Management: The Inspirational Role of a Change Leader

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Abstract

Today the world has become a global village and markets have expanded to the extent that now firms are competing on a global level. This on one has provided firms with a massive opportunity and on the other hand it also demands more hard-work and effort from the workers. The challenge therefore is how to tackle the ever-changing work-environment. Today's companies are struggling to remain competitive, mainly due to the tough global competition, uncertain environments, cutbacks in personnel and resources, and massive worldwide political, social and economic shifts. The growing diversity of the workforce brings new challenges: maintaining a strong corporate culture while supporting diversity; balancing work and family concerns; coping with conflicts brought upon by the demands of women and ethnic minorities for increased power and responsibilities. Workers expect their managers to share power rather than the other way round. Organizations have become flatter in structure, forcing the flow of power and information to be pushed amongst the few lower layers. This allows the formation of teams whose front line workers play new roles as decision makers. Thus, today's business world is highly competitive. One needs to reshape and react to the rapidly changing and evolving needs of the world if they are to survive and thrive. Resistance to change would mean the end of the road, both for the leader himself and the organization. Today customers are demanding more than an excellent service. If one doesn't supply it, the competitors will. Organizations are therefore aiming to reshape themselves to change quickly, so that in the long-run they may be able to meet the needs, and honor the demands, of their customers. The organization's top leaders know that in order to attain their long-term goals they would require highly skilled, trained and committed workers.

Keywords: leadership, change management, change agent, leading people.

Forces of Change

More and more organizations today face a dynamic and changing environment. This, in turn, requires these organizations to adapt. Hence, it is important to consider the changing nature of the workforce. Most organizations, today, have to adjust to cope up with a multi-cultural environment. Human resource policies and practices have to change in order to attract and keep this more diverse workforce motivated and willing to work. And many organizations have to spend large amounts of money on training to upgrade various skills of the employees.

Also another important factor that is responsible for bringing about change in the global business environment is the technology. The substitution of computer control for direct supervision, for instance, is resulting in wider spans of control for managers and flatter organizations. Sophisticated information technology is also making organizations more responsive. Companies like Ford, AT&T, Motorola, General Electric can now develop, make and distribute their products in a fraction of time it took them a decade ago (Luecke, 2003). Also individuals doing narrow specialized and routine jobs are being replaced by work teams whose members can perform multiple tasks and actively participate in team discussions.

Competition is also changing. The global economy means that the competitors are as likely to come from across the ocean as from across town. Heightened competition also means that the established organizations have to defend themselves against both traditional competitors that develop new products and services and small entrepreneurial firms with innovative offerings. Successful organizations will be the ones who can change themselves in response to the competition. They will be fast on their feet, capable of developing new products rapidly and getting them to the market quickly. They will, in turn, require an equally flexible and responsive workforce that can adapt to rapidly and even radically changing conditions.

Resistance to Change

There is a definite downside to the resistance to change and that is hindrance to the process of adaptation and progress. It doesn't necessarily surface in a standardized manner. Resistance can be overt, implicit, immediate, or deferred (Robbins, 2004). It is easiest for the management to deal with resistance when it is overt and immediate. For instance, a change is proposed and employees quickly respond by voicing complaints, engaging in a work slowdown, threatening to go on a strike, etc. The greater challenge is managing change when it is implicit or deferred. Implicit resistance efforts are more subtle, like, loss of loyalty to the organization, loss of motivation to work, increased errors or mistakes, increased absenteeism, etc (Robbins, 2004). Similarly, deferred actions cloud the link between the source of the resistance and the reaction to it.

A change may produce what appears to be only a minimal reaction at the time it is initiated, but then resistance surfaces weeks, months or even years later. Or a single change that in and of itself might have little impact becomes the straw that breaks the camel's back. Reactions to change can build up and then explode in some response that seems totally out of proportion to the change action it follows (Luecke, 2003). The resistance, of course, has merely been deferred and stockpiled. What surfaces is a response to an accumulation of previous changes (Luecke, 2003).

Resistance to change may actually exist at two separate levels, individual level and organizational level (Luecke, 2003). If we look at the individual sources of resistance to change, they mostly emanate from basic human characteristics such as perceptions, personalities and needs.

Habit is one of the reasons why individual resistance to change may exist in employees. As human beings, we are creatures of habit. Life is complex enough; we don't need to consider the full range of options for the hundreds of decisions we have to make everyday. To cope with this complexity, we all rely on habits. But when confronted with change, this tendency to respond in our accustomed ways becomes a source of resistance. Also, another factor is security, as people with a high need for security are likely to resist change because it threatens their feelings of safety.

Economic factors also are a strong source of building up individual resistance. As changes in job tasks or established work-routine can also arouse economic fears if people are concerned that they won't be able to perform the new tasks or routines to their previous standards, especially when pay is closely tied to their productivity. Also, the fear of the unknown may hamper employee morale and result in resistance to change.

The other level of resistance is the organizational resistance. Organizations, by their very nature, are conservative. They actively resist change. Government agencies want to continue doing what they have been doing for years, whether the need for service changes or remains the same (Robbins, 2004). Organized religions are deeply entrenched in their history (Robbins, 2004). Educational institutions, which exist to open minds and challenge established doctrine, are themselves extremely resistant to change (Robbins, 2004). The majority of business firms, too, appear highly resistant to change.

From a Leadership Perspective

Today the world has become a global village and markets have expanded to the extent that now firms are competing on a global level. This on one has provided firms with a massive opportunity and on the other hand it also demands more hard-work and effort from the workers. The challenge therefore is how to tackle the ever-changing work-environment.

When one speaks of the dynamic work environment one has to realize the importance of Good Leadership in such a scenario. So, the leaders of today's companies have a lot to care about and a lot of responsibilities to take care of. Therefore, it is totally up to the leadership to make most of the human skills at hand and motivate them in order to make sure that they adapt quickly and easily to the work environment and thus maximize efficiency.

Today's companies are struggling to remain competitive, mainly due to the tough global competition, uncertain environments, cutbacks in personnel and resources, and massive worldwide political, social and economic shifts. The growing diversity of the workforce brings new challenges: maintaining a strong corporate culture while supporting diversity; balancing work and family concerns; coping with conflicts brought upon by the demands of women and ethnic minorities for increased power and responsibilities. Workers expect their managers to share power rather than the other way round. Organizations have become flatter in structure, forcing the flow of power

and information to be pushed amongst the few lower layers. This allows the formation of teams whose front line workers play new roles as decision makers.

Thus, today's business world is highly competitive. One needs to reshape and react to the rapidly changing and evolving needs of the world if they are to survive and thrive. Resistance to change would mean the end of the road, both for the leader himself and the organization. Today customers are demanding more than an excellent service. If one doesn't supply it, the competitors will. Organizations are therefore aiming to reshape themselves to change quickly, so that in the long-run it may be able to meet the needs, and honor the demands, of their customers. The organization's top leaders know that in order to attain the long-term goals they would require highly skilled, trained and committed workers.

Leaders need to ensure a transition amongst workers from change avoidance to change acceptance, which can then be observed throughout periods of change. According to Donald Clark, there are 5 steps accompanying change. The first is Denial, where the employee has a traditional mindset where he cannot foresee any change occurring in his work, then comes Anger, when he realizes that he has been forced into changing, but he still cannot face the reality and is not in favor of the change, then comes Bargaining, where he finally accepts the fact that he'll have to do things differently now and he tries to keep himself and others happy, however, this is soon accompanied by Depression, where he keeps comparing his older job parameters to the new ones and he doesn't find the new way of work easy and interesting. The final stage comes after the depression phases out, and this is called Acceptance, where he finally gets used to the new way of work (Roberto and Garvin, 2005).

This probably explains why a worker's first reaction is always to resist change. Workers tend to feel comfortable performing the same tasks and processes in a particular and timely manner. This comfort helps them by providing them the security and forcing them to believe that they are the masters of their environment. So it would be obvious for them to fear a disruption in their lives, as they fear that if they aren't able to adapt and learn, their jobs might become harder, and they might lose control over their jobs.\

When one speaks of change management and the role leaders tend to play in bringing about the change necessary for an organization to perform, leaders skill come into account, especially emotional intelligence. There are 5 main components to emotional intelligence (Goleman, 1998). Self-awareness is the trait where emotional intelligence actually begins, such leaders are never hesitant to talk about and discuss their weaknesses and it is this attitude that later brings upon a positive change in them as they are able to improve upon such weaknesses with time. This helps a leader in bringing about change as he is someone who knows his limitations and he knows when and where he can actually stand-up and deliver for the rest of the workforce and be a motivator for them, i.e. when can he lead by example. Thus he knows which tasks and changes can actually be brought about in an organization and which ones cannot be.

The second trait is self-regulation, and that leaders with this trait can control their emotions and impulses better and channel them for good purposes (Goleman, 1998). This brings about openness to change in their attitude and behavior, and increases their trustworthiness and integrity, and also helps them remain comfortable in ambiguous situations and scenario. And this is what subordinates try to see in their leaders, especially in times of change.

Motivation is perhaps the most important trait and the most obvious one that a leader is judged upon. It's the motivation abilities of a leader that gives the sub-ordinates the notion that the leader has a strong drive to achieve. It portrays the optimism of the leader to the followers, such that they know that their leader would still be optimistic when facing failure, so it has to do more with the mind than anything else. It is the positivity of the mind; it emanates from the mind of the leader and leads its way to the minds of the followers (Roberto and Garvin, 2005).

Empathy is the ability to understand the emotional makeup of other people. Empathy is the trait that enables a leader to be an expert in building and maintaining talent. It enables him to treat people according to their emotional reactions. This is why he can be successful in getting the most out of the talented people that work under him; it thus makes him a better man manager. He is able to manage and lead people from various different backgrounds and cultures, belonging to various social and economic classes, i.e. it increases the cross-cultural sensitivity of the leader himself. With the businesses and economies globalizing, leaders have to lead and manage people belonging to different cultures which is the major reason why change management in such a scenario is very difficult, however, if only a leader can empathize with his followers, it makes the job half as difficult as before.

The last trait that comes under emotional intelligence is the social skills of the leader. A leader needs to be proficient in managing relationships and constructing networks that lead to effectiveness in change management.

Such a leader is able to find common ground between individuals and situations and scenarios and is able to build rapport. It also improves his persuasiveness and the ability to build and lead teams.

Bringing about change in an organization is a very hectic task and it requires dedication from both-ends, the leadership and the followers. Leaders need to be aware of what is the current situation of areas and departments where changes have taken place by involving persons who will be in charge of the results. Analyze the conditions with the representatives. Indulge in strategic planning that leads towards success after change in organization. Continue activities with involvement of employees that will help in solving problems and also in improvement of change process. Finally measure, examine and estimate the change.

Another important tool in ensuring effective transformation is collaboration and good communication, which is essential and plays a vital role in process (Kotter, 1995). All processes, practices and functionalities give more values to customer, goals and performance for achievement of goals. There should be internal solutions. Horizontal, Vertical and multi directional interaction must be carried out before change in organization.

For a leader, it is important to study the present culture of the organization and to know where one is. It is also necessary for a leader to identify employees who want change and those who are not happy with change. Take examples from existing model that has effectively implemented change and also communicate with them regarding their experience with change. Don't be immediate at trying to completely change existing culture, but take advice from people about ways to implement change and methods to solve the problems while implementation. Vision may help you in change, but this is not the only way.

Creating a Learning Organization

What Total Quality Management (TQM) was to the 1980s and reengineering was to the 1990s, the learning organization has become today (Luecke, 2003). It has helped managers develop and look for new ways to successfully respond to a world of interdependence and change.

A learning organization may be defined as an organization that has developed the continuous capacity to adapt and change. Just as individuals learn, so too do organizations. In order for an organization to exist sustainably, they all have to learn, it is a fundamental requirement. However, some organizations such as Xerox, Ford, General Electric, Wal-Mart, Corning, and Federal Express just do it better than others (Robbins, 2004).

Most organizations engage in what has been referred to as single loop learning, in which errors are corrected using past routines and present policies. Learning organizations, in contrast, use double loop learning (Kline and Saunders, 1997). When an error is detected, it is corrected in ways that involve the modification of the organization's objectives, policies, and standard routines. Double loop learning challenges deep rooted assumptions and norms within an organization. In this way it provides opportunities for radically different solutions to problems and dramatic jumps in improvement.

Some of the main characteristics of a learning organization, include, a shared vision of the entire workforce to which everyone agrees and believes in (Kline and Saunders, 1997). Also people part of such an organization discard their old ways of thinking and the standard routines they use for solving problems or doing their jobs. The members also think of all the organizational processes, activities, functions and interactions with the environment as part of a system of inter-relationships. Learning organizations also permit their employees to openly communicate with each other (across vertical and horizontal boundaries) without fear of criticism or punishment.

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A Study on the Relationship of Market Orientation, Quality Orientation and Business Performance

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Abstract

Studying the impact of market orientation on business performance has been a popular research topic in recent years. However, there seems to be a lack of empirical studies that measure the relationship of market orientation and quality orientation and their impact on business performance, even though marketing and quality management are considered complementary business approaches. Based on 110 samples of Chinese enterprises, this research indicates that the quality orientation correlates positively with market orientation; market orientation of a firm affects positively its business performance. However, quality management alone does not appear to have a direct effect on performance success.

Keywords : market orientation, quality orientation, business performance, empirical study

Introduction

A number of studies have been conducted to examine the impact of quality management, particularly TQM (e.g., Hendricks and Singhal, 1997), and the impact of marketing (e.g., Narver and Slater, 1990)^[1] on business performance. However, the literature is short of empirical studies on the combined effects of quality management and marketing, although they have been considered complementary business approaches for performance improvement. The objective of this study is to explore whether quality management and marketing are complementary business approaches in organizations and, if so, the extent of their performance impact.

Theoretical Framework and Hypothesis

Quality is an abstract concept depending on the desire of the individuals involved with a primary emphasis on the satisfaction of customer's needs and wants. One important point to note about the meaning of quality is the multidimensional nature of the concept (Garvin, 1984)^[2]. To direct employees' efforts towards the goal of customer satisfaction, a common understanding of the term quality is required. Viewed from this perspective, quality has become a critical strategic issue rather than an operational one. What a quality management system emphasizes is the organizational ability to satisfy customer needs precisely and profitably involving all members of an organization. The marketing concept centers on the management of market "exchange" between customers and organizations. It helps organizations to achieve exchange-determined goals more effectively (Houston, 1986)^[3]. The marketing concept requires firms to take a proactive attitude to do business and be responsive to customer needs and market changes.

Quality management can potentially contribute to the effectiveness of marketing implementation in three aspects as it plays the role of internal integrator, external integrator, and efficiency enhancer. On the other hand, marketing can add substantial value to quality management implementation through its functions as customer window and quality leader.

Quality Management as Internal Integrator

The most severe criticism about the marketing concept concerns its tendency to be practiced as a set of functional activities rather than an organization-wide approach. If this should happen, it would hinder the voices of customers to be translated into internal improvement processes and filtered throughout the organization for the benefits of customers, thus yielding the risks of losing, misinterpreting, and distorting the voices of customers generated from marketing to other internal functions. The holistic nature of quality management, particularly TQM, together with its set of management tools and techniques, are of potential use for effective marketing implementation (Day, 1994)^[4] and breaking down functional barriers. The consequence of teamwork, as prompted by the team-base quality

management approach, is penetration of the marketing concept that permeates the whole organization. The total involvement aspect of quality management and its related tools ensures congruency between the voices of customers and the voices of processes for the delivery of customer satisfaction.

Quality Management as External Integrator

In addition to managing relations among organizational functions, relationships with customers and the network organizations such as suppliers, distributors, and advertising agencies should not be neglected for effective marketing implementation. One important note about quality management is its emphasis on establishing mutually supportive forward relationship with customers, and backward relationship with the network organizations, particularly suppliers that have significant impacts on customer satisfaction. The relationship emphasis of quality management complements marketing, particularly the relational marketing approach to the cultivation of long-term relationships with customers and the network organizations.

Quality Management as Efficiency Enhancer

Marketing as a business approach is dedicated to both the achievement of effectiveness, i.e., the ability to create and keep customers, and the achievement of efficiency, i.e., the achievement of maximum output from minimum input. While marketing plays the role to ensure “doing the right things,” quality management complements marketing with an emphasis on continuous process improvement for “doing the things right” across the whole organization. From the standpoint of efficiency, this emphasis is of great value to marketing, particularly at the tactical level involving a series of operational activities, which needs understanding of such process variables as cycle time, capacity, yield, waste, and flexibility.

Marketing as Customer Window

Although quality gurus, such as Deming (1986), have discussed the importance of customer wants, they give little practical advice on how to assess wants so that appropriate product/service specifications could be established. Marketing, particularly through its role in promoting listening to the voices of customers in organizations, has too often been ignored in quality improvement often has had no clear connection to customer needs, for instance, producing products/services that customers do not want. The role marketing plays is critical to quality management implementation, as organizations must ensure that their quality improvement efforts are focused on improving customer satisfaction rather than on management’s own perceptions of quality requirements.

Marketing as Quality Leader

For successful quality management implementation, it is important that all involved employees understand the customer definition of quality and the needs of other functional areas to meet the customer requirements. Viewed from this perspective, marketing links requirements from the external environment with the relevant functional areas within the organization and contributes to developing priorities of quality improvement and providing a road map for utilizing company resources. This creates an environment where employees at all levels understand how priorities are set and connected with customer needs, and the network organizations are informed of the customer requirements.

The above discussions highlight that quality management and marketing share the concepts of customer orientation, interventional coordination, and continuous process improvement for successful implementation. The compatibility of quality management and marketing implementation for organizational performance improvement is manifested. Thus, we hypothesize the following relationships.

Hypothesis 1: The quality orientation of a firm correlates positively with its market orientation.

Hypothesis 2: The quality orientation of a firm affects positively its organizational performance.

Hypothesis 3: The market orientation of a firm affects positively its organizational performance.

Research Design and Results

Data Collection

We draw a sample of 500 companies from the Chinese Enterprises' Database. We solicit not only one response from each sample company. Measures are taken to cross-check the sample to avoid double mailing. We send out the questionnaire twice. The two mailings of the survey questionnaire yield 124 returns with 110 of them valid for data analysis, representing a usable response rate of 22%. The sample consists of 33 manufacturing companies, 44 service companies, 25 construction companies, and 8 public utilities. We conduct a test on nonresponse bias using the t test, with the respondents in the first and the second mailings as the proxy "respondents" and "nonrespondents," respectively, to determine if there are significant differences in the mean scores of the quality orientation, market orientation, and organizational performance constructs between the two groups (Armstrong and Overton, 1977)^[5]. The results show no differences between the groups at $P > .05$ level (quality orientation, $t = -0.32$; market orientation, $t = -0.24$; organizational performance, $t = -0.36$), suggesting that nonresponse is not a problem in this study.

Measures

We adopt Black and Porter's (1996)^[6] 10-dimension, 32 item instruments to measure quality orientation. The instrument represents literature-based and empirically tested elements of quality management implementation. We find seven potentially confusing items, each asking two questions in the Black and Porter's (1996) instrument during the panel review of the study. We split each of those items into two, resulting in a 10-dimension, 39-item instrument measuring quality orientation. The 20-item MARKOR instrument developed by Kohli et al. (1993)^[7] is used to measure market orientation. To increase the content validity of both the quality and market orientation measures, we add illustrative examples to most of the items to facilitate respondents' understanding of the items. While both quality management and marketing emphasize satisfaction of different stakeholders, many extant studies about their performance impact are confined to financially related indices only. To overcome the limitations of these studies, we define organizational performance using the Weerakoon's approach (1996)^[8] to address the interests of various stakeholders rather than those of stockholders only. We use perceptual measures on a five-point scale (1=strongly disagree to 5= strongly agree) because of their high level of convergence with objective measures

Validity and Reliability

Validity and reliability of the three constructs are initially assessed using coefficient alpha and item-total correlation analysis. CFA is then performed to evaluate the three constructs at both first and second-order levels. The results show that all the construct items have a reasonably high loading on their first-order factors in item-total correlation analysis, ranging from the lowest loading of .42 to the highest loading of .80. All the alpha values of all first-order factors of the three constructs exceed the .70 cutoff level, except two (teamwork structures for improvement, $\alpha = .67$, and corporate quality culture, $\alpha = .69$), which are just a shade below the benchmark level.

Measurement Model Estimation

In CFA, we allow all the first-order factors to correlate freely in their respective measurement models. All the construct items, load significantly, i.e., $\lambda > .30$, $t > 2$, onto their first-order factors in the analysis with the loading in the range between .69 and 1.0, thus establishing the convergent validity of the items. The three items are retained as other measures such as item-total correlation coefficient and alpha value in their first-order factors suggest that there is sufficient internal consistency among the items in their first-order factors despite inclusion of those items in the measurement models. Table 1 provides the means, standard deviations, and intercorrelations of the 17 first-order factors of the three constructs. We test discriminant validity with phi estimate, i.e., intercorrelation among first-order constructs. All phi values shown in Table 1 are significant at $P < .01$ level. Discriminate validity is not achieved in some cases as some of the first-order factors are highly correlated. This is expected as the first-order factors are components of the second-order they are measuring.

Using composite scores of the first-order factors by taking the arithmetic mean of the items, we perform CFA to assess the measurement models of quality orientation, market orientation, and organizational performance. Table 1

presents the CFA results with lambda loadings, standard errors, t values, and error variance estimates at the second-order level. Table III displays the means, standard deviations, and intercorrelations among the three constructs.

Table I shows that all alpha values for all three second-order constructs exceed the .70 cutoff level, yielding satisfactory evidence of internal consistency, with the highest being .95 for quality orientation, and the lowest being .86 for market orientation. Furthermore, all first-order factors have large and significant lambda loadings, i.e., $\lambda > .30$, $t > 2$, on their corresponding a priori specified second-order factors. Thus, these measures display adequate convergent validity. The loadings range from the lowest of .65 to the highest of .91 for the quality orientation construct, and from .52 to .69 and from .58 to .60 for the constructs of market orientation and organizational performance, respectively. In addition, we evaluate discriminant validity among the three second-order constructs using pairwise tests by comparing a model with the correlation constrained to one with the unconstrained model. Results in Table IV show that discriminant validity is achieved among the three constructs because of the significant differences between the constrained models and the unconstrained models. Nomological validity is also supported by the positive, significant intercorrelations among the three constructs as shown in Table III. Having determined that the latent constructs and their observed indicators possess acceptable measurement properties, we proceed to estimate the structural model.

TABLE II
RESULTS OF CFA AT SECOND-ORDER LEVEL

Parameter	Path estimate	S .E.	t	Error Variance estimate
QM(α =0.95)				
QM1	0.84			0.29
QM2	0.65	0 .06	1 2.7	0.58
QM3	0.85	0 .05	1 9.1	0.27
QM4	0.84	0 .05	1 8.5	0.30
QM5	0.83	0 .06	1 8.3	0.31
QM6	0.91	0 .05	2 1.5	0.17
QM7	0.75	0 .07	1 5.6	0.44
QM8	0.69	0 .06	1 4.0	0.52
QM9	0.86	0 .05	1 9.5	0.26
QM10	0.85	0 .07	1 9.0	0.28
MO(α =0.86)				
MO1	0.67			0.27
MO2	0.69	0 .07	1 5.2	0.31
MO3	0.52	0 .05	8 .5	0.36
BP(α =0.89)				
BP1	0.58			0.35
BP2	0.59	0 .06	1 6.5	0.26
BP3	0.60	0 .07	1 4.4	0.41
BP4	0.59	0 .06	1 6.1	0.29

a Completely standardized estimate

TABLE III
DESCRIPTIVE STATISTICS AND INTERCORRELATIONS BETWEEN SECOND-ORDER FACTORS ($p < 0.01$)

	Mean	S.D.	Intercorrelations		
			QM	MO	BP
QM	3.37	0.79	1.00		
MO	3.37	0.62	0.89	1.00	
BP	3.56	0.63	0.83	0.92	1.00

TABLE IV
ASSESSMENT OF DISCRIMINAT VALIDITY
(* $p < 0.05$ ** $p < 0.01$)

Test	χ^2 constrained model(<i>df</i>)	χ^2 unconstrained model(<i>df</i>)	Differences
QM& MO	156.7(65)	151.2(64)	5.5 *
QM& BP	178.9(77)	156.2(76)	23.7 **
MO& BP	49.8(14)	44.6(13)	5.2 *

E Structural Model Estimation

Table V shows the results of individual paths in the structural model. The overall fit of the structural model is considered adequate with the results (Model 7) displayed in Table VI. The structural model is estimated and a reasonable fit is obtained, where $\chi^2=300.1$, $df=116$, $P=.00$, although the chi-square statistic is significant. This is to be expected, given the large number of variables in the model. However, other indicators suggest that the model fits well: goodness-of-fit index (GFI)=.90, comparative fit index (CFI)=.96, normed fit index (NFI)=.93, root mean square (RMR)=.022.

TABLE V
STRUCTURAL MODEL ESTIMATES

Parameter	Path estimate	S.E.	t	Error estimate	Variance
QM(α =0.95)					
QM1	0.84			0.30	
QM2	0.65	⁰ .06	¹ 2.7	0.58	
QM3	0.85	⁰ .06	¹ 8.9	0.28	
QM4	0.83	⁰ .06	¹ 8.3	0.31	
QM5	0.83	⁰ .06	¹ 8.3	0.31	
QM6	0.91	⁰ .05	² 1.6	0.16	
QM7	0.75	⁰ .07	¹ 5.7	0.43	
QM8	0.69	⁰ .06	¹ 3.8	0.53	
QM9	0.87	⁰ .05	¹ 9.7	0.24	
QM10	0.85	⁰ .07	¹ 8.8	0.28	
MO(α =0.86)					
MO1	0.85			0.28	
MO2	0.79	⁰ .06	¹ 6.5	0.38	
MO3	0.83	⁰ .04	¹ 8.0	0.30	
BP(α =0.89)					
BP1	0.81			0.35	
BP2	0.87	⁰ .06	¹ 7.6	0.25	
BP3	0.76	⁰ .07	¹ 4.7	0.42	
BP4	0.84	⁰ .06	¹ 6.7	0.30	
QM \rightarrow MO	0.89	⁰ .04	⁹ .76		
QM \rightarrow BP	0.04	⁰ .10	⁰ .33		
MO \rightarrow BP	0.88	⁰ .11	⁶ .80		

The estimates of the loadings of the first-order constructs on the second-order constructs are also tested through t values, and all lambda parameters are found to be significant, i.e., $t > 2$. As all of the goodness-of-fit criteria demonstrate good “fit”, the structure of the model is considered reasonably accurate. To provide greater confidence for the proposed model and to check for better-fitting, more parsimonious models, we test the propose model (M7) against a set of alternative models (M1-M6). The null model in M1 is used as the baseline model in this study. The baseline model implies that the relationships among the three constructs are independent, i.e., parameters restricted from free estimation to zero. The estimates of the proposed model and the goodness-of-fit comparisons with the alternative models are shown in Table VI.

Comparison of the proposed model with the six alternative models shows support for fitness of M7. Although

all seven models have a significant chi-square value, we find that M7 has the best fit to the data as

TABLE VI
COMPARISONS OF THE GOODNESS-OF-FIT OF THE PROPOSED MODEL WITH ALTERNATIVE MODELS

	M1	2 M	3 M	4 M	5 M	6 M	7 M
χ^2	974.8	708.2	648.6	356.2	300.9	616.5	300.1
df	119	118	118	117	117	117	116
GFI	0.76	0.84	0.85	0.88	0.90	0.85	0.90
NFI	0.79	0.85	0.86	0.92	0.93	0.87	0.93
CFI	0.81	0.87	0.88	0.95	0.96	0.89	0.96
RMR	0.26	0.20	0.25	0.025	0.022	0.21	0.022

indicated by a smaller chi-square value, $\chi^2=300.1$, $df=116$, $P=.00$, a higher value in $GFI=.90$, $CFI=.96$, $NFI=.93$. A comparison of the RMR among the models also shows that M7 has a smaller value, implying that it has an adequate fit to the observed data comparing with the other six alternative models. However, many of these goodness-of-fit indicators in M5 are close to those in M7. The latter is preferred to the former in model comparison because M7 has a smaller chi-square value. Since the proposed model is found to be better than the alternative models for examining the relationships among quality orientation, market orientation, and organizational performance, the proposed model is accepted and used for hypothesis testing.

An examination of the path coefficients among the higher order constructs and their associated t values shows that, except for the quality orientation to organizational performance path, the completely standardized path estimates are all significantly different from zero at $P<.01$ level, with the value of the parameter estimates, standard errors, and t values shown in Table 5. We also find that the models with quality orientation and market orientation intercorrelation, i.e., M4, M5, M7, have better model fitness to the observed data than those without, i.e., M1, M2, M3, and M6. This provides support for the complementary nature of quality management and marketing in organizational performance improvement.

Analysis and Implications

Hypotheses testing

Hypothesis 1 is supported, as the value of $\phi(2, 1)$ is positively high and significant with a completely standardized path coefficient of .89, a standard error of .04, and a t value of 9.76. Hypothesis 2 is not supported as the value of $\gamma(1, 1)$ is positively low and insignificant. The path coefficient is .04 with a standard error of .10 and a t value of 0.33. An inspection of the measurement model of the quality orientation construct reveals that only two components, i.e., people and customer management and customer satisfaction orientation, directly address the customer-oriented aspect of quality management. Other components of the construct tend to focus on internal improvement of the quality management systems. For instance, it is possible that many quality improvement efforts do not deliver the desired results because of their inward focus. Indeed, the impact of quality orientation on organizational performance is explained by the other construct in the model, i.e., market orientation, as the two exogenous constructs are highly intercorrelated in the model. This implies that the performance impact of quality orientation has to be complemented with market orientation. This is consistent with the arguments of Kordupleski et al. (1993) that quality management needs to be outward-looking with a focus on market needs to drive performance and the role that marketing plays as a customer window to assure a market focus in quality improvement efforts. The

result suggests that quality management requires a market focus, while internal improvement alone is less likely to drive improvement in organizational performance. Hypothesis 3 is supported as the value of gamma (2, 1) is positively high and significant. The path coefficient is .88 with a standard error of .11 and a t value of 6.80. This supports the notion that firms have to be market-driven for improvement of organizational performance.

Discussion

In general, we provide empirical evidence that quality management and marketing are complementary business approaches for improved organizational performance. However, the former needs to be market-driven to drive the performance impact of quality improvement efforts. The results are in line with the argument of Kordupleski et al. (1993) that awareness of customer needs and marketing are required for successful implementation of quality management. The role of marketing serves as a customer window to assure a market focus in quality improvement efforts.

The findings suggest that quality management alone does not appear to have a direct effect on performance success. In fact, the lack of a positive direct relationship between quality orientation and organizational performance would imply that firms should not simply focus on internal improvement. Rather, it may be appropriate to develop an outward-looking improvement focus on market needs, driving organizational performance through a market-oriented culture. It is evidenced in companies A and B where their quality management practices are driven with a focus on the market, but not on internal procedures and documentation processes as in the case of companies C that a market orientation is required for quality management to drive organizational performance.

The results, however, do not signify that quality management is unimportant. On the contrary, quality management may be just as important, or even more so, in driving organizational performance. Our results indicate that quality orientation and market orientation in organizations are highly correlated and complementary, and that organizational performance is improved when market orientation is high. Furthermore, models with quality management/marketing complementarities display better goodness-of-fit than those lacking it. By employing the two business approaches as management implementation and marketing implementation alignment are conducive to achieving a high level of organizational performance. It is important to pay attention to the philosophical elements and the complementary nature of quality management and marketing to ensure their alignment in implementation.

Data Collection: Managerial Implications

The results suggest that simply implementing a quality management system such as the ISO 9000 series alone does not appear to be comprehensive enough to gain competitive advantages. In contrast, formulating a quality strategy with the participation of the whole organization for continuous improvement, with the interests of the customers put at the very heart of the business operations, should provide a more coherent and comprehensive road map for effective marketing implementation. An organization-wide focus on both business approaches of quality management and marketing should be addressed, and the ways that quality management and marketing can and should guide the values and attitudes, and ultimately the activities and performance of the whole organization, should be recognized.

Marketing must work with other functional areas to enhance customer value and increase customer satisfaction. It should act as a window to discern customer needs in the intelligence will be of utmost importance in guiding organizational response to customer needs and market changes. Alternatively, quality management provides the structure, techniques, implementation, and control mechanisms required by marketing for its effective implementation. The need to develop an outward-looking focus on market needs rather than an inward improvement focus for quality improvement must be stressed, and the ways quality management complements marketing in the delivery of customer satisfaction must be appreciated.

In addition, the achievement of customer satisfaction requires organizational-wide efforts. Not only should the quality management/marketing interface in organization be understood, but it should constantly be reinforced in the workplace in light of the fact that quality management and marketing performance for customer satisfaction are the responsibility of every organization member, instead of confining it to some specialized departments. The

philosophical elements of quality management and marketing need to be communicated to both quality and marketing specialists and other organizational members to discourage “departmental focus” to broaden the appreciation of quality management and marketing in business operations.

Directions for Future Research

First, cross-sectional data are used to test the research model and the hypotheses that capture the perceptions of managers at a point in time. The cross-sectional data do not capture any continuous transformations that might affect the hypothesized relationships. A longitudinal study is desirable in determining the effect of quality management and marketing on organizational performance in future research.

Second, the research model includes only the major latent constructs of quality orientation, market orientation, and organizational performance. To examine the interrelationships among them, other important macro variables such as business an economic environment, national culture, and technological intensity are not considered.

Furthermore, studies of the quality management/marketing interface in different cultural and social contexts will not only help to generalize the findings, but also contribute to determining how differences in cultural and social contexts influence the effectiveness of various systems and practice.

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TABLE I
DESCRIPTIVE STATISTICS AND INTERACTIONS OF THE FIRST-ORDER FACTORS

	M ean	S .D.	Q M ₁	Q M ₂	Q M ₃	Q M ₄	Q M ₅	Q M ₆	Q M ₇	Q M ₈	Q M ₉	Q M ₁₀
Q M ₁	3. 61	0 .80	1 .00									
Q M ₂	3. 64	0 .82	0 .70	1 .00								
Q M ₃	3. 30	0 .83	0 .74	1 .00	1 .00							
Q M ₄	3. 41	0 .82	0 .93	0 .93	0 .95	1 .00						
Q M ₅	3. 64	0 .89	0 .69	1 .00	1 .00	0 .92	1 .00					
Q M ₆	3. 46	0 .80	0 .69	1 .00	1 .00	0 .92	1 .00	1 .00				
Q M ₇	3. 30	0 .97	0 .99	0 .58	0 .62	0 .85	0 .56	0 .57	1 .00			
Q M ₈	3. 40	0 .87	1 .00	0 .68	0 .71	0 .91	0 .66	0 .67	1 .00	1 .00		
Q M ₉	3. 82	0 .80	1 .00	0 .68	0 .71	0 .91	0 .66	0 .67	0 .99	1 .00	1 .00	
Q M ₁₀	3. 30	0 .98	1 .00	0 .71	0 .74	0 .93	0 .69	0 .70	0 .99	1 .00	1 .00	1. 00
	M ean	S .D.	M O ₁	M O ₂	M O ₃	B P ₁	B P ₂	B P ₃	B P ₄			
M O ₁	3. 54	0 .79	1 .00									
M O ₂	3. 50	0 .83	0 .73	1 .00								
M O ₃	3. 77	0 .65	0 .68	1 .00	1 .00							
B P ₁	3. 44	0 .72				1 .00						
B P ₂	3. 70	0 .69				0 .97	1 .00					
B P ₃	3. 52	0 .77				0 .99	0 .95	1 .00				
B P ₄	3. 56	0 .70				0 .99	0 .93	1 .00	1 .00			

Talent Management Philosophies and Practices in the Chinese Multinational Corporations: An Empirical Study

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Abstract

A legacy of a centrally planned economy with a strong traditional bound culture, coupled with the dynamism injected by the arrival of international multinational corporations (MNCs), and even the rise of Chinese MNCs has created strong demands for talent in all spheres of China's economic life. As Chinese companies extend their global reach, they increasingly face the complexities of personnel acquisition, including severe shortages of domestic managerial talent, international brain drain of educated Chinese youth, and migration of managers from domestic Chinese companies to global MNCs. Against this background, the present study explores ways in which Chinese MNCs strategically integrate resources at the international level to attain global business success. The study finding indicated there is a crossvergence of talent management practices in Chinese MNCs, and such finding has potential to contribute to understanding how to overcome the identified barriers to the internationalisation process, especially in locating managerial talents.

Key words: Talent Management, Chinese Multinationals, Internationalisation, Strategy

Introduction

As China emerges as a significant economic force the shortage of well trained and experienced managers has become the key impediment in corporate success. An earlier prediction by McKinsey in 2005 documented that the international expansion of Chinese firms would need 75,000 senior managers with global competency in the next ten to fifteen years (Farrell & Grant, 2005), and this estimate appears to be very conservative in the emerging, growing economies. For instance, it has been predicted a number of emerging economies, such as Brazil, Russia, India, and China are likely to "... overtake the USA, Japan, Germany, France, the UK, Italy, and Canada by 2040." (Fan, 2008, p.354). The increasing strength of this phenomena is evidenced in the rise of a new group of MNCs in the Fortune Global 500, which has increased from 20 in 1995 to 70 in 2007 (Fan, 2008). Specifically, China had a total of 29 firms on the Fortune Global 500 in 2008 (Jonsson, 2008), and by April 2010 in the lists of the world's top 2000 companies, a total of 113 Chinese MNCs has been listed (DeCarlo, 2010). Notable are the international expansion of Chinese MNCs, such as the efforts of Lenovo's acquisition of IBM PC in 2004, and the acquiring of France's Thomson Electronics. The spectacular economic reformation of the Chinese economy is compelling institutions in the MNCs to reassess their architectural identities in terms of managerial practices and the forging of linkages in cross cultural landscapes. Hence, a departure point for understanding talent management strategies and cultural priorities in MNCs is beginning to attract serious attention.

Recently, the phenomenon of MNCs overseas investment from China has gained significant momentum (Rajan, 2009). For instance, the number of Chinese manufacturers has expanded rapidly around the world to become increasingly important competitors in the global marketplace (Ge & Ding, 2008). Furthermore, Chinese MNCs have not only entered the global market as exporters, but also as foreign investors across an array of industries, including manufacturing, natural resources (i.e., gas, oil and minerals), trade and services, and Information Technology (IT) (Guillén & García-Canal, 2009). In particular, the manufacturing of electrical appliances and electronics by Chinese MNCs, such as Haier, Lenovo, TCL, Gree Electric Appliances, Galanz, as well as Huawei Technologies has led to the successful development of their brands in the global marketplace. A specific example is the overseas expansion of Huawei Technologies in electronics to be widely recognised as a successful Chinese IT enterprise on a global scale. Interestingly, these Chinese MNCs did not exist 20 years ago, but today they are challenging some of their competitors and have gained well known reputations in overseas markets. The substantial level of overseas investments and acquisitions being undertaken by Chinese firms at a

relatively robust pace is facilitated by institutional transformations requiring a diversity of managerial talents (Bhatnagar, 2007). Indeed, the diversification in assets in terms of managerial capacity, business acumen competencies, knowledge networks and financial resources obliges a different type of human resources to effectively leverage the transformation processes (Mellahi & Collings, 2010).

Despite the increasing engagement in the global arena, firms throughout the world are facing difficulties in locating and retaining suitable managerial talents to manage international operations (Gregersen, Morrison, & Black, 1998; Scullion, 1994; Scullion & Collings, 2006; Sloan, Hazucha, & Van Katwyk, 2003; Suutari, 2002). Among the reinvigorated reform initiatives the acquisition of talented personnel remains a high priority issue for many Chinese MNCs (Chuai, Preece, & Iles, 2008; Mäkelä, Björkman & Ehrnrooth, 2010). For example, Burke and Ng (2006), Cappelli (2008), Iles, Chuai and Preece (2010) as well as Ready and Conger (2007) indicate MNCs are facing the biggest human resource (HR) challenge in the shortage of talented employees. Subsequently, the primary objective of the present study is to examine how Chinese MNCs address their talent management concepts and practices. More specifically, do Chinese MNCs share some common features in the operational level of talent management related issues (e.g., selection)? The findings of this study are likely to add value to understanding the processes that have been undertaken by these MNCs in tackling issues that relate to talent management practices.

This paper is presented in seven parts. Following the Introduction (the first part) the second part of the study discusses the triggers of internationalisation of Chinese MNCs. The third part of the paper presents the concept of talent management, which incorporates the barriers and challenges that Chinese MNCs face in HR related issues such as selection. The fourth section describes the research method, which outlines the study site and subjects, the employed procedure, the measurement and the analysis. In the fifth part of the study the results of the assessments are documented. A discussion component is delineated in the sixth part of the paper, which highlights talent management philosophies and practices that were employed by the Chinese MNCs. The seventh part of the paper concludes with indications how the study findings contribute to the understanding of the talent management concept, and in particular implications for contemporary organisations in Asian contexts in general; and specifically, in the Chinese context.

Triggers of Internationalisation

Legislative reforms and economic liberalisation have accelerated the internationalisation process of Chinese firms. Cheng and Ma (2008), Child and Rodrigues (2005) as well as Warner, Ng and Xu (2004) have suggested the internationalisation process of Chinese firms is largely affected by the Chinese government. Cheng and Ma (2008) stated that Chinese government promotes

“ ... national firms during official visits by government officials and state leaders, to incorporating business negotiations into inter-governmental cooperation frameworks, to building databases on investment environment and opportunities in specific host countries, to providing consultancy services to Chinese firms that consider investing overseas.” (p.8).

This notion is further supported by Ge and Ding (2008), who also indicated the Chinese government plays a key role in MNCs' involvement in business activities outside their home market. The initial policy, which was proposed in 2001 encouraged MNCs to 'go overseas'. Outward foreign direct investment (FDI) approval process was loosened by the Chinese government, and incentives such as financial support were given to MNCs in targeted industries and countries (Cheng & Ma, 2008). Overall, the Chinese government has created a supportive policy environment, which provides a platform for MNCs to 'go out' (Ge & Ding, 2008).

A number of other motives push the internationalisation process of the Chinese MNCs. The economic reform within China has attracted a large amount of FDI inflows (Li, 2005), and in turn intensified the domestic competition among firms (Goldstein, 2007). For example, Chinese firms that are involved in industries, like mobile phones, electronics and white goods have to face fierce domestic and international competition from their counterparts (Child & Rodrigues, 2005). Such competition and over capacity may result in a lower profit margin for some Chinese firms, and many of them had to seek opportunities overseas. Another potential motive is the level of government interference in China. Several researchers (Huang, 2003; Meyer & Lu, 2004; Nolan, 2001) have noted domestic mergers and acquisitions were tightly controlled by the central authorities, and these types of institutional restrictions may pose uncertainties and complexity of the legal system, that force Chinese

firms to invest overseas in order to escape institutional restrictions (Child & Rodrigues, 2005). Although these motives have contributed to the internationalisation of Chinese MNCs, the notion of the Chinese diaspora cannot be ignored.

The Chinese diaspora has been considered as an important factor in facilitating the integration of China into the world economy (Buckley, et al., 2007). Since 1979 the level of inwards FDI made by overseas Chinese from Singapore, Taiwan and Hong Kong has indicated a positive influence on outward FDI from China to the rest of the world (Henley, Kirkpatrick & Wilde, 1999; Ng & Tuan, 2002; Sikorski & Menkhoff, 2000; Yeung, 1999). Furthermore, Luo (1997), Standifird and Marshall (2000), and Tong (2003) suggest the well linked economic and financial connections among overseas Chinese and the importance of *guanxi* in Chinese business dealings may assist a number of MNCs to engage in the global arena. Indeed, Braeutigam (2003), Erdener and Shapiro (2005), and Sung (1996) pointed out the ethnic and family *guanxi* or networks created a firm specific advantage in the reduction of the level of risks, and transaction costs associated with identifying global business opportunities overseas. Consequently, such strong economic connections and networks gathered, from the overseas Chinese, have the potential to promote the internationalisation activities of the Chinese MNCs.

The internationalisation strategy taken by many Chinese MNCs could be summarised in three main levels (Child & Rodrigues, 2005). The first level, exporting has been considered as an important component of China's outward economic expansion, which is a strategy not necessarily involving any form of direct investment or active organisational presence overseas. For the second level, a number of Chinese MNCs have engaged in the international market through the route of original equipment manufacturer, and joint venture partnerships. Deng (2004) indicated the internationalisation of Chinese firms is largely driven by seeking natural resources, advanced technology, markets and strategic assets, which are unavailable in the domestic market. Due to the shortage in resources, Chinese MNCs prefer to build linkages through strategic alliances or forming joint venture with foreign companies to enter the international market. In addition, acquisition (e.g., Lenovo) is another internationalisation strategy that provides a fast expansion route for many Chinese MNCs. The physical and organisational expansion to an overseas market has formed the third level of internationalisation strategy for the Chinese MNCs. This route of internationalisation involves the Greenfield establishment of subsidiaries and facilities within targeted markets. Overall, the outstanding internationalisation strategies exercised by the Chinese MNCs have demonstrated the important role that they play in the global marketplace. Regardless of whether the Chinese MNCs is engaged in exporting, joint partnership or Greenfield establishments overseas quality managerial competencies are critical for the success of international organisation.

Talent Management

Despite the dominant role that Chinese MNCs play in the world stage these organisations are facing challenges in the shortage of managerial talents. Stahl, et al. (2007) defined talent management (TM) as an emerging business strategy, that enables an organisation to identify, develop and redeploy key talented employees. Such a strategy may assist organisations to minimise the impacts of managerial shortages, and consequently, TM is significant to the success of an MNC's international operations. Collings and Mellahi (2009), Lewis and Hackman (2006) as well as Hartmann, Feisel and Schober (2010) indicated organisations throughout the world have realised one major source of competitive advantage is created through knowledge, skills and abilities of their talented employees. Often, internationally competent managers have been identified as a key component of an organisation's global business success (Becker, Fineman, & Freedman, 2004; Black & Gregersen, 1999; McDonnell, Lamare, Gunnigle & Lavelle, 2010; Scullion 1994, 2001; Shen & Darby 2006; Stroh & Caligiuri, 1998). Paradoxically, the concept of TM is not yet well understood, and while the importance of the phenomenon is recognised relatively few studies have been undertaken to systematically ascertain the effectiveness of implementation (Cappelli, 2008; Cohn, Khurana & Reeves, 2005; Mäkelä, et al., 2010; Scullion & Collings, 2006; Sparrow, Brewster & Harris, 2004). Therefore, a more strategic and broad based analysis of TM is required (McCauley & Wakefield, 2006).

Globalisation has increased the demand for skilled labour worldwide (Collings, Scullion, & Morley, 2007; Scullion, Collings, & Gunnigle, 2007). "The acceleration of China's integration towards the global economy" (Nie, 2008: p.131) has inevitably onset a search for TM. Hechet and Ruet (2009) indicated that "... Chinese groups suffer from a lack of internationally trained managers, limited knowledge of the European and American legal and administrative environments, and a lack of flexibility to compile complex financial

operations for mergers and acquisitions...” (p.195). Moreover, Lou and Tung (2007) point out that Chinese MNCs not only suffer from a lack of global experience, but also from a lack of managerial competence and professional expertises. Recently, the McKinsey survey (2008) of Chinese executives has further demonstrated Chinese companies are challenged by lack of managerial talents and insufficient understanding of the legal and reputational risks as well as lack of financial resources. As a result, talent shortage is predicted to be one of the greatest barriers to the current and future growth of an organisation (Ma &Trigo, 2008; Taylor, 2007).

A number of recent studies has highlighted the changing mindsets of Chinese managers brought about by the economic resurgence (Cooke, 2010, Nankervis &Chatterjee, 2011). These authors indicated a shift towards willingness to accept performance based pay, demographic value shift away from collectivism to risk taking, and a subjugation of traditional Confucian culture to material gain. Alleviation of talent shortage by poaching staff from other companies with alterative packages has been a widely used tactic employed by both Chinese owned as well as global MNCs (Cooke, 2008; Walsh& Zhu, 2007). The key theoretical argument being that the adoption of an uniform global (integrated) HRM strategy is not possible in China without accommodating local practices and policies. This crossverging mindset is generating an unique challenge for Chinese managers in understanding and negotiating not only managerial, organisational and institutional forces, but also the strong traditional culture underpinning their philosophies.

Research Method

Site and Subjects

The study sample was 30 executive managers of MNCs in Qing Dao city, of mainland China. A convenient sampling method was employed through personal relationships (guanxi) to obtain a unique sample of respondents, who were business owners or senior managers of 24 Chinese business organisations. Among the 30 respondents were six participants, who worked in the same organisation, which has more than 1,000 employees. Each of these six managers holds different executive positions. All of the 30 managers are engaged in strategic business decision making. An important feature of this group of people lies in the fact that they are involved in strategy formulation and implementation processes. In other words they are not only information rich individuals, but they are frequently engaged in decision making processes of internationalisation strategies as well as global investment directions.

Procedure

A three stage process was used to evaluate the study constructs. First, the study questionnaire was generated by back translating (English to Mandarin to English) a set of Western instruments. This procedure involved three independent groups of bilingual assistants, who are professional translators employed in Qing Dao, China. Members of the first group translated the questionnaire items from English to Mandarin, the second group of assistants translated the questionnaire from Mandarin to English, and the third group played an important role in assessing the translated (English) items for correspondence with the initial English version of the questionnaire. Second, the distribution of the finalised questionnaire either in Mandarin or English, which was preferred by the participants, was undertaken through personal networks (guanxi). According to Chatterjee and Pearson (2002), and Ananthram (2008) data collections from Eastern business contexts would be greatly assisted when networks or guanxi (i.e., in the Chinese context) is involved. The questionnaires were delivered by either the first researcher or a third party to the agreed study companies in Qing Dao, China, along with a letter introducing the researcher, and explaining the purpose of the study. In addition, ethical consideration for conducting this research, including participation was voluntary, and respondent anonymity was preserved, two features that were carefully addressed in the letter to the managers. A total of 30 questionnaires were distributed, and collected from the study companies.

Measures

The research instrument is designed to measure quantitative elements. Personal information, such as demographic dimensions was obtained in the first part of the survey. For example, managerial position, length of service in the company and industry, the level of formal education of the respondents as well as global market entry modes of the company were measured with nominal data. This information is presented in Table

1. Quantitative data were obtained with interval scales to assess aspects of TM acquisition as perceived by the managerial sample.

A total of five variables related to TM was identified. These constructs include 1) selection, 2) recruitment, 3) training and development, 4) promotion, and 5) reward. Six items, which were frequently mentioned (evaluated by percentage), were adapted from Hsu and Leat (2001), and El-Kot and Leat (2008) to measure *selection*. The variable of *recruitment* was assessed with nine items, that were adapted from Chang, Wilkinson and Mellahi (2007), and Lockyer and Scholarios (2007). The most frequently used techniques for recruitment were employed and recruitment can be done both internally and externally. *Training and development* was measured with eight items, and two items were reverse scored (Altarawneh, 2009; Fisher, Bibo, Youngsamart&Chomjunroone, 2001). *Promotion* was scored with seven items, which was an adaptation of scales from Fisher, et al. (2001), and Hsu and Leat (2001). *Reward* was assessed with five items (Entrekin& Pearson, 1997). These variables were assessed with data that were captured from the administration of seven point Likert scales, which have responses range from 1 = ‘Strongly disagree’ to 7 = ‘Strongly agree’. Arithmetic means were generated from the responses.

Analysis

The data captured with the questionnaire survey were examined with several statistical tests. Firstly, the responses generated through the questionnaire survey were examined for outliers. This process enables the researchers to ensure that no data entries exceed their interval range. Secondly, exploratory factor analysis employing the Varimax option was performed so that the interval validity could be evaluated. These statistical procedures were conducted with SPSS software (SPSS, 18).

Results

Demographic of the Respondents

Table 1 summarises the demographic characteristics of the respondents. It is shown in Table 1 the respondents have been engaging in their respective industries for more than 10 years, and indeed, over one third of them had been active for 15 years or more. In addition, most respondents have been working in their current position for more than five years to demonstrate respondents have extensive working experience. A second feature of the sample was that two third of the participants’ companies were involved in the manufacturing sector. This finding is aligned with the existing study findings that a large number of the Chinese MNCs are engaged in the global marketplace to take home cost advantage in manufacturing (Jonsson, 2008). A third feature of the sample was that more than 90 per cent of the respondents are younger than 45 years old, which indicates that seniority in leadership promotion has become less important, as these organisations have placed emphasis on a young well training and skilled workforce. Indeed, 66.7 per cent of the participants had Bachelor degrees, and 16.6 per cent of the respondents have been awarded Master degrees. A fourth feature of the sample was that a one third representation of female managers (33%), which may suggest that male dominant leadership is weakening in Chinese companies. These results are consistent with previous studies findings conducted by Ananthram and Pearson (2008), Ananthram, Pearson and Chatterjee (2010), Nie (2008) as well as Chatterjee and Pearson (2002; 2006). A fifth feature of the sample was that most of the study organisations have employed exporting, joint venture or strategic alliance as their investment type for entering foreign markets. However, there is a shift in employing more risk type of entry mode to engage in a foreign market, in fact 23.4 per cent of the study companies have expanded overseas through establishing foreign subsidiaries.

TABLE 1: DEMOGRAPHICS % (N = 30)

Management position		Age (years)	
Executive	6.7	25-35	23.3
Middle	86.7	36-45	73.3
Supervisory	6.6	More than 45	3.4
Length in industry (years)		Gender	

Less than 6	6.7	Male	66.7
6-10	23.3	Female	33.3
11-15	33.3		
More than 15	36.7	Education	
		College/technical	16.7
Industry type		Bachelors	66.7
Manufacturing	73.3	Masters	16.6
Services	26.7		
		Entry	
Length in organisation (years)		Export	30.0
Less than 6	3.4	Joint venture	33.3
6-10	33.3	Strategic alliance	13.3
11-15	33.3	Subsidiary	23.4
More than 15	30.1		

Factor Components Assessments

Tables 2 to 6 present two types of results. Firstly, the factor scores, which show a distinct separation of the managerial responses for the employed TM processes of the Chinese MNCs, are presented. Secondly, in the asides are shown the average aggregated (i.e., mean) scores for each of the measured TM processes, which were determined with seven point Likert scales. These data (of Tables 2 to 6) show two important features. First, the data were relatively robust; and second, the perceived mechanisms adapted by the study organisations were generally Western oriented TM techniques with a Chinese flavour.

Selection

Table 2 shows the most frequently used selection techniques. Conveniently, the employment processes of the Chinese MNCs study firms have been partitioned as formal and informal techniques. For instance, the selection procedures of interview panel, application form as well as medical examination are considered to be formal selection methods, while external reference, curriculum vita, and reference have been nominated as informal methods.

The factor correlations and the mean scores reflect the study organisations are moving away from a traditional system of patronage to the endorsement of contemporary standard selection processes, that have been designed to provide assessments of the applicant quality. This result is consistent with existing study findings that have been largely documented in the Western literature (Hsu &Leat, 2001; Kersley, et al., 2005). Thus, the results indicate that Chinese MNCs show a strong interest in formalising their selection processes by adapting Western techniques. This notion is particular evident as the informal selection methods, such as references, which are less frequently employed by these Chinese organisations. Arguably, the selection criteria are dominated by the notion of ‘*what you know*’ rather than by the ‘*who you know*’ phenomenon. This study finding is supported by Shen (2010), who suggested that Chinese enterprises, particularly privately owned firms, tended to pay attention to selection criteria of education, skills, experience as well as performance.

TABLE 2:SELECTION (N = 30)

	Factors	
	Formal	Informal
Interview panel	.876 (6.48)	.061
Application form	.779 (6.31)	.050
Medical examination	.652 (6.03)	.279

External reference	.139	-.827(5.07)
Curriculum vita	.233	.654 (6.38)
Reference	.273	.652 (3.52)

Notes. a. Values in the brackets are mean scores.
b. The negative factor correlation value for external reference is a response to the reverse of the questionnaire item.

Recruitment

Table 3 presents the outcomes of managerial recruitment sources, that were employed by Chinese MNCs, and two types of recruitment sources (i.e., external and internal) were identified. The first finding is partly in line with Zhu, Warner and Rowley (2007), whose study identified personal relationships as very important hiring practice, employed by firms from East Asia. Also, Han and Han (2009) found that network based recruiting practices were prevalent among Chinese firms, especially large companies and Indigenous state owned enterprises. In contrast, Zhu and Dowling (2002) demonstrated that external recruitment sources such as advertising have been largely used by Chinese firms, and this observation is also consistent with the findings shown in Table 3. A key feature of Table 3 is that Chinese MNCs seldom used network related recruitment source. In fact, the predominant recruitment channels are national press advertisement and recruitment agencies. Consequently, the study finding also illustrates that Chinese MNCs appear to be interested in adapting HR practices developed and used in advanced market economies. At the same time, however, unique Chinese HR features or characteristics are being maintained.

TABLE 3: RECRUITMENT (N = 30)

	Factors	
	External	Internal
Quanxi (connection)	-.753 (3.00)	.005
Connection is seldom done	.734 (5.45)	.211
National press advertisement	.662 (3.76)	.405
Job centre	.609 (4.83)	.086
Government agencies	.587 (2.38)	-.368
Internal referral is not common	.171	.749(4.45)
Internal appointment	.046	-.659(5.00)
Referral from existing manager	.019	-.647(4.10)
Recruitment agencies	.263	.643(4.59)

Notes. a. Values in the brackets are mean scores.
b. The negative factor correlation value for external reference is a response to the reverse of the questionnaire item.

Training and Development (T & D)

The findings in relation to training and development (T & D) practices that have been exercised in the Chinese MNCs are presented in Table 4. Table 4 demonstrates that the respondents believe a high level of T & D programme investment by their organisations. This finding is partially contradicting to the observations documented by Cooke (2005) and Zhu (2005), who argued an inadequate training was provided in Chinese enterprises during the economic transition period. More interesting is the finding reported by Shen (2010), who revealed that private owned Chinese enterprises show a lack of commitment to T & D. Nevertheless, the study finding indicated there is an equal opportunity between male and female managers when it comes to T & D participation in the study Chinese MNCs. Another predominant feature of Table 4 is that evaluation (e.g., feedback) for participation in T & D is compulsory, and often managers who hold a post-secondary qualification

are required for T & D. Accordingly, T & D opportunities were regarded as adequate in the Chinese MNCs, and such programmes provide for managerial personal development.

TABLE 4: TRAINING AND DEVELOPMENT (N = 30)

	Factors		
	Favourableness	Equity	Evaluation
Availability	.909 (5.87)	-.046	-.083
Evaluation	.818 (5.03)	-.081	.121
Managerial T & D is provided	.769 (6.45)	.042	.140
Regularly work relevant T & D	.767 (6.07)	-.153	.119
Less T & D opportunity for women	-.001	.904 (2.41)	.081
Not encouraged to improve T &D	-.154	.845 (2.00)	-.190
Lack of T & D evaluation	.045	.110	-.790 (3.47)
Post secondary qualification is required for T &D	.232	.031	.711 (5.87)

Notes. a. Values in the brackets are mean scores.

b. The negative factor correlation value for external reference is a response to the reverse of the questionnaire item.

Promotion

The empirical results revealed that Chinese managers are promoted based on three factors including superiority, professionalism as well as competence, and this information is presented in Table 5. It is indicated in Table 5 that '*who you know rather than what you know*' is unlikely to be the underpinning in managerial promotion. Furthermore, female managers and male managers were given equal promotional opportunities. It is also shown in Table 5 that loyalty and managerial skills are important indicators of managerial promotion. In addition, Table 5 shows that past performance as a measure of competence is used as a managerial promotion criterion for the study Chinese MNCs. This observation is different from Shen's (2010) finding, who demonstrated that good performance did not significantly result in promotion in the Chinese privately owned enterprises of that study. Moreover, the present study indicated as a competence promotion guideline, length of service, that can be interpreted as show loyalty to the organisation was a relatively important indication in the Chinese MNCs. A strong influence of the content of Table 5 is the study managers perceived promotion in their organisations was substantially depended by professionalism (e.g., managerial skills and past performance).

TABLE 5: PROMOTION (N = 30)

	Factors		
	Superiority	Professionalism	Competence
Who you know rather than what you know	.808 (2.20)	-.082	.142
Male managers are promoted ahead of females	.766 (3.20)	.020	-.206
Female managers are more likely to be promoted	.650 (3.30)	.227	.028
Loyalty	.028	.845 (5.60)	-.096
Managerial skills	.068	.843 (6.10)	.122
Past performance	-.176	.142	.857 (5.07)
Length of service	.466	-.244	.602 (3.30)

Note. Values in the brackets are mean scores.

Rewards

Table 6 presents the results on the reward criteria being employed by the study Chinese MNCs. It is presented in Table 6 two types of main reward exercises as attached and detached have been practiced by the participated Chinese organisations. ‘*Annual red package or red envelopes*’ and ‘*Seniority*’ that have been identified as two forms of traditional rewarding exercises have been utilised in the studied companies. This observation provides foundation for the claim that Asian organisations tend to use seniority as an important factor for reward (Chang, et al., 2007; Zhu, et al., 2007). In addition, one of the major findings of the quantitative results (Table 6) was the emphasis placed by the Chinese organisations on financial rewards based on annual performance. Another key feature in Table 6 is that Chinese organisations rely heavily on team and group related performance to reward their managers. Indeed, the mean score (e.g., 4.83) further indicated Chinese MNCs focus more on group performance as a rewarding criterion. Such a finding supported the viewpoints that there is a high level of collectivism in Chinese organisations. Furthermore, Table 6 shows that Chinese organisations tend to use ‘*A document and a fixed tangible item*’ to reward their managerial talents. Overall, it could be argued the reward criteria used by Chinese MNCs provide a platform for the claim there is a gradual transformation in their HR practices that is crossvergence HR, to form a hybridisation of management system.

TABLE 6: REWARDS (N = 30)

	Factors	
	Attached	Detached
Annual red package or red envelopes	.787 (4.47)	-.098
Seniority	.672 (2.67)	.454
Financial rewards based on annual performance	.648(5.60)	-.275
Group performance	-.045	.828 (4.83)
A document and a fixed tangible item	-.068	.458 (4.13)

Note. Values in the brackets are mean scores.

Discussion

In spite the relatively small sample size the presented data are exceptionally rich. The quality of the data is underpinned by the responses of managers, who had considerable influence on the strategic decision making in their firms. These decision processes were pervasive in the selection of TM. Robustness of the data is also demonstrated by the factor scores shown in the Tables. Except for the item (*A document and a fixed tangible item*) in Table 6 all factors scores are greater than 0.5, which is considered to be an acceptable loading.

The study analysed the TM philosophies and strategies that are employed by the Chinese MNCs to locate managerial talents. The study results demonstrated that the TM practices of selection, recruitment, T & D, promotion as well as reward adapted by the Chinese MNCs are becoming crossvergent. The crossvergence approach was developed by Ralston, et al., (1993), who argued a hybridisation of management systems would occur when two cultures meet. Indeed, this hybrid condition would result “... when an individual incorporates both national culture and economic ideology influences synergistically to form a unique value system that is different from the value set supported by either national culture or economic ideology.” (Ralston, et al., 1997, p.183). Hence, the emerging trend toward crossvergence in the adaption of TM policies and practices in the Chinese MNCs was evident in a number of areas.

One of the evident areas is that managerial selection criteria have become more decentralised in the studied organisations, and the focus on candidates’ work experience is valued. Indeed, the use of *Curriculum Vita* had the mean score of 6.38, which indicated Chinese organisations put more emphasis on ability and education background when selecting managerial talents. Although the traditional HRM practices such as references are used as a screening tool, the job interview has been considered as a predominant selecting criterion when choosing potential managerial talents. Ultimately, it could be argued that while Chinese MNCs are increasingly engaging in the global marketplace the transformation towards crossvergent TM strategies are more likely to dominant the Chinese management systems.

The findings of the study with managers, who were considered to be exceptionally information rich individuals and involved in strategic decision making, revealed four salient features. First, a dominant feature that arises from the study finding is the managerial talents were mainly recruited through external sources such as job centres or national press advertisements. On the one hand, this observation is in line with the work conducted by Zhu and Dowling (2002); and on the other hand, this outcome is partially contradicted with several existing studies. These researchers (Chow 2004; Han & Han, 2009; Zhu, et al., 2007) found that referral (i.e., internal or external) or internal appointments are considered important recruiting methods used by Chinese firms. The second major feature is that T & D programmes are provided to both female and male managers. Arguably, given the experienced current shortage of managerial talents Chinese MNCs are making significant progress in developing HR through T & D. Indeed, Cooke (2008) has demonstrated "Raising the nation's education and skill level has been increasingly high on the Chinese government's agenda." (p.66). This agenda has been supported at micro level as companies across different industries to provide T & D programmes in order to acquire better quality managerial talents (Chow, 2004). A third feature of the study results is the notion that promotions were largely based on professionalism and competence of the managers. In other words, the traditional promotion criterion based on seniority rather than performance is fading as many Chinese MNCs have realised a sufficient promotion system is a key to the development, motivation as well as retention of skilled staff. Indeed, the relative importance of managerial skills in promoting managerial talents is underpinned by the high mean score (6.10). Clearly, managerial skills and performance became increasingly important determining factors for promoting managerial talents in the Chinese MNCs. The fourth attribute obtained from the study findings is while the traditional rewarding system places emphasis on seniority, performance related rewards are also used to a large extent in many Chinese MNCs. More specifically, a high tendency is revealed as the studied Chinese MNCs have endorsed the importance of a performance based rewarding systems (Chow, 2004; Zhu, et al., 2007).

The study findings may have boundary conditions in making generalisation. A particularly interesting extension of this study is to consider the effects of ownership on the TM practices in Chinese organisations. Although this study has offered insightful information for both researchers and Chinese business owners or managers to understand the notion of TM, the study sample is relatively limited as it did not incorporate the ownership dimension. In fact, Chow (2004) had reported that HRM practices are strongly affected by the forms of firm ownership. For example, Chow (2004) argued that traditional HRM practices such as staffing through one's connection are still employed by Chinese state owned enterprises. According to Chiu (2002), Shen (2010), Zheng, et al. (2006), and Zhu, et al. (2005), the privatisation in China also plays a significant role in employment relations. Due to workplace dynamics and business ownership structures a deeper understanding of the ownership dimension in relation to TM practices in the Chinese organisations has the potential to offer additional information to business managers or owner to advance their knowledge. Hence, the orientation towards a comprehensive examination by incorporating the notion of ownership may further enhance the understanding of how Chinese MNCs practice TM in their respective organisations. This approach may offer fruitful ground for further exploration.

A substantial revelation revolution of the evidence presented in this paper is the perplexity in perceived homogeneity of recruitment and associated HRM practices employed by Chinese firms. Prior to the economic reforms Chinese organisations practiced the dominant ideology of patrimonialism, which shaped managerial behaviour flavoured with familism, paternalism, mutual obligation and connections. Coupled with the planned economy people were organised in a form of personnel management in a framework termed the 'iron rice bowl' with centrally administered wages, stage controlled appointments and promotions as well as lifetime employment. Today an evolutionary process is entrained as China moves to become a powerful socialist market, which has onset significant shifts in institutional architectures. While there is a divergence from the earlier arrangements the newer management perspectives, which are inexorably linked to the international economy, will homogenise as a different set of social values and work ethic when HRM is integrated into the core business operations.

Conclusion

This paper generated research evidence likely to assist scholars and practitioners during this complex period of economic and social transformation in China. The paper reveals a significant crossverging trend in HRM

practices adopted by MNCs rising from China. As the paper points out, China is perhaps one of the most culturally and institutionally distinct societies from the central focus of contemporary managerial precepts and practices. Therefore, local adoption still remains a high priority for all managerial philosophies in China. Interestingly, these crossverging ideas are now used as the basis of competitive advantage as Chinese MNCs spread their wings abroad. In order to sustain and improve their global ambitions, Chinese MNCs will need to actively promote a developmental oriented talent retention HRM strategy. The ad-hoc HRM philosophies prevalent in domestic Chinese firms, where decision making is concentrated at the top need to give away to global imperatives of differentiation. Additionally, the industry characteristics of these MNCs also play a significant role in shaping talent management philosophies. For example, Chinese MNCs in high tech sector have already demonstrated their proactive engagement in obtaining, retaining and developing talents around the world.

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Note: Contact author for complete list of references

The Study of Job Satisfaction and Organizational Citizenship Behavior (OCB) in the Thai Retail Industry

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I. Introduction

Human resources are intellectual capital to an organization because they are embodied with abilities, talents, skills, personalities, motivation, and organization cultural value which lead to various demonstrated behaviors and performance. The different individual behaviors result in varying organization outcomes. Organization would prefer employees who are committed and exhibit certain desirable work behaviors and those beyond their work roles that are considered positive to organization effectiveness. However, what influence employee to exhibit the latter type of behaviors at work? This study aims to investigate the relationship between job satisfaction and its facets and organizational citizenship behavior (OCB).

II. Literature Review

“A sense of citizenship translates into a readiness to contribute beyond the literal contractual obligations, just as a good citizen in the civic sense does more than simply not violate the law, A good citizen does not rest upon mere compliance, he or she does something more to promote the community. But to feel like a citizen, one must feel that one is treated like a citizen and accorded rights, privileges, and respect” (Organ, 2006, p.52).

Organizational Citizenship Behavior (OCB)

Katz and Kahn (1966) suggested three different basics of behaviors that contribute to the effectiveness of an organization. According to them, personnel should involve and support organization systems; should demonstrate dependable role performance, achieve established work standards; and should exhibit innovative and spontaneous behavior: performance beyond role requirements for accomplishments of organizational functions (Katz and Kahn, 1966). The last category comprises such cooperative actions with other members, actions that promote a favorable climate at workplace, actions that improve organizational system which is broadly considered organizational citizenship behavior (OCB).

OCB is a multi-dimensional concept. It is defined by various researchers such as: “willingness to cooperate” which contributes to an attainment of organizational goals (Barnard, 1938); “dependable role performance” and “innovative and spontaneous behaviors” (Katz and Kahn, 1966); “prosocial organizational behavior” (POB) (Brief and Motowidlo, 1986); “an individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system’ and that in the aggregate promotes the effective functioning of the organization” (Organ, 1988); “behaviors which are not formally prescribed, but yet desired by an organization” (Schnake, 1991); “extra-role behavior” (ERB) (Van Dyne et al., 1995); “discretionary behaviors that directly promote the effective functioning of an organization, without necessarily influencing employee productivity” (MacKenzie et al., 1993). This type of discretionary behavior is a matter of personal choice, such that its omission is not generally understood as punishable. As OCBs have been defined in different ways by various researchers, therefore the taxonomy of OCB seems to be problematic.

Job Satisfaction and OCB

Job satisfaction is “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experience” (Locke, 1976 cited in Luthans, 2002, p. 230). Job satisfaction evaluation is a significant indicator as it is communicating employees’ attitude about their perception/satisfaction relating to job aspects and organization’s treatment. The work motivation theories underly the fundamental understanding of employee job satisfaction. The extent they are satisfied with their job is contingent upon how much they recognize that their needs/ desires are being fulfilled; or their values and expectations are being responded.

The manifestation of OCB arising from job satisfaction is theoretically supported by the social exchange theory of Blau (1964 cited in Organ 1988 and Organ et al., 2006). When employee perceives well treatments, given resources or opportunities from an organization, by the norm of reciprocity they will be obliged, in return, to exert extra efforts or perform non-required behaviors within an organization environment such as cooperative and helping behavior, or supportiveness of the supervisors (Organ 1988, and Organ et al., 2006). In addition, when people gain experience in the positive mood state, they tend to associate with prosocial behavior which is about behaving as “a good citizen”; therefore “an organization with a highly satisfied work force benefits from the goodwill in the community that satisfied worker help foster” (Organ, 1978, p.121).

Bateman and Organ’s study (1983 cited in Schnake, 1991) find that all dimensions of job satisfaction have a significant and positive relationship to citizenship behaviors ranging from 0.19 to 0.25 (p-value < 0.05) while satisfaction with supervision and with promotional opportunities reported the strongest correlation to OCB at over 0.30. They assert that motivation can stimulate the good citizenship behavior of individuals perceiving the fairness of organization treatment, in conjunction with one’s personality. So if an individual views an organizational treatment positively and fairly, one is inclined to be motivated to express certain good behaviors or attempts towards an organization. Organ (2006) notes that individual underlying motivations which are determined by individual dispositional characteristics can drive one to engage in OCBs and subsequently one might want to display for various personal reasons; for one’s own sake, for the sake of others (colleagues, supervisors) or for one’s organization. Blalock (1971) proposes four antecedents to citizenship behaviors, namely, job satisfaction, environmental variables, personal variables and demographics while Podsakoff et al. (2000) propose individual characteristics, task characteristics, organizational characteristics and leadership behaviors to influence OCB level. In the meta-analysis of Organ and Ryan (1995), job satisfaction, in combination with fairness and commitment show the rigorous and comparable correlations among them which yield a good composition of OCB determinants. However, Organ (1988a) notes that when considering only job satisfaction and perception of fairness together, the latter one would explain more variation in OCB. While in some studies (George and Jones, 1997; Jehn et al., 1999; MacKenzie et al., 1998; Ackfeldt and Coote, 2005) claim both job satisfaction and organizational commitment as the key job attitudes to be the good predictors of employees’ OCB level. Smith, Organ and Near (1983) have found job satisfaction correlated positively and significantly only with altruism but not with generalized compliance (Organ, 1988 and Schnake, 1991). Bolon (1997) finds that overall job satisfaction including its sub-dimensions of work itself, pay, supervision and coworkers has significant direct relationship with citizenship behaviors ($r = 0.22, 0.20, 0.31, \text{ and } 0.17$ respectively at $p\text{-value} < 0.01$). Also, the research findings of Murphy, Athanasou and King (2002) reveal the job satisfaction-OCB relationship of Australian human-service professionals ranging from medium to strong correlations which ranged from +0.40 to + 0.67. William and Anderson (1991) investigate the relationship between job satisfaction and organizational commitment to the performance of OCBs. Based on the regression analysis of the data collected from a sample size of 127 participants from various organizations, the results connote that affective variables (job satisfaction) and organizational commitment were not significantly related to any form of the three OCB performances, while both job satisfaction cognitions (intrinsic and extrinsic) remained significant correlations with different forms of OCBs. The researchers note that different forms of OCBs may have different antecedents as appeared in the study of Brief & Motowidlo (1986) or Smith et al. (1983). However, these different findings between two job cognitions and OCBs are not predicted by the existing theory (William and Anderson, 1991). Pornpongsuriya (2001) finds that correlations between all attitudinal variables and OCB are significant and positive ranging from 0.155 to 0.316. Based on multiple regression analysis, all given job attitude variables can

account for the variance of nurse's OCB displayed at 13.5%. Job satisfaction with work itself and interactional justice variables are predictors of nurse's OCB.

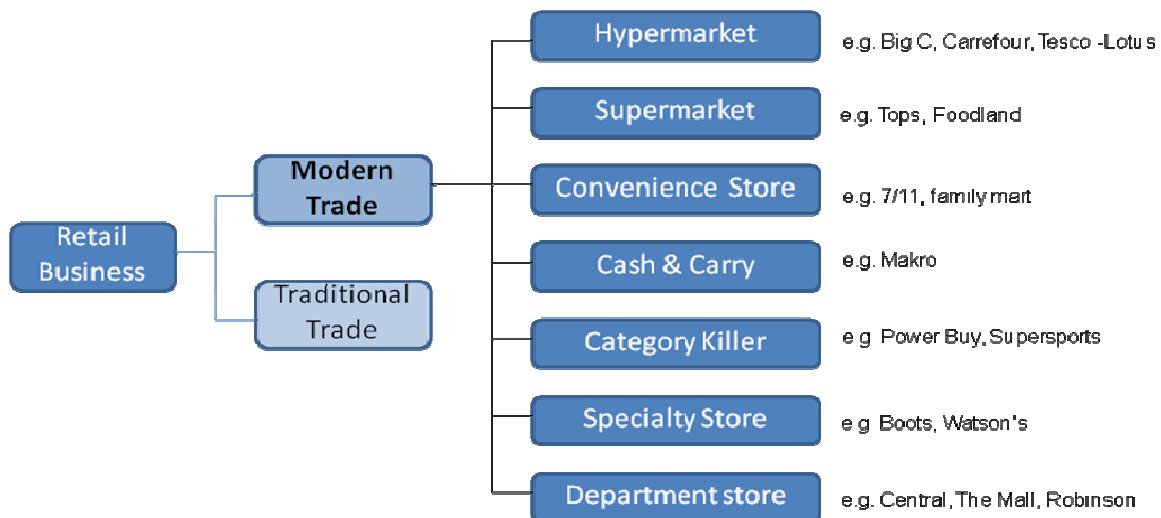
Based on the literature review, this study postulates that job satisfaction has a positive relationship with OCB of retail employees in Thailand.

III Research Methodology

Context of the Study: Retail Business in Thailand

In Thailand, retail business can be divided into two major groups, i.e. traditional trade and modern trade by Thai Retailers Association; (1) Traditional retail is seen as large number of mom and pop shops and modern trade retail mostly come from direct investment from foreign countries. Both types as illustrated in Figure 1 according to Kittiwachpokawat (2008, p. 11-17).

FIGURE 1: THAI RETAIL BUSINESS STRUCTURE



Sampling Procedures and Research Instrument:

The sampling frame of this research is composed of operational employees who work in 13 retailing companies where similar responsible jobs or functions may differ based on their retail organizational structure or type (i.e., size, breadth of operations, product assortment and so forth). These include employees who have attained at least high school level. They also must have worked at least one year as a full-time employee at the operational level who perform tasks both in the front office (direct customer-contact employees) and in the back office (indirect customer-contact employee).

A sample size of 30 units is drawn individually from 13 retailing companies so the total sample size is 390 operational units (Table 1). HR executives at the head office of these 13 companies were contacted to get permission for the self-administered questionnaire survey. The questionnaires and self-addressed envelopes were distributed to respondents working in the front-and-back office in an equal amount of 30 sets to cover retail employees in all functions in each sampling unit.

The research instrument is developed in Thai language and composed of 3 sections concerning with demographic information of respondents and two sections containing items measuring employee job satisfaction based on the work of Smith, Kendall and Hulin (1996) and Kannasoot (1999) and items measuring employee organizational citizenship behavior based on the works of Podsakoff and MacKenzie (1994) and Kannasoot (1999). A pretest of the survey was undertaken with 30 salespersons at the several shopping malls who possess the same required criteria of sampling selection. The actual survey was conducted during Feb. 2009 – March 2009. Of the total of 390 questionnaires distributed, about 372 completed and usable questionnaires were returned which is about 98% response rate. The data were analyzed using SPSS version 17.0

IV. Findings and Discussion

Based on the analysis, it is found that most of the sample respondents (i.e., 60.8%) are female. Many of them (i.e., 46.5%) are within the age group of 26 – 30 years old. About 44.1% have high school or equivalent education and about 36.3% have attained a bachelor's degree. The majority of them (i.e., 61.6%) have about 1-5 years of work experiences.

Retail Employees' Job Satisfaction and Organizational Citizenship Behavior

Table 2 suggests that retail overall employee's job satisfaction level is high. Of all the job satisfaction facets, the sample employees are found to be satisfied with the following aspects: coworkers at their workplace, i.e., 4.33; the nature of the work, i.e., 4.22; supervision, i.e., 4.12; promotional opportunities, 3.84; feeling close together, i.e., 3.87. This suggests that retail employees are likely to engage in discretionary gestures or helping contributions, beyond what are required by their job descriptions, towards other people, a group or an organization. This result is similar to what Pornpongsuriya (2001) has found based on samples of 380 Thai nurses in 15 hospitals reporting a high tendency of OCB displayed in this sector.

With respect to OCB level, Table 2 also suggests that apparently retail employees' OCBs level is quite high with the average score at 4.04. When considering the details of each OCBs' dimensions, retail employees' helping behavior shows considerably high mean scores at 4.07. Civic virtue is also reported high at the mean of 4.06. Employee's sportsmanship is high with the mean score at 3.97.

When asked whether and to what extent employee job satisfaction has a relationship with OCB, using the regression analysis, it is found that overall job satisfaction, based on the composite of five job's components, has a moderately direct relationship with OCB ($r = 0.494$) with the 0.01 significance level. When considering individual construct of job satisfaction predictors; work itself, pay, promotional opportunities, supervision and coworkers correlate positively with OCB (p -value < 0.01) ranging from the low to moderate level ($r = 0.458, 0.296, 0.411, 0.297$ and 0.383 respectively). Each of five job satisfaction variables shows a significant relationship to OCB so when retail employees perceive positively about each of all job aspects; they will be more likely to perform citizenship actions towards other people or an organization. This finding is consistent with those found in similar studies (Bateman and Organ, 1983; Smith et al., 1983; Organ, 1988; Murphy, Athanasou and King, 2002; and Bolon, 1997 and Pornpongsuriya, 2001). Thus, the current finding supports that a composite of job satisfactions and overall OCB are positively and significantly related .

Noticeably, when looking at the findings of Pornpongsuriya's and this study's findings, what has found similar is that the correlation magnitude of satisfaction with work itself is ranked the strongest among other predictor variables for the both studies, while that of pay shows the weakest correlation as the same for both studies, and indeed both studies are conducted in Thai context. This seems to suggest that if an organization wishes to promote OCB among employees, one may primarily enhance their satisfaction with the work by, for instance, providing a clear job description or scope of their accountability, providing opportunities for employees to learn new skills, making them feel comfortable to handle with their tasks and so on. However, satisfaction with pay aspect (at the least strong) should never be overlooked or paid less attention since it is a delicate and important issue to an organization and employee side.

In sum, the job satisfaction-OCB relationship in Thai retail industry has revealed the consistent finding with the past empirical studies. So, it reconfirms that job satisfaction has a significant and direct connection with citizenship behavior.

Factors Determining OCB in the retail industry

Based on the multiple regression procedures; there is a significant linear-relationship between the five job satisfaction predictor variables and OCB, taken together into the overall model. Approximately 26% of the variance of the retail employee's OCB can be accounted for by job satisfaction with work itself, pay, promotional opportunities, supervision and coworkers with the 0.05 significance level (Table 3). The three significant predictors of work itself, promotional opportunities and coworkers jointly contribute in predicting OCB among retail employees in Thailand. Their standardized regression coefficients (Beta) show at 0.28, 0.17 and 0.18 for satisfaction with work itself, promotional opportunities and coworkers respectively. It appears that the change in satisfaction with the work aspect has the strongest impacts on retail employee's OCB among the other two. It is in fact interesting to find that this model explain the OCB level of retail employees more than what has been found by Bolon (1997) and Pornongsuriya, (2001) where respectively about 10% and 13.5% of the variation are accounted for job satisfaction. In nursing organizations, only satisfaction with work itself is an important contribution for OCB prediction, whereas it is found in this study of retail employees, satisfaction with work itself, promotional opportunities and coworkers can jointly contribute to employee's OCB prediction. The findings of this study also supports Herzberg's Two Factor Theory which asserts that job satisfaction and job dissatisfaction are caused by two different groups of factors, namely, motivation and hygiene factors. Herzberg, Mausner and Snyderman (1959) assert that when motivation factors as intrinsic factors are being fulfilled; they will bring about true satisfaction to a person. Whereas the hygiene factors act fundamentally to prevent job dissatisfaction or unhappiness from arising at work. So, if these factors fail to be responded, worker's unhappiness and dissatisfaction will definitely emerge. In addition, as previously having mentioned about boundary spanner characteristics in the retailing, multi-roles in carrying variously retailing tasks and dealing with both internal and external boundaries are inherently needed in retailing employees' attributes; being social, spontaneous, flexible, cooperative, or friendly at workplace (Hassan and Yacub, 2009). Retail employees may view the coworker aspect very important in their employment and appreciate those people who have high level of these attributes.

As the results of the multiple regression analyses show that about 26.2% of the variance of the retail employee's OCB (adjusted $R^2 = 0.262$) can be accounted for by job satisfaction with work itself, pay, promotional opportunities, supervision and coworkers with the 0.05 significance level, there are other variables or factors influencing OCB which needs further investigation.

V. Conclusion and Recommendations

This research study examines job satisfaction-and-OCB relationship among employees in the modern retail industry in Thailand based on the collected samples of 372 subjects from 13 retailing firms. Questionnaire in Thai version was verified for its construct validity. The Cronbach's alpha coefficients are overall about 0.89.

The multiple regression analysis suggests that five facets of job satisfaction taken together can explain about 26.2% of the variation in citizenship behaviors demonstrated by retail employees in Thailand at 0.05 significance level. Three significant predictors (satisfaction with work itself, promotional opportunities and coworkers) are found to influence on the OCB variable over and above that of others.

Managerial Implications

Retail employees reflect their job satisfaction level in the highly positive consequences in all of five job aspects although slightly lower on the pay and promotional opportunities aspects. Thus, retailing firms perhaps can further develop and emphasize on the "career path" scheme within an organization so that employees will be well aware of

their progression throughout their working life and be able to envision where to aim to in their profession. Moreover, this application could also effectively relate to other HRM practices, e.g., individual training & development plan or succession plan, etc.

Regarding the pay aspect in retail business, based on fieldwork discussion with some HR executives, certain retailing firms have linked between performance management (or appraisal) and pay just for several years. However, in practice, the subtle issue is that if employees perceive unfavorable to their pay which is indeed related on the unclearly rated performance by their line manager, they would want to react their negative feelings in certain actions but would not risk their employment and one possible reaction is that they will withhold all sorts of discretionary gestures contributing to their supervisors or an organization since these extra-role performance is not connected to any organizational punishment or rewards system. Avoiding confrontation of the performance reviewing meeting does not contribute any good to both sides. However, as Thai culture prefers a smooth social interaction avoiding confrontation/conflict, line manager should clearly establish the performance standards agreed by all concerned at the beginning so that people know what they have to do or learn to improve their ratings. This is the purpose of developmental aspect of the performance review and also reduces misunderstanding and negative sentiments among employees.

Yet, the OCB concept is very new to Thai context and it has not yet been strategically linked to HRM practices in organizations. It would be useful to investigate a wide range of employee behavioral forms contributing to organizational effectiveness, not only just the traditional or specific role requirements, but also a desirable set of work behaviors beyond formal job description which act as a catalyst for task activities and process. 1988). With the OCB related- HR practices, it would help bolstering citizenship performance of employees in organizations.

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For a full list of references, please contact the author(s).

Appendix

TABLE 1: SAMPLE RESPONDENTS PROFILES

Respondent's profile	Frequency (persons) (n= 372)	Percentage
Age		
Less than 25 years	97	26.1
26 - 30 years	173	46.5
31 - 35 years	59	15.9
36 - 40 years	17	4.6
Over 40 years	26	7.0
Gender		
Female	226	60.8
Male	146	39.2
Educational level		
High school or equivalent	164	44.1
Diploma	65	17.5
Bachelor	135	36.3
Higher than Bachelor	8	2.2
Work Experience		
1 - 5 years	229	61.6
6 - 10 years	93	25.0
11 - 15 years	27	7.3
16 - 20 years	16	4.3
Over 20 years	7	1.9

TABLE 2 : AVERAGE SCORE AND STANDARD DEVIATION OF EACH FACET OF JOB SATISFACTION AND OCB LEVEL

Variables	\bar{X}	S.D
Satisfaction with		
Work itself	4.22	0.65
Pay	3.84	0.94
Promotional Opportunities	3.87	0.88
Supervision	4.12	0.85
Coworker	4.33	0.73
Overall Job Satisfaction (composition of five facets)	4.11	0.59
Overall Job Satisfaction	4.30	0.79
OCBs dimensions		
Helping behaviors	4.07	0.56
Civic virtue	4.06	0.58
Sportsmanship	3.97	0.67
Overall OCBs	4.04	0.52

TABLE 3: MULTIPLE REGRESSION ANALYSIS OF JOB SATISFACTION AND ITS FACETS OF OCB

Predictor Variables	b	S.E. _b	Beta	t-statistics	p-value
Job satisfaction with work itself	.223	.045	.280	4.929	.000
Job satisfaction with pay	.024	.029	.043	.806	.421
Job satisfaction with promotional opportunities	.098	.039	.166	2.487	.013
Job satisfaction with supervision	-.012	.036	-.020	-.336	.737
Job satisfaction with coworkers	.129	.038	.181	3.370	.001
Constant	2.125	.177		12.033	.000
R = 0.521 F _(5,366) = 27.341 S.E. _{est} = 0.44607 R ² = 0.272 Adjusted R ² = 0.262 p-value = 0.000					

Dependent variable: OCB level; P < 0.05

Sound Labour Relations at Enterprise Level in Thailand

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Abstract.

The objective of this research was to study the pattern of sound labour relations in Thailand in order to reduce conflicts between employers and workers and create cooperation. The research was based on a qualitative approach, using in-depth interview with 10 stakeholder groups of Thai industrial relations system. They were employees of non unionized companies at the shop floor level, employees of non unionized companies at the supervisor level, trade union leaders at the company level, trade union leaders at the national level, employers of non-unionized companies, employers' organization leaders, human resource managers, members of tripartite bodies, government officials and labour academics.

The findings were presented in a model identifying 5 characteristics that enhance sound relations in Thailand, i.e. recognition between employer and workers, good communication, trust, data revealing and workers' participation. It was suggested that all parties, employers, workers and the government should take part in the promotion of sound labour relations. The employer have to acknowledge labour union with a positive attitude, have good communication with workers, create trust with workers, disclose information, create culture of mutual benefits as well as accept sincerely the system that include workers' participation. Workers need a strong labour union, good and sincere representatives for clear communication, trust, mutual benefits and seek conflict solutions with employer by win-win strategy. The government has a supporting role in adjusting the existing laws in the appropriate way, by creating policy for sound labour relations, and putting the idea of sound labour relations into practice.

Keywords : Conflict, Negotiation, Sound Labour Relations.

Introduction

Labour relations is the relationship between employers and employees in the enterprise, which affects business management, working conditions and life of employees as well as economics social and political stability of the country. It concerned also with employers' and employees' organizations such as labour union and employers' association. The government also has its' role to create social order and to support good relationship between the two parties for industrial peace and stability.

In common circumstance, employees are in a disadvantageous position vis-a-vis employers, in that they have to accept working condition and wages determined by employers. In early stage, employees were working under bad working condition and unsecured employment which gave them the pressure to organize their organization to increase their bargaining power. In many countries, employees or workers are recognized to have the right to organize labour union or trade union to act as collective bargaining agent with their employers. They also have the right to strike if the negotiation fails to reach the agreement.

Under the Labour Relation Act B.E. 2518, employees in Thailand have the right to organize labour union in the same enterprise or in the same industry. Up to 2008, there were 1,229 unions organized in private industries, many of them exercise their power in collective bargaining process as well as strikes and lock-out were always occurred from time to time in the last 34 years. For example, in the year 2008, there were 122 conflicts in 99 enterprises with 51,843 employees involved. These conflicts ended with 10 strikes and 8 cases were brought to labour court.

Labour disputes with strikes and lock-out have negative effects to all sides. Employers lost their sales volume, customers and market share, expenses of fixed cost legal action and public image. Employees lost their income and welfare. The trade union lost their membership fee and have to spend for the strike expenses. Moreover, the society and the country also lost income from production, export as well as investor's confidence. Many countries have tried to introduce appropriate labour relations system in order to create industrial peace in their own

countries, such as co-determination system in Germany, consultation in Japan, work council in Australia, collective bargaining with mutual benefits in U.S.A, Joint consultation in Singapore. For this reason, it is interesting to look for the model of sound labour relations system which is appropriate for Thailand as the main purpose of this study.

Objectives of the Study

This research aimed to study the understanding of stakeholder on the concept of sound labour relations, to investigate the similarities or differences of stakeholders' perceptions of sound labour relations, to identify practical problems and difficulties encountered in establishing sound labour relations from and to reveal best practice on sound labour relations as expressed by stakeholders. Its scope is labour relations practice at the enterprises level in private industries under Labour Relations Act B.E.2518(1975)

Concept of Sound Labour Relations

The concept of labour relations started by the idea of Karl Marx, that workers were disadvantaged compare to employer then he suggested workers to have collective action against employer (Hyman,1975). However, Dunlop showed the workers organizing as trade unions could have their roles in collective bargaining with employers under the rule of the law (Dunlop,1958) . Clegg also confirmed that in pluralism economy, collective bargaining could be done among interest groups. (Clegg,1970) By this concept, labour unions were recognized and play their roles in collective bargaining. Webbs pointed out that collective bargaining would guarantee job security and wage increases for worker but Marshall (1920) warned that, with the introducing more unskilled workers in the employment, these workers had to organize their union to strengthen their bargaining power and strike would be used for negotiation. Mulvey (1987) suggested that if the union had the capacity to organize strike, it would create negative economic benefit to employer , at the same time, it was a cost to union too. However, with the capacity to strike, the union might make a strike threat effectively. Jackson (1988) explained that causes to strike may come from economic, institutional , social and political factors. To avoid strike, Harbison and Coleman stressed that both employer and union needed working harmony and labour-management cooperation. Mill (1994) pointed out that good labour relations comprised recognition and equal relations between employers and workers. De Silva (1996) suggested that workers and employers had to negotiate with the recognition of each other and bargain in good faith, make a compromise for solution with effective communication without misunderstanding. Morishima (1991) explained sound labour relations in Japan by the system of joint consultation and information sharing between workers and managers. Inoue (1991) added that sound labour relations need good communication of workers and employers, and the union should participate in the process of decision making of the organization. . De Silva (1998) added that factors of sound labour relations were worker participation, employee involvement and good communication.

In Thailand, even though many workers' organizations took place since the end of second world war, the concept of labour relations was formally introduced by Labour Law B.E.2500, in the part of labour relations which allowed worker to organize trade union under the same employer or the same industry. However, that law was abolished in the next year due to the investment promotion policy of the government. When the Labour Relations Law was enacted again in B.E. 2518, Thai workers enjoyed their right to organize trade union and make collective bargaining with the result of many strikes and lock-outs in the last 35 years. Many Thai academics tried to do many researches to provide suggestions for peaceful labour relations in the country such as Suttawet (1996) proposed the reformation of the Thai industrial relations to international standard and in a creative way. He suggested that Thai labour relations should be based on consultation and negotiation within the Thai cultural context. In his another research, (Suttawet ,2002) he suggested the creative labour relations that employer has to recognize the trade union, create good communization and introduce mutual decision and participation. Piriya-rangsant (1997), gave the idea to develop labour relations at enterprise level by giving enough information, data for consultation and create cooperation as well as reasonable negotiation to each other. He emphasized that the senior managers had to have

open communication to employees with sincerity. With these concepts, this research tried to find out factors leading to sound labour relations at enterprise level in Thailand.

Methodology

The qualitative research was used in this study, with a descriptive approach. Research questions were posed to seek the understanding of the stakeholders' perspectives on sound labour relations, under the framework of a grounded theory. When the data were collected, it would be coded through open coding to represent an utterance or piece of meaning. After that, the researcher would form initial categories of information about the phenomenon being studied. Within each category, there were grouped by similar constructs, opposing constructs, negative or positive dimensions of construct, all depending how the information emerges. Axial coding was used to identify central phenomenon, explore causal conditions, specify strategies, identify the context and intervening conditions and delineate the consequences. In selective coding, the researcher identified a story line and wrote a story that integrates the categories in the axial coding model. (Strauss&Corbin,1990).

In-depth interviews were used to get data from key informants. The procedure started by identifying key informants of stakeholders in each group, making approaches and conducting the interview and recording the interview. When the data completed, the researcher started to analysis and wrote a report. (Creswell,1998)

The stakeholders of Thai industrial relations system were categorized into 10 groups. They were employees of non unionized companies at the shop floor level, employees of non unionized companies at the supervisor level, trade union leaders at the company level, trade union leaders at the national level, employers of non-unionized companies, employers' organization leaders, human resource managers, member of tripartite bodies, government officials and labour Academics. As to the suggestion of Creswell (1998), in-depth interview should be done through 20-30 key informants until the data completed. In this study, there were 3 key informants in each group, made 30 key informants all together. The names of those key informants were suggested by senior experts in the field of labour relations from Department of Labour Protection and Welfare, Ministry of Labour, and experts in academic field. Consultations were also made with some member of expert panel who are able to recommend appropriate interviewees from each stakeholder group.

The guideline questions for in-depth interview were concerned with opinions about the characteristic of sound labour relations, benefits to stake holders, problems or obstacles that may occur, how to overcome those problems and obstacles, and the best practice of sound labour relations?

The interview were made during March-May 2009 and data analysis was done during June –December 2009. The researcher also used audit trail for the relevant data as well as triangulation method to ensure the consistency of information.

The researcher concluded the final transcription in 5 themes., which were the meaning of sound labour relations by the understanding of stakeholders, the benefit of sound labour relations to stakeholders, the problems and difficulties encountered from practicing sound labour relations, the way to overcome those problems and obstacles and the best practice on sound labour relations as expressed by stakeholders

The result of the study

The result of the study showed that all 10 groups of stakeholders agreed on the meaning of sound labour relations that the labour relations where employers and employees have recognition to each other, mutual trust, cooperation, data revealing, compromise on conflict, fair benefit distribution and look for mutual benefits.

The benefits of sound labour relations would occur to all people concerned. The employees will have good working condition, career path, fairness at work and high standard of living. The employer would have uninterrupted production, get good quality product, high profit and productivity. The unions recognized the problem of employer, get mutual benefit, have steady growth, get support from employer. The society got peace, kept good recognition for investment of the country.

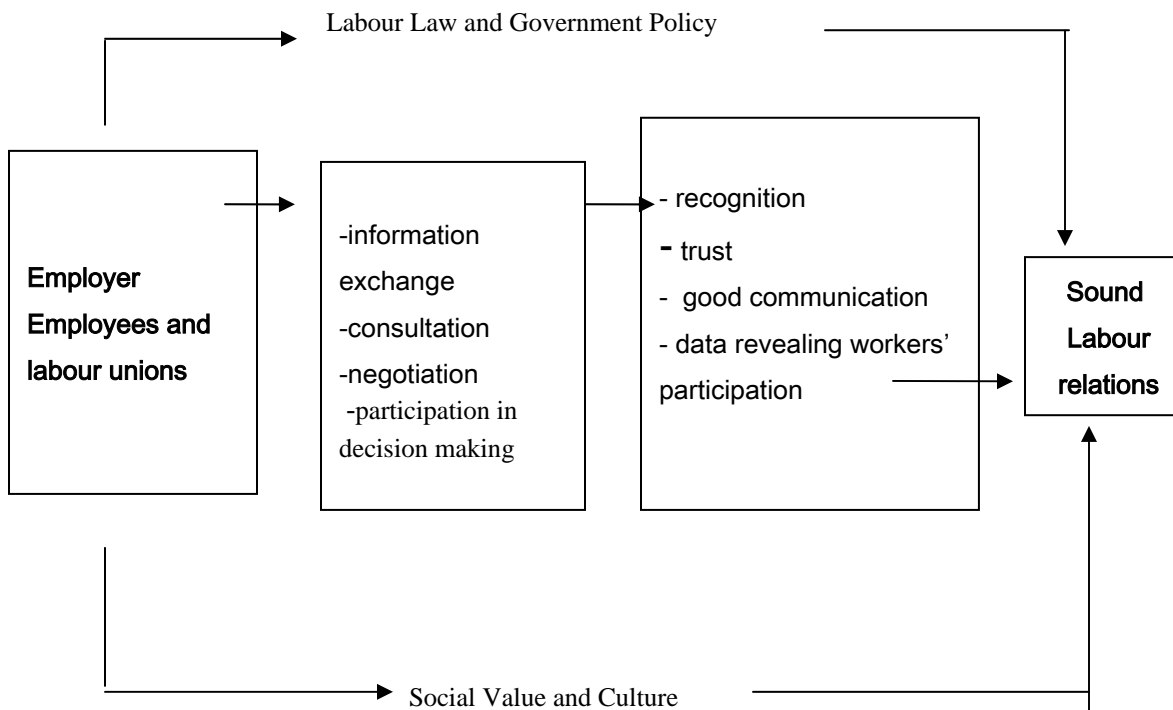
The problems and difficulties encountered from practicing sound labour

relations as expressed by stakeholders were lacking of sincerity, no union recognition, conflict of interest, employers' selfishness, no commitment, no loyalty of employees, no working participation, negative attitude and interfere from outside.

The way to overcome such problems and difficulties should start from the employer side by recognizing the workers and their organization, having positive attitude toward trade union, organizing regular conversation and meeting both formal and informal, keeping good communication, giving data revealing especially on business outcome, accepting negotiation process and introducing workers' participation to the enterprise. Employees, in addition need the strong union and capable representatives for communication with employer. Moreover, the union also has its role to accept the employer' rights in management, make negotiation on reasonable basis and keep the spirit of mutual benefit.

The best practice of sound relations has occurred when both employers and employees have recognition to each other, as well as positive attitude, compromising, good communication, data revealing, trust making and create culture of mutual benefits as well as accept workers involvement at all level. The government also has the role to adjust the labour relations law in the proper way, create policy for sound labour relations, and putting the idea of sound labour relations into practice.

As a result of the study, the researcher created a model identifying 5 characteristics that enhance sound relations in Thailand. They are recognition between employer and workers, good communication, trust, data revealing and workers' participation. The model can be presented as follows.



The result of the study, especially factor of recognition is consistent with the suggestion of Harbison and Coleman (1951) that both employer and union need working harmony and labour-management cooperation, an the

idea of Mill (1994), that good labour relations comprised recognition and equal relations between employer and workers. Factor of good communication was also suggested by De Silva (1996) that workers and employers had to make an effective communication without misunderstanding. Factor of data revealing is similar to the suggestion of Morishima (1991) on information sharing between workers and managers but the result showed that both sides need trust between them too. Factor of worker's participation was suggested by Inoue (1991) on union's participation in the process of decision making of the organization, De Silva (1998) also stressed on the factors of sound labour relations of worker participation and employee involvement.

The result of the study also go along with the researches of Chokechai Suttawet , (2002) that employer has to recognize the trade union, create good communication and introduce mutual decision and workers' participation and Sangsit Piriyaangsant (1997) that employers need to give enough information for consultation, open communication and create cooperation. .

Conclusion.

In conclusion, sound labour relations in Thailand can be created by the cooperation among employer, workers, trade unions and the government. For such a purpose, the 5 characteristics that enhance sound labour relations at the workplace level include recognition between employer and workers, good communication, trust, data revealing and workers' participation, should be enhanced. Having been created, sound labour relations will give benefit to all parties concerned even the government. However, it should be done under the proper legislation, appropriate culture and with the strong support of the government.

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Real Option Value Effects Of Cross-Border Acquisitions By U.S. Multinational Enterprises

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Abstract

This study identifies two real option motivations for foreign direct investment (FDI): Market-related growth options and flexibility options. This study further posits that the real option benefits are better realized by service multinational enterprises (MNEs), which are operationally less encumbered by hysteresis than manufacturing MNEs, and that flexibility option benefits are scant among soft service MNEs but better utilized by hard service MNEs than manufacturers. Our sample of 235 cross-border acquisitions announced by U.S. MNEs during 1999 and 2000 support the predictions. Flexibility options have a positive effect on shareholder value especially for the hard service acquirers, which are less subject to the muting effects of hysteresis. Market-related growth options seem to increase shareholder wealth for manufacturing and soft-service MNEs but the value impacts disappear in the total sample regression, probably because the 'liability of foreignness' offsets the growth option benefits.

KEYWORDS: Foreign direct investment (FDI), multinational enterprise (MNE), real option, growth or platform, flexibility or switching option, hysteresis

Introduction

The theory of internationalization holds that firms expand operations internationally to exploit labor, factor, product and financial market imperfections or to internalize markets for proprietary assets (e.g., Buckley and Casson 1976; Dunning 1973, 1980; Lee 2010). This thread of study suggests that expanding internationally has a positive impact on firm performance and value, particularly when the firm has a portfolio of proprietary assets.

Agency theory posits that the motivation for Foreign Direct Investment (FDI) is driven by management self interest, even at the expense of shareholder value. For example, Jensen (1986) contends that managers are motivated to develop large, complex international organizations because in doing so power and prestige are given to them. Management also can benefit from multinational organization by reducing its personal portfolio exposure through asset diversification. Management can reduce the volatility and risk of the firm's stock price by diversifying cash flows across business segments and/or markets (Amihud and Lev 1981; Kim 2004).

Real options theory posits that multinational enterprises (MNEs) can increase shareholder value in exploration and flexibility opportunities (Amram and Kulatilaka 1999; Brabazon 1999). In particular, growth options capture the uncertainty of platform investments, which can serve as distribution platforms from which subsequent products can be introduced into the new market, knowledge platforms through which the MNE can acquire product, technology or market-specific information and knowledge, or market development platforms from which the MNE can expand across product lines in developing country presence, brand equity and political leverage. Flexibility option hypothesis posits that a MNE with a strategic network of global operations will achieve excess profits as the firm shifts production from country to country in the face of labor, factor and financial market interruptions and significant systematic changes in currency exchange rates or tax rates.

The literature regarding the value effects of real options in cross-border investments is narrow in scope and fragmented, calling for more comprehensive work. This study contributes to the literature by developing a framework for evaluating the potential platform growth and switching flexibility benefits for U.S. MNEs and comparing the value effects among manufacturing, hard service and soft service MNEs. We posit that the real option benefits are better realized by service MNEs, which are less operationally encumbered by hysteresis than manufacturers, and that flexibility option benefits are scant among soft service MNEs but better utilized by hard service MNEs than manufacturers.

For 235 cross-border acquisitions announced by U.S. MNEs during 1999 and 2000, we found that the regression results are consistent with the predictions. Flexibility options have a positive effect on shareholder value especially for the hard service acquirers, which are less subject to the muting effects of hysteresis. Market-related growth options seem to increase shareholder wealth for manufacturing and soft-service MNEs but the value impacts disappear in the total sample regression, probably because the 'liability of foreignness' offsets the real option benefits.

In the next section, the theories of internationalization, real options, multinational network and hysteresis are reviewed, and testable hypotheses are developed. Data and research methods are presented in the third section. The test results are presented in section four, and section five concludes this study.

Theories and Hypotheses

Real Options Theory

Myers (1977) noted that the principles of Black and Scholes' (1973) financial option pricing theory could be applied to non-financial or real assets, and the term "real options" was originated. Certain business decisions are similar to a financial call option, which gives the option holder the right to buy the asset at a certain price within a time period. For example, if the company begins an uncertain research and development (R&D) project, the firm has in effect purchased an option. At different stages in the future development of the project, the firm's managers will be able to respond to incremental results of the project. They will have the option to continue, abandon, scale up or scale down the project. The value of these options is not included in typical capital budgeting decision processes.

Options value in FDIs takes on two major forms, among others (Amram and Kulatilaka 1999; Brabazon 1999). First, growth options often take the form of platform options when an investment can be increased if favorable information or conditions occur (Kogut and Kulatilaka 1994b). The growth option is particularly valuable for proprietary asset firms like hotel and restaurant chains and pharmaceutical manufacturers with protected products and processes.

Secondly, switching or flexibility options exist when an MNE can switch production from one geographic location to another in responding to foreign exchange rate changes, labor price changes or disruptions, material price changes or disruptions, changes in government regulations, or financial market changes (Kogut and Kulatilaka 1994a; Trigeorgis 1998).

Multinational Network: Value and Cost

Kogut and Kulatilaka (1994a) argued that the across-country growth option has value because it provides operating flexibility to management. The value is in the network through which management can coordinate flexibly multinational activities and can respond profitably to the realization of unexpected events. Kogut (1985) argued that multinational networks can effectively serve to match buyers and sellers in product markets. Secondly, MNEs are able to disseminate process and product technology from one location to another. Thirdly, government regulations often create financial incentives for corporations to produce in and export from their home countries. The MNE is positioned to consolidate export activities in the host country that provides the greatest export incentives. Similarly, host governments provide tax relief and loan guarantees which the MNE can arbitrage within its network through transfer pricing, remittance policy and parallel loans (Kogut 1985). Because of this financial flexibility, the MNE is able to transfer low-cost loans that are intended for local markets throughout the world. The fourth benefit is the physical shifting of production in response to price differentials. The multinational network allows MNEs to shift production in response to exogenous shocks like exchange rate changes, natural disasters, labor strikes and government actions (Belderbos and Zou 2007). It also allows the MNE to manage factor and labor prices in the short term through bargaining power (Kogut 1983). Kogut (1985) contended that the MNE network also creates leverage with regard to managing political risk because of dispersed international operations and global economic power.

Kogut (1983) viewed the initial costs of establishing a multinational network as sunk costs. The relevant sequential costs include the direct costs associated with maintaining excess capacity, the indirect costs incurred with

loss of economies of scale, and the direct and indirect costs attributed to network management, coordination, and information asymmetry within the MNE. In certain industries, the loss in economies of scale or the cost of maintaining excess capacity might be sufficiently high to offset the benefits of operating flexibly through the multinational network. Kogut and Kulatilaka (1994a) also identified switching costs as a deterrent to production flexibility.

Manufacturing vs. Service MNEs

Zeithaml, Parasuraman and Berry (1985) summarized the extensive literature that establishes differentiation between service and manufactured products on the basis of four, unique macro-product characteristics: Perishability, intangibility, inseparability, and heterogeneity (Table 1). Along these characteristic dimensions, a number of researchers have developed classification schemes to categorize manufactured and service goods when considering international market entry (Boddewyn, Halbrich and Perry 1986; Contractor, Kundu and Hsu 2003; Erramilli 1991; Javalgi, Griffith and White 2003).

TABLE 1. PRODUCT CHARACTERISTICS BY PROVIDER TYPE

	Manufacturer	Hard Service	Soft Service
Perishable	No	No	Yes
Intangible	No	Yes	Yes
Inseparable	No	No	Yes
Heterogeneous	No	No	Yes
Growth option	Yes	Yes	Yes
Flexibility option	Yes	Yes	No

Erramilli (1991) segregated internationally traded services into two groups: Hard and soft services. A *hard service* has a manufactured component and a service component. It is separable in terms of production and consumption. That is, the service can be manufactured in a location separate from the consumers and thus can be exported across geographical boundaries. Hard services are similar to manufactured products with the exception that hard services are intangible products. Examples include musical CDs, life insurance, and software. The hard service provider can internationalize through export, licensing, franchising or FDI. Similar to a manufacturing MNE, the sources for the hard service provider's motivation for internationalization may be expanding into new markets, shifting production in low-cost locations, following domestic customers into foreign markets, or developing geographically dispersed operating nodes to facilitate an internationally coordinated strategy.

Both growth and switching options are available to many hard service providers. The hard service MNE can realize platform growth option value by entering a new market with sales of a proprietary service. Also, the hard service provider can develop strategically located production facilities around the globe, creating a multinational production network with switching option value. As long as there is volatility and uncertainty with regard to factor and labor prices, exchange rates, government regulations and taxes, the multinational production network has switching option value.

By comparison, *soft services* are not separable (e.g., lodging and food services, and project management). Production and consumption are spontaneous. The consumer must be in close proximity of the service provider for consumption (Erramilli and Rao 1990). The soft service provider can internationalize through FDI, IJV, licensing and franchise, but not through export. Soft service providers are relatively limited in their ability to obtain real options through international expansion because production and consumption are concurrent. The soft service MNE's real option potential is limited to acquiring platform (growth) options through exploiting new markets with Hymer (1960)-like assets. For this investment to have growth option value there must be an advantage for early investment (Kogut and Kulatilaka 1994b).

Even though a soft service MNE may have a physical presence in numerous countries, it does not have a multinational network that allows it to operate flexibly in the face of uncertainty. It merely has enjoyed growth through expansion into new geographical markets; this does not provide it with a multinational network advantage or sustainable flexibility option value (Kogut 1983).

Market-Related Growth Option

Many cross-border acquisitions by MNEs are motivated by the geographical market in which the target firm is located or has operations. The MNE is potentially acquiring both growth and flexibility options with an investment into a foreign market in which it has no presence. Through cross-border acquisitions, the MNE is able to acquire a growth platform from which the MNE can learn about the target country's markets, and can develop and distribute subsequent products. Flexibility options are also acquired in certain cross-border acquisitions. The dispersed global locations allow the MNE to arbitrage between country price differentials in labor, factor and financial markets. To the degree a cross-border acquisition adds to the growth platform or flexibility of the multinational network, the acquisition carries real option value.

H₁: When *market-related growth* options are acquired, shareholder wealth changes around the announcements of cross-border acquisitions will be greater for *service* MNEs than for *manufacturing* MNEs, *cet. par.*

Hysteresis

The primary value of operating flexibly depends on the MNE's ability and costs to switch production among locations within its network. Switching is often costly due to shut-down costs, start-up costs, labor and material contracting and managerial efforts. Hence, the firm must compare the present value of the switching costs to the present value benefits, and may determine that the costs outweigh the benefits and therefore decide not to switch production. This inaction is called a condition of *hysteresis*. Dixit (1989) defines hysteresis as "the failure of an effect to reverse itself as its underlying cause is reversed. For example, the foreign firms that entered the U.S. market when the dollar appreciated did not exit when the dollar fell back to its original levels" (p.622). Dixit (1989) contended that if there were no sunk costs, there would be no hysteresis. Conversely, the greater the investment (i.e., sunk cost) in an operation or location, the greater the hysteresis or wider the band of inaction is. When tangible and intangible assets are not used, some assets "disintegrate quite rapidly and must be rebuilt should it decide to reenter" (Dixit 1989: p.621). The business loses its going concern value and market position when it mothballs its operations.

MNEs will be reluctant to switch operations if factor prices or exchange rates revert quickly (Kogut and Kulatilaka 1994a; Christophe 1997). Similarly, the greater the switching costs, the less likely the firm will switch production locations. Switching costs include the costs of mothballing current operations, startup costs at new locations, higher inventory and working capital costs, and the loss of economies of scale. If switching costs are excessively high, the MNE will not operate flexibly by switching production among geographic locations, and there will be no switching option value to its multinational network (Baldwin 1988; Belderbos and Zou 2009).

Flexibility Option

Not all MNEs are able to exploit the flexibility option equally. For some MNEs, the ability to switch operations between countries is limited by labor supply or utility contracts. For other MNEs, the ability to shift may be inhibited by the start-up and shut-down costs of the operation. The width of the hysteresis band is determined by sunk costs, switching costs and cost advantage duration (Kogut and Kulatilaka 1994a).

For manufacturing firms, switching costs include the direct costs of mothballing the physical operations in the current location plus start up costs for operations in the next location (Dixit 1989). The indirect costs include depreciation of the physical assets and loss of going concern benefits (e.g., distribution system, trained labor, and brand recognition). When a firm switches production from one location to another, it must also determine the direct and indirect costs of switching back to the current location weighted by the probability that such occurrence would occur. The present value of these costs is compared to the estimated present value benefit of switching between locations. The benefit is determined by the cost advantage, the value of which is a function of duration. In sum, while the flexibility provided by a multinational production network appears to be advantageous to the

manufacturing MNE, utilization of the network is practically difficult because of sticky labor and material input markets, and high sunk and switching costs.

By contrast, service MNEs' assets are predominately intangible and can be easily moved from location to location. Service MNEs have limited physical assets, and they rely extensively upon relatively mobile labor as the input variable. Thus, the service MNE has a more fluid and responsive operating network than manufacturing MNEs. For the service provider, the relevant shutdown and startup costs are comparatively low, and the switch in production from one location to another is relatively quick. The corresponding benefit as measured by cost advantage duration can correspondingly be low for the service provider to realize net total benefit in switching operations. For these reasons, flexibility real option value in cross-border acquisitions tend to be greater for service MNEs.

H₂: When *flexibility* options are acquired, shareholder wealth changes around the announcements of cross-border acquisitions will be greater for *hard service* MNEs than for *manufacturing* MNEs, *cet. par.*

Data and Methodology

The base sample of the U.S. acquirers of foreign firms is generated from the Securities Data Corporation (SDC) Platinum database. SDC collects data from publicly available information sources, including SEC filings, news and wire sources, and trade publications. The acquisition data from 1999 and 2000 are chosen to generate a manageable, in-depth study sample. The initial SDC list of publicly traded U.S. corporate acquisitions of foreign firms during the sample period includes 743 transactions.

To clean the SDC data, private acquisition groups and private U.S. companies are eliminated. Also eliminated are the transactions for which press releases in Lexis-Nexis or acquirers' stock ticker symbols via EDGAR Online are absent. Third, the accuracy of acquisition announcement dates is verified. Anand and Khanna (2000) found that SDC data on the date of alliance events are often misstated. Also, to isolate the acquisition event's potential value effect, firms with concurrent major corporate events like stock repurchase, securities offerings and other acquisitions/alliance investments for three days prior to the announcement are excluded.

The final sample consists of 235 acquisition announcements made by 126 manufacturer MNEs (SIC codes 1000-3999) and 109 service MNEs (4000-8999). This primary classification of manufacturer MNEs includes basic manufacturer (n=34), electronics and instruments manufacturer (n=41), consumer products manufacturer (n=15), and computer and peripheral equipment manufacturers (n=27). The primary service MNE classification includes 70 hard service and 39 soft service firms. Hard service in this study includes banks, insurance, advertising agencies, engineering services, and computer programming. Soft service firms include transportation, communication, and security services.

Then, Lexis-Nexis announcements and SEC filings are examined to determine the exclusive option character of each acquisition. If the acquisition is motivated by the target's proprietary technology, product, brand, operations or distribution, the acquisition is characterized as having exclusive option benefits. Also, each transaction is examined to determine if the acquisition is in a new country or first time entry into a new industry or product category.

From the Center for Research in Security Prices (CRSP) database, stock returns for 250 trading days around announcement are obtained. Standard event study is employed to compute the abnormal returns with the estimation period of day -250 to -50, and the CRSP value-weighted index returns.

Variables and Research Methods

Growth and flexibility options are generally unobservable within the context of cross-border acquisitions. Therefore, a number of variables are used to measure the latent option effects. In this paper, two variables are introduced to measure the option effects: MARKET and NEWCURR. If an MNE acquires a target firm in the location where the acquirer already has an operating presence, the acquisition should add little growth or platform value to the multinational network (Doukas and Travlos 1988). New markets, therefore, have the potential to carry growth

and/or flexibility options. MARKET takes a value of one if the target firm is located in a country in which the MNE acquirer does not already have a presence and zero otherwise. NEWCURRE is a measure to capture the acquisition of a flexibility option and takes the value of 1 if the target country currency is different from U.S. dollar and 0 otherwise.

NETWORK measures the value effects of the acquirer MNE's existing multinational network. The variable is the log of 1 plus the number of foreign countries in which the acquirer has subsidiaries. Following JV studies by Hennart (1991) and Baek (1999), DEALSIZE is the acquisition price in \$US over the acquiring firm's total assets in the acquisition fiscal year. Following Markides and Ittner (1994) and Morck and Yeung (1992), we assign 1 to CASH when the acquisition is an all-cash transaction and zero otherwise. Like Markides and Ittner (1994), log of sales is used to control for firm size (SALES). Doukas and Travlos (1988) found that there is positive relationship between acquisition in an undeveloped country and shareholder wealth effects. ECONDEV denotes the host country's level of economic development and is measured as the target country's per capita GDP divided by the U.S. one for the calendar year prior to the acquisition. HARDSERV and SOFTSERV indicate that a firm belongs to hard and soft service industries, respectively. Table 2 shows the correlation among the variables. The coefficients do not show signs of severe collinearity for this sample.

TABLE 2. CORRELATION MATRIX

	AR_i	Market	New Curr	Net work	Deal size	Cash	Sales	Econ Dev	Hard Serv	Soft Serv
AR_i	1.000	0.079	0.089	-0.006	0.176	-0.076	-0.108	0.037	0.016	0.051
Market	0.079	1.000	0.235	-0.132	-0.104	0.066	0.119	-0.039	-0.009	0.116
NewCurr	0.089	0.235	1.000	-0.422	0.040	-0.107	-0.191	-0.107	0.015	-0.048
Network	-0.006	-0.132	-0.422	1.000	-0.263	0.203	0.581	-0.053	-0.035	-0.130
Dealsize	0.176	-0.104	0.040	-0.263	1.000	-0.284	-0.351	0.076	0.196	-0.115
Cash	-0.076	0.066	-0.107	0.203	-0.284	1.000	0.454	-0.067	-0.236	0.066
Sales	-0.108	0.119	-0.191	0.581	-0.351	0.454	1.000	-0.099	-0.261	0.044
EconDev	0.037	-0.039	-0.107	-0.053	0.076	-0.067	-0.099	1.000	0.100	-0.174
HardServ	0.016	-0.009	0.015	-0.035	0.196	-0.236	-0.261	0.100	1.000	-0.284
SoftServ	0.051	0.116	-0.048	-0.130	-0.115	0.066	0.044	-0.174	-0.284	1.000

AR_i = Announcement date abnormal return for the ith acquirer's common stock; MARKET_i = 1 if the ith acquisition is a first time investment in the host country by the acquiring firm, 0 if the acquirer already has an investment in host country; NEWCURRE_i = 1 if the ith acquisition is a first time investment in new currency, 0 otherwise; NETWORK_i = log (1 + number of foreign countries in which the ith acquirer has subsidiaries); DEALSIZE_i = Acquisition price in US\$ over the acquirer's total assets for the most recent fiscal year; CASH_i = 1 for cash payment of ith transaction, 0 otherwise (Stock and mixed payment); SALES_i = log of net sales of the ith acquirer; ECONDEV_i = (100* target country per capita GDP / U.S. per capita GDP for most recent calendar year of ith transaction); HARDSERV_i = 1 if the ith acquirer is a hard service MNE, 0 otherwise; SoftSERV_i = 1 if the ith acquirer is a soft service MNE, 0 otherwise.

To determine the variations in the ARs, the following cross sectional regression analysis is used for each of manufacturing, hard service and soft service subgroups:

$$AR = a_0 + b_1*MARKET + b_2*NEWCURR + b_3*NETWORK + b_4*DEALSIZE + b_5*CASH + b_6*SALES + b_7*ECONDEV + e$$

Another regression analysis for the total sample includes the industry dummy variables (HARDSERV and SOFTSERV) and their interaction variables with MARKET and NEWCURR.

TABLE 3. DESCRIPTIVE STATISTICS

	N	Min.	Median	Max.	Mean	Std Dev
AR _i	235	-0.258	0.001	0.479	0.013	0.070
MARKET	235	0	0	1	0.396	0.490
NEWCURR	235	0	0	1	0.374	0.485
NETWORK	230	0.69	2.079	5.148	2.234	1.049
DEALSIZE	214	0.000	0.055	6.709	0.240	0.635
CASH	225	0	1	1	0.547	0.499
SALES	227	-1.609	6.462	11.999	6.400	2.355
ECONDEV	235	1.296	65.683	116.210	63.073	20.388
HARDSERV	235	0	0	1	0.298	0.458
SOFTSERV	235	0	0	1	0.166	0.373

AR_i = Announcement date abnormal return for the ith acquirer's common stock; MARKET_i = 1 if the ith acquisition is a first time investment in the host country by the acquiring firm, 0 if the acquirer already has an investment in host country; NEWCURR_i = 1 if the ith acquisition is a first time investment in new currency, 0 otherwise; NETWORK_i = log (1 + number of foreign countries in which the ith acquirer has subsidiaries); DEALSIZE_i = Acquisition price in US\$ over the acquirer's total assets for the most recent fiscal year; CASH_i = 1 for cash payment of ith transaction, 0 otherwise (Stock and mixed payment); SALES_i = log of net sales of the ith acquirer; ECONDEV_i = (100* target country per capita GDP / U.S. per capita GDP for most recent calendar year of ith transaction); HARDSERV_i = 1 if the ith acquirer is a hard service MNE, 0 otherwise; SOFTSERV_i = 1 if the ith acquirer is a soft service MNE, 0 otherwise.

Empirical Results

Table 3 presents the descriptive statistics of the variables. 39.6 percent of the acquirers entered a new country (MARKET) and 37.4 percent made acquisitions in a country whose currency is not U.S. dollars (NEWCURR). 46 percent of the acquirers are service companies. The range of ARs on the announcement date was -25.8 to 47.9 percent with average ARs of 1.3%, 1.7% and 2.6% being significantly positive for whole, hard service and soft service groups, respectively. Both hard service and soft service firms show an average AR statistically higher than that of manufacturing MNEs (not shown in Tables). The range of sales for all acquirers varies from zero to \$162 billion, with an average of \$5.0 billion. The number of foreign country subsidiaries range from 1 to 171 with an average number of about 15, and about 55 percent of acquisitions were cash transactions. The transaction price ranges from \$300,000 to \$7.66 billion with an average of \$273 million.

Table 4 presents the results from the regression analyses. In the first regression for the sample of manufacturing MNEs, MARKET growth option variable is positive and statistically significant but NEWCURR is insignificant. Control variables including NETWORK have the predicted signs but statistically insignificant.

The second column shows the results of the regression for the hard service MNE sub-sample. The coefficient for MARKET growth option variable is insignificant but that of NEWCURR flexibility option variable is statistically and economically significant. Both NETWORK and DEALSIZE have significantly positive coefficients.

In the third column for the soft service sub-sample, MARKET growth option variable has a significant positive coefficient (.056**) as predicted, and supports H₁. NEWCURR variable has a significant negative sign. Given that soft service firms cannot utilize switching options, added risks in operating in a different foreign currency seem to be the reason for the negative wealth effect. NETWORK variable is insignificant for the soft service sample due to the limited value of such firms' multinational network. Other control variables are insignificant except that DEALSIZE has a positive effect on shareholder wealth changes.

In the last regression model for the total sample, indicator variables HARDSERV and SOFTSERV, and their interactions with MARKET growth option and NEWCURR flexibility option variables are added. MARKET or NEWCURR *per se* is not a significant variable, but the coefficients for NETWORK and DEALSIZE are significant positive as predicted. The coefficient (.073***) for HARDSERV times NEWCURR interaction variable is positive and significant, statistically and economically. It supports H₂ and indicates the multinational flexibility option is most valuable for hard service MNEs, which are less subject to the hysteresis.

TABLE 4. REGRESSION RESULTS
Dependent Variable = AR_{*t*}

	Manufacturing	Hard Service	Soft Service	Total
(Constant)	-0.0260 (0.022)	-0.121 (0.067)	0.032 (0.048)	-0.012 (0.022)
MARKET	0.019* (0.012)	-0.000 (0.020)	0.056** (0.025)	0.020 (0.013)
NEWCURR	-0.007 (0.014)	0.087*** (0.029)	-0.042** (0.020)	-0.004 (0.013)
NETWORK	0.009 (0.007)	0.033** (0.013)	0.004 (0.010)	0.012** (0.005)
DEALSIZE	0.035 (0.022)	0.025* (0.013)	0.101** (0.042)	0.020* (0.011)
CASH	0.008 (0.013)	-0.010 (0.021)	-0.004 (0.021)	-0.002 (0.009)
SALES	-0.004 (0.003)	-0.003 (0.006)	-0.002 (0.004)	-0.003 (0.002)
ECONDEV	0.000 (0.000)	0.001 (0.000)	-0.001 (0.000)	0.000 (0.000)
HARDSERV				-0.021 (0.016)
SOFTSERV				0.006 (0.012)
HARDSERV * MARKET				-0.029 (0.023)
SOFTSERV * MARKET				0.025 (0.025)
HARDSERV * NEWCURR				0.073*** (0.025)
SOFTSERV * NEWCURR				-0.013 (0.024)
N	109	58	36	208

F	1.288	2.464**	1.925	2.588***
R ²	0.078	0.256	0.325	0.148
Adj R ²	0.018	0.152	0.156	0.091

White heteroskedasticity-adjusted standard errors are in parenthesis. *, ** and *** denote statistical significance at 10%, 5% and 1% levels, respectively. AR_i = Announcement date abnormal return for the ith acquirer's common stock; MARKET_i = 1 if the ith acquisition is a first time investment in the host country by the acquiring firm, 0 if the acquirer already has an investment in host country; NEWCURR_i = 1 if the ith acquisition is a first time investment in new currency, 0 otherwise; NETWORK_i = log (1 + number of foreign countries in which the ith acquirer has subsidiaries); DEALSIZE_i = Acquisition price in US\$ over the acquirer's total assets for the most recent fiscal year; CASH_i = 1 for cash payment of ith transaction, 0 otherwise (Stock and mixed payment); SALES_i = log of net sales of the ith acquirer; ECONDEV_i = (100* target country per capita GDP / U.S. per capita GDP for most recent calendar year of ith transaction); HARDSERV_i = 1 if the ith acquirer is a hard service MNE, 0 otherwise; SOFTSERV_i = 1 if the ith acquirer is a soft service MNE, 0 otherwise.

Conclusions and Discussions

The purpose of this study is to investigate the shareholder value effects of growth and flexibility real options around cross-border acquisition announcements by 235 U.S. MNEs. The value effects of market-based growth option and currency-based flexibility option are operationalized by manufacturer/service differentiation. This study finds the significantly positive shareholder wealth changes around the foreign acquisition announcements for the whole and service MNE samples. ARs are positively related to the extent of the multinational network; the results are statistically significant for hard service MNEs and the full sample.

The relationship between shareholder wealth creation and the presence of real options is mixed. First, for growth options represented by new market platform, the relationship is positive and statistically significant for manufacturing and soft service MNEs. In the regression for the total sample, neither MARKET *per se* nor its interaction with HARDSERV or SOFTSERV is significant. In particular, there is a non-negative relationship between shareholder wealth changes and the presence of market-related growth options at the announcement of cross-border acquisitions especially for soft service MNEs. So, Hypothesis 1 is fairly supported by the data.

Nonetheless, the results are consistent with Kogut and Kulatilaka's (1994a) position that growth or platform options are available to both MNEs and purely domestic firms and that growth options have no unique value to the MNE. The results are also consistent with agency theory that posits that the cost of managing in foreign countries and cultures is high and that management makes cross-border investments to diversify their personal asset holdings which are concentrated in the firm's common stock.

Secondly, flexibility options represented by a new currency have a predicted positive effect on shareholder value for the hard service firms, which are less subject to the muting effects of hysteresis. H₂ is also supported by the data. It is noteworthy that soft service firms are heavily constrained to utilize flexible switching options and investment in a country that uses a currency new to a soft service MNE means additional risk rather than an expropriation opportunity; hence, liability of foreignness offsets the real option benefits for soft service MNEs.

This study examines the real option value effects of cross border acquisitions by US MNEs, and the results are quite consistent with the predictions, particularly for hard service MNEs. This study, however, is not free from further improvements. Because the time period for this study's data covers 1999 and 2000, the return data may be inflated, which would be consistent with the "dot com bubble." This may be particularly true for the service MNE data which have many technology related acquisitions embedded within the dataset. Conducting the study during a less robust equity market time period would address the potential service return bias from the sample period.

Finally, studying the effects of cross-border investments from a real option vantage might be well served through case study analysis. An in-depth, longitudinal study of particular transactions might stimulate research that uses real options in what Tong, Reuer and Peng (2005) described as "more bounded ways."

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The Internationalization of Religious Organizations: Expansion Strategies in Africa

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Abstract

"Religion has to be marketed." These words from sociologist Berger (1967, p.137) justify the growing interest in marketing at the heart of religious activity. In recent years, many studies have been conducted in order to understand its different implications and research topics. Religion remains a large research area to explore, simply because the studies that have been conducted are mostly applications of marketing mix to the religious "offer", and are often limited to a geographically restricted framework (Abreu, 2006; Lee, 2010). In the context of globalization, it is surprising that the internationalization of religious organizations remains an uncovered subject because religions have a biblical mission to be international (Holy Bible, Mark 16v.15). In recent decades, Western evangelist Christian communities in West Africa have flourished. In this paper, we will focus on the phenomenon of the internationalization of religious organizations in an effort to understand the preferred expansion modes in Africa.

Introduction

In this millennium of great social turbulence, the intensification of religious conflicts (Chechnya: Muslims and Orthodox; Middle East: Jews and Muslims; Ireland: Protestants and Catholics; Iraq: Coptic Christians and Muslims; Nigeria: Christian and Muslims; Tibet: Buddhists and Atheists) shakes the whole of humanity and makes the study of religion current and extremely relevant for research in social sciences. The importance of religion in modern societies is not only social, but also political (the impact of the evangelist lobby in the re-election of President George W. Bush in the USA) and commercial. Regarding the commercial sphere, recent statistics released at the World Halal Forum (2009) indicate that the European market for Halal consumption is estimated at over \$67 billion and is growing at an annual rate of 15%. Moreover, the U.S. Office of Travel and Tourism Industries estimated that more than one million religious trips outside of the United States were taken in 2008.

For some sociologists, these figures are not surprising. Religion has always been an ideological ferment that enables individuals to acquire the ability to accept adversity and give meaning to their lives (Du Pasquier, 1988). With over two billion followers around the world, Christianity (and its denominations) is emerging as the most practiced religion in the world, above Islam (about 1.5 billion followers) and Hinduism (approximately 1 billion followers) (Atlas of Globality Christianity, 2010; Chellini-Pont, 2005; Mongin, 2007). However, these numbers seem to hide a quite disturbing reality. Indeed, many studies in the religious world in recent years show a sharp decline of Christianity in modern societies. In 2000, Christians (all denominations) represented only 23% of the world's population compared to 1980 when they accounted for 33% (Thual, 2003).

The decline of Christianity can be explained by several factors, the most relevant are the rise of other religions such as Islam and the decline of religious practice, especially in Western societies. A survey by IFOP (2009) revealed that the percentage of French who say they go to mass every Sunday dropped from 27% in 1952 to 4.5% today. A study conducted in 2005 by Wolfe, demonstrated that two-thirds of Americans are unable to recite half of the ten biblical commandments.

For scholars interested in religious change in contemporary societies, the decline of faith must be understood from apostmodern perspective. In their view, advances in technology, rising standards of living, and the development of liberalism and individualism have encouraged the emergence of an era "*indifferent to the Gods and*

Prophets" (Weber, 1959, p.92) and characterized by a progressive "disenchantment" with the world. This idea is reflected in the words of theologian Pierre Gendron (2006, p.X, preface) in his thoughts on the relationship between religion and modernity: "God is dead and disappearing with him the sacred, religious rituals and ecclesiastical institutions."

Stark and Finke (2005) largely contradict the argument that Christianity is in decline worldwide. According to the findings of their study, there is a real resurgence of Christian spirituality throughout the world due largely to the emergence of new trends such as charismatic evangelicals (Protestant, Pentecostal, Methodist, etc.). For Stark and Finke, the decline of Christianity is really a decline of Catholicism; a religion struggling because of its inadequacy in meeting the spiritual needs of a modern society in search of meaning, depth and experiential relationships with the divine (Hervieu-Léger Cited in Caulier, 1996). At the same time, evangelical movements are experiencing an increase in members worldwide—over 20% of the population of Caribbean and Central America (Ruano-Borbalan, 2001).

In the United States, the number of evangelicals increased from 41% in 1906 to 70% in 2007 (over one-third of the total population) (Schwindt, 2007). In South Korea, they accounted for 20% of the population in 2006. In China, the number of Protestants (one of the evangelical denominations) was estimated at over 70 million for the same period. The rise of evangelical movements is so rapid in the evolution of modern Christianity that in 2005, the journal *Hérodote* devoted an entire section to it, entitled "Evangelicals to storm the world."

According to several scholars, the success of evangelical movements is explained by two main factors: their ability to offer a different religious experience and their ability to build strategies for international expansion that meet the challenges of globalization. During the last decade, Western evangelical religious organizations have strongly internationalized and are regarded as new symbols of globalization, just like Coca-Cola and McDonald's (Fath, 2006). A prospective analysis conducted by Chellini-Pont (2005) indicated that the new centre of gravity of this massive internationalization is now in the Third World and emerging countries, particularly in sub-Saharan Africa where today one in two Africans are Christian compared to one in ten in 1900. In a recent study, Dorier-Aprill and Ziavoula (2005) stated that the number of places of worship for Protestants in sub-Saharan Africa increased from 12,000 in 1988 to 25,000 in 1999.

Despite this increasing phenomenon and although it is very relevant to the fields of marketing and consumer behaviour, it must be noted that no in-depth study has been conducted on the topic yet. Moreover, if the literature on internationalization is one of the most abundant in marketing, it was mainly addressed from a commercial perspective (Hollensen, 2010). In recent decades, there has been a rise of non-profit organizations (particularly religious organizations), which in the exercise of their mission through the world seem to follow a similar internationalization procedure like profit organizations. By focusing on the case of Western evangelical religious organizations, we would like to see how the internationalization process for both profit and non-profit organizations is similar and to what extent we can conceive an internationalization framework which is specific to a non-profit context.

Regarding the religious organizations expansion that we study, the only reflections to our knowledge on this topic have been made by sociologists Geoffroy and Vaillancourt (2004) who have devoted a special issue on "Religion and Globalization" in the *International Journal of Politics, Culture and Society*. This study is a continuation of the reflections of these authors and strives to understand what are the preferred expansion modes and strategies of Western evangelical Christian communities into Africa.

With particular attention to the case of Côte d'Ivoire (a French-speaking country in West Africa), we will investigate the following research questions:

- What are the key factors that motivate the choice of Côte d'Ivoire as a missionary field in West Africa for Western evangelical communities?
- What are the different stages of the internationalization process and the different actions at each stage?
- What are the main limiting factors of the internationalization process?
- What are the marketing efforts undertaken to successfully implement a religious organization on the local ground?

Literature review

Who are the evangelists?

Currently, there is no precise definition of what constitutes the evangelical movement. The difficulty in defining the concept of "Christian evangelists" is mainly due to the extreme heterogeneity of practices, doctrines and styles that characterize each of the entities belonging to this religious charismatic family (Baptists, Methodists, Congregationalists, Pentecostals, Assemblies of God, Fundamentalists, etc.).

Despite some small differences, evangelical movements are all characterized by a set of traits that are summarized by the comments of Dorier-Apprill and Ziavoula (2005, pp.131-132):

They advocate a return to the biblical writings as a referent and the simplicity of the original Gospel, which passes through liberation from clerical institutions deemed unnecessary and formal (...) They value change of heart, spiritual experience in a strong affective charge (the public expression of personal conversion are important) (...) The doctrine is based on the belief that early return of Christ, but especially on the importance of "awakening" or "Holy Spirit's baptism" that is experienced by some charisma (gifts): miracles, the "speaking in tongues," healings, intercessions and visions.

According to some genealogical studies, these evangelical movements originate primarily in the United States and Great Britain, although they are now concentrating in new areas such as Asia and Africa, in the early 21st century in a context marked by a paradigmatic dissent against the religious practices of Catholicism. While the Catholic Church is based on a set of rigid and institutionalized liturgical structures, the evangelical movements advocate for a "de-institutionalization" of the belief in God that results in the possibility for the faithful to be the main actor of its religious identity in the context of intimate relationship with God (Hervieu-Léger, 2001).

Referring to many religious theorists, the evangelical movement's great success can be attributed in large part to the fact that it offers a new spiritual experience, rich in meaning, fulfillment, and happiness and that provides some answers to people's confusions and spiritual quests (Jaffrain, 2009). This way of rethinking the relationship of individuals to spirituality fits perfectly into a logic of experiential consumption where the faithful finds a new religious meaning in order to live a self-transformational experience with Jesus Christ (Camus and Poulain, 2008, Holbrook, 1999). Evangelical services are celebrated with exuberant musical performances and emphasize emotion in the Christian faith experience, unlike the silent and monotonous Catholic masses. This strategic differentiation seems to be the crux of the promise they offer to potential followers in the competitive environment of religious consumption (Abreu, 2006; Lee, 2010). The words of Cardinal Walter Kasper (cited in Kuzmanet al., 2009, p.5), senior adviser to the Pope and head of Vatican's council for promoting Christian unity around the world, confirm this competitive tension: "*We (Catholics) must not ask what is wrong with Pentecostals (or Evangelists) to ask what our pastoral failings are and come to a spiritual renewal*".

Africa: Destination for Western evangelical religious organizations

The recent remarks of Pope Benedict XVI from the book *Light of the World: The Pope, The Church and the Signs of Times* (Seewald, 2010) are sufficient to express the dynamism with which the evangelical phenomenon is spreading, particularly in Third World countries. Chellini-Pont (2005) confirmed this trend when she said that the centre of gravity of world Christianity by 2050 would no longer be Geneva, Rome, Paris or New York, but Kinshasa, Buenos Aires, Addis Ababa and Manila.

According to the Pope, "*(...) in Third World regions where there were 90% of Catholics, or even more, their share fell to 60%*" (p.154) because of the massive expansion strategies implemented by the evangelical communities. If we analyze the geographic development, we realize evangelical communities are heavily concentrated in Africa where social, political and economic conditions are very favourable to growth.

For Hellis and Harr (2004), evangelical movements thrive in Africa firstly, because religion is the most important way for Africans to keep interacting with the world. Secondly, because the evangelical churches have built their "offer" on their ability to solve the existential problems of individuals (through conversion, miracles and

exorcisms) struggling with poverty, unemployment, disease, wars and disappointments of democracy (Mayrargue, 2004). In recent years, many evangelical communities were responsible for building schools, hospitals, income-generating activities and micro-financing in several African rural areas. For example, the Redeemed Christian Church of God in West Africa has dozens of primary and high schools, a university and health centres where it develops programs for AIDS patients. Evangelical churches thus become "*places of healing and compensation for those who are unsettled by their difficulty in finding a professional or social status*" (Dorier-Apprill and Ziavoula, 2005, p.137).

Methodology

Method

We adopted a constructivist approach from exploratory design, based on the case study method. The choice of this research strategy is justified by Yin (1989, p.23): "*A case study is an empirical inquiry that investigates a contemporary phenomena within its real-life context; when the boundaries between phenomena and context are not clearly evident and in which multiple sources of evidence are used.*" Indeed, the internationalization of evangelical religious organizations is a new phenomenon of study in marketing and consumer behaviour, despite having been addressed in sociology, anthropology and theology. We intend to shed light on how Western evangelical religious organizations plan, implement and manage their expansion projects in Africa. In addition, given the novelty of this research theme, we used a multi-method approach for data collection combining both secondary data (government records) and recorded interviews from leaders of religious organizations.

This study focuses mainly on evangelical religious organizations operating in Côte d'Ivoire. The choice of this country, located in West Africa, responds primarily to some important methodological considerations in the understanding of the phenomenon being studied. First, Côte d'Ivoire is a strategic centre of evangelical development initiatives because of the great religious freedom and evangelical dynamism that exists (more than 4,000 evangelical churches, many evangelical radio stations and bookstores); and second, it represents an intersection from which major Western evangelical organizations can prepare and begin their expansion into other African countries. Côte d'Ivoire has one of the strongest evangelical annual growth rates in Africa at 14.5% (the highest in West Africa) and the highest number of foreign missionaries (about 1100 missionaries from 31 countries) (Coef, 2005). For these reasons, Côte d'Ivoire is a preferential area to study in order to better understand the various procedures of the most significant Western religious organizations in the African evangelical world.

Participants

The study focused on seven active Western evangelical missions in Côte d'Ivoire. This sample size was determined by the desired degree of relevance and validity in our data analysis and methodological requirements related to the chosen research method (case study). Although there is no unanimity, Creswell (1998) recommends a minimum of 4 cases to conduct a case study. In addition, we conducted preliminary studies to ensure the relevance of our sample size. By consulting secondary data archives and meeting with staff of the Ivorian Ministry of Religious Affairs, we identified a set of eleven Western evangelical organizations, which are the largest in terms of awareness, reference and presence, on the Ivorian religious scene. These results were also confirmed on the ground by thirty evangelical Christians of different denominations (Methodists, Baptists, Assemblies of God, and Pentecostal) who were asked to give us the most imposing evangelical organizations on the religious scene in their country.

These various Western religious organizations were contacted for interviews. Ten of them responded positively to our request. Based on interviews with leaders of the first seven largest organizations (comparing our secondary data with the evangelicals Christians interviewed), we noted a redundancy of information from the eighth interview, reflecting a theoretical saturation of data. The seven organizations selected for the study are presented in Table 1.

TABLE 1: SAMPLE CHARACTERISTICS

Organization	Country of Origin	Establishment in Côte d'Ivoire	Contact (Leader)
Baptist Church of Côte d'Ivoire	USA	1975	Rev.Tiécoura
Foursquare International Church of Côte d'Ivoire	USA	1995	Rev. Marius Gnépé
World Assembly for Restoration	USA	2004	Rev.JerômeKakou
International Methodist Church John Wesley	USA	2000	Rev. Aka
The New Alliance Missionary Church of Côte d'Ivoire	South Korea	2005	Rev.Silué
MEGVIE	France	2000	Bishop Kodja/ Rev. Koudou
International Pentecostal Church of Côte d'Ivoire	England	1990	Rev.Kambiré

Data collection

Interviews were conducted during the period of June 15 to July 20, 2010 with leaders of the evangelical organizations identified in the sample. Interviews were conducted at the headquarters of these churches or their leaders' homes and lasted on average 1h30. Interviews were conducted in a semi-directive manner from a structured interview guide composed of four main sections, each corresponding to one research question.

The choice of this data collection technique is justified by the fact that it allows a lot of interaction between the researcher and the informants therefore, leading to a more precise understanding of the phenomenon studied. The questions included in the interview guide were made from an extensive literature review on the expansion of religious organizations. Their relevance was validated by a researcher specialized in international marketing.

As stated by Abreu (2006, p.140), any marketing initiative affecting the religious sphere “*is regarded as manipulative and desacralizing religion.*” Thus, we avoided the use of the term "marketing" and other words that could refer to it. In addition, a copy of the interpretation of data was sent for approval to each religious leader we interviewed. Some quotes have been incorporated into the analysis to better support our interpretations and conclusions (Corden and Sainsbury, 2006).

Main results

During our conversations with the staff of the Ministry of Religious Affairs of Côte d'Ivoire and some leaders of religious organizations, we realized that the evangelical religious landscape in Côte d'Ivoire was characterized by extreme confusion. Many national and international religious organizations claim their membership in the evangelical movement but do not share nor practice its values, ideals and dogmas.

This can be a serious problem for the validity of the study sample. To control this potential bias, we introduced a filter question in the interview guide that invited informants, at the beginning of the interview, to present the overall vision of their religious organization. After analysis, the description given by each of the religious leaders corresponded to the characteristics of evangelical churches as described in the literature by Dorier-Appril and Ziavoula (2005).

The internal validity of our study assured, the first research question we investigated was the identification of factors that motivate organizations to internationalize in West Africa, specifically in Côte d'Ivoire.

Influencing Factors

It is important to mention that the internationalization process is considered mandatory for evangelical organizations. Indeed, according to the religious leaders interviewed, the church's primary mission is to spread the Gospel of Christ to the ends of the Earth (Holy Bible, Mathew 28 v.18-20). The expansion should be directed at people considered weakly penetrated by the Gospel. From this spiritual imperative and comments from the leaders

interviewed, it is possible to identify four main factors behind the choice of Côte d'Ivoire as a missionary settlement area: *structural, strategic, political and competitive*.

Structural factors

The choice of a missionary settlement area meets the requirements of efficiency in achieving the divine mission of the Church. Contrary to what one might think, the internationalization of religious organizations does not arise by chance. The choice of a country is conditioned by several upstream reflections based on an analysis of needs and evangelization priorities. According to Rev. Silué, the choice of Côte d'Ivoire is primarily motivated by the interest of West Africa as a missionary conquest. Unlike other regions of Africa, West Africa has the distinction of being a weak area penetrated by the Gospel, thus representing a challenging missionary region.

For example, for the religious organization led by Rev. Silué, a geographic area is considered a potential field of expansion when it includes countries whose rate of Christianity is below 30%. Côte d'Ivoire has a rate of evangelical Christianity below this threshold. Its selection compared to other countries in the region reflects the fact that although it has a low rate, it still has the highest Christianity rate among the West African countries. The importance of structural factors seems better reflected in the words of Rev. Silué: "*For us, a country in need is a country where the Christianity rate is below 30%, which means that this country cannot self-evangelize. Clearly, Côte d'Ivoire is in a position where it cannot self-evangelize because the number of evangelical Christians is low(...)*."

Strategic factors

In addition to structural factors, the choice of Côte d'Ivoire as a missionary area follows a logic of strategic growth and development of the religious organization in neighbouring countries. Indeed, Côte d'Ivoire occupies a prominent place (more than a third of GDP of all the wealth of West African countries) in the ECOWAS (Economic Community of West African States). It is a model of economic development that attracts people from neighbouring countries.

It is estimated that foreigners, mostly from neighbouring countries, represent over 25% of the population of Côte d'Ivoire. By choosing this country, the religious organization aims to maximize its efficiency in transmitting the Gospel directly to the high proportion of foreign populations living in Côte d'Ivoire, who in turn, once converted, will spread the evangelization in their respective home countries. It is this strategic role of Côte d'Ivoire that the Rev. Kakou emphasizes: "*Côte d'Ivoire is well chosen because all nationalities are represented (...) it is a platform for evangelization. Indeed, when evangelical churches in West Africa want to grow, they come first to Côte d'Ivoire.*"

The choice of Côte d'Ivoire is also motivated by a desire to overcome the many religious barriers to entry for neighbouring countries. The majority of countries in West Africa are mainly Muslim, with Christianity rates approaching 1%. It is therefore difficult to penetrate them directly although they are potential "markets" for the evangelical movement. Hence, Côte d'Ivoire is an attractive alternative to win immigrants of those countries so that when they go back to their homeland, they can facilitate the penetration of the evangelical movement. Rev. Silué effectively corroborates our conclusions on this role of ambassadors people can play: "*When we look at Côte d'Ivoire, the countries from which immigrants come are countries where the rate of Christianity is sometimes less than 1% (Niger, Senegal, Mali, Guinea) and more than 90% of the population is Muslim (...) We believe that God allowed them to come to know the Truth and then return home to continue the missionary work (...) In these nations, work is sometimes impossible, and when you send a missionary, he cannot move easily. So we must think about the strategy of encouraging local people to be missionaries in their homeland.*"

Political factors

Following the comments of various leaders, we were interested to understand why Côte d'Ivoire was a preferred destination compared to other countries in the region such as Nigeria that has interesting potential for international evangelical religious organizations (a large market of non-Christians, a vital crossroads in West Africa and also a popular destination for immigrants from other countries in the region).

The fundamental difference is that unlike Nigeria, which is constantly plagued by religious violence between Christians and Muslims, Côte d'Ivoire is characterized by a peaceful religious climate in which several

denominations co-exist in harmony. It is therefore easier for a religious organization to develop. It is precisely this particularity stressed by Rev. Kambiré: "*All the North of Nigeria is opposed to the Gospel. Therefore, we very often expect conflicts between Christians and Muslims (...) In Côte d'Ivoire we did not find this kind of conflict, which is a good ground for the blossoming of new missionaries.*"

Competitive factors

In recent years, Western evangelical churches have been increasingly faced with the emergence of new evangelical organizations that are the result of purely local initiatives. These are highly concentrated in West Africa, especially in countries such as Nigeria and Ghana where they are very well-established. Mayrague (2004) insisted on this new phenomenon that seems to change more and more the denominational mapping in West Africa.

Evangelization in Africa is beginning to be approached with a polycentric order characterized by several places of production and distribution (from Western countries to African countries but also from African countries to other African countries). Thus, for strategic purposes, Western evangelist churches willing to penetrate West Africa find doing so through Côte d'Ivoire a more fertile and less competitive area. This, in turn, allows the churches to better prepare and increase their awareness for conquering a more competitive religious "market."

Contrary to what one might have thought, cultural factors do not seem to be relevant in choosing the expansion destination of Western evangelical organizations. None of the leaders interviewed mentioned this factor as an important element in the process of internationalization. This lack of cultural importance can be explained in part because of globalization, whose ideals and values began to increasingly invade the religious world (Thual, 2003).

We are witnessing the emergence of a new class of God's servants speaking more and more languages and have been, for the most part, (especially those in our sample) trained in the Western evangelical churches that they are represented in Africa. These servants are at ease with the language of their parent church and their own local language which allows for a certain control of linguistic influence and facilitates relationships between local and Western officials. In our sample, several churches located in Côte d'Ivoire (French-speaking countries) are from the USA. However, they are able to thrive because they are headed by Ivorian pastors who were trained in the USA.

Our first research question helped to highlight the major factors considered in choosing a destination/location. Although the findings are restricted to the case of Côte d'Ivoire, they give insight into the most important factors because the process of internationalization of a religious organization in Côte d'Ivoire is not entirely different from that used to conquer other countries in Africa.

In the collective mind, the expansion of the churches was seen as guided by the Holy Spirit of God. From this first research question, it seems that the process of internationalizing religion is very structured and follows several strategic considerations that are quite similar to those undertaken by profit organizations. Using the same logic, it is now appropriate to ask ourselves about the different steps and activities that constitute the process of evangelical expansion.

Stages of Evangelical Expansion

In these stages, the process of internationalization of Western evangelical churches is very similar to the process used by profit organizations (Hollensen, 2010; a special section, prior to the conclusion, will reflect on how we could apply the internationalization model to the Western evangelical organizations expansion process). Four main stages characterize the process before religious organization implementation: *identification of potential expansion areas or countries, exploration, choice of targetcountry and expansion mode(s)*.

Identification of potential expansion areas or countries

This first step is the most important according to the religious leaders interviewed. Each religious organization develops a denominational mapping which shows a geographic expansion of the Gospel worldwide. From this, areas or countries "in need" are identified. The choice for internationalization is focused on geographic areas or countries with the most important deficiencies in terms of evangelical presence. It is precisely the case with the Foursquare International Church of Rev. Gnépé: "*Internationally, the evangelical churches are more motivated by Western countries that have not yet been touched by the Gospel because the objective is to bring more people to hear the good news of salvation in Jesus Christ.*" Two approaches of identification can be considered: direct and indirect.

The direct approach occurs when the religious organization is in its first international experience or has no religious contact abroad. Expansion areas or countries can also be determined indirectly. This is the case when the Western religious organization has contacts outside their country of origin. From this perspective, the external contacts of the religious organization may inform the latter of the value of their respective countries as a potential area for setting up a mission because of evangelical needs which are expressed.

Exploration

This step consists of assessing the practical needs of the potential expansion countries. It can be done in two ways: by sending missionaries to the target countries or by using local contacts in these countries, reports and "market" studies sent to the parent organization in Western countries. The Foursquare Church of Rev. Gnépé uses this mode of exploration: "*Before the selection of areas or countries, some exploration studies are done. Often there are missionaries who have done studies on which to rely, or simply the parent church (Western religious organization) decides to send new missionaries in the field to assess the concrete needs of each country.*"

Choice of target country

The expansion country of choice is determined by structural, strategic, political and competitive factors. However, according to the religious leaders interviewed, it seems that the political and structural factors are the most important. Strategic and competitive factors will greatly influence the selection process when the church must choose a key country to penetrate, an unexplored (by the Gospel) geographic area. This is the case of Côte d'Ivoire, which is a strategic country for religious organizations to first achieve entry in French-speaking countries of West Africa, and then enter English-speaking countries of the same geographic area.

These strategic factors were taken into account by Foursquare International Church of Rev. Gnépé when it decided to go to Guinea Bissau after Côte d'Ivoire. According to Rev. Gnépé, the choice of Guinea Bissau was motivated by the desire to quickly penetrate the Portuguese-speaking countries in Africa, such as Cape Verde, Angola and Mozambique.

Expansion modes

In the words gathered from religious leaders, two modes of expansion are favoured by Western religious organizations: the direct mode (classic) and the indirect mode. The direct mode consists of personal initiatives of the Western religious organization to establish itself in countries abroad on the basis of identified needs. This is the traditional model used by the first Western organizations that established themselves in Africa. This mode is operationalized by sending Western missionaries directly to the host country. These missionaries are responsible for the initiation of the representation of the Western church. The churches in our sample created between 1960 and 1990 were all established using the traditional model. According to data from the Ministry of Religious Affairs, this 30-year time period effectively corresponds to the beginning of the boom in evangelical movements in Côte d'Ivoire. Increasingly, we see that this traditional approach is modernized by sending national missionaries trained in Western churches. Instead of sending white missionaries as was the case in the early days of the evangelist movement in Côte d'Ivoire, religious organizations frequently send black national missionaries who have lived in the West. This is the case of Rev. Silué who resided in the United States and South Korea. The parent church in South Korea wanted to open a subsidiary in Côte d'Ivoire, and he was chosen to be the parent church representative because he hails from that country, and as such, is aware of everyday realities because of his natural cultural empathy (Hollensen, 2010).

The indirect expansion mode can be done in two ways. In the first case, the Western organization relies on its contacts in the target country and selects a local pastor to undergo its internationalization process. This is the case of Rev. Kakou who was contacted by the parent organization in the USA to open a church in Côte d'Ivoire, for which he would become the representative. In the second case, it may be a local pastor who seeks a Western church for which he wishes to be the representative in his country of origin. In both cases, the partnership between the Western religious organization and the local pastor is made on the basis of similar religious visions advocated by both parties. The type of expansion mode has an influence on the duration of the implementation process.

According to Rev. Gnépé, the internationalization process is faster with the direct approach. Using the indirect approach, the process can take up to five years. This length can be justified by the fact that the religious organization wants to gradually ensure reliability and efficiency of its local partner on the ground. Leaders interviewed were

unanimous that today the indirect approach is most privileged in world of evangelical expansion. The reasons for this are mainly economic and cultural. Indeed, sending missionaries from the West is excessively expensive in terms of maintenance costs. Moreover, these Western missionaries are not accustomed to the cultural realities of the host country (dialects and languages, food, climate adaptation, etc.). These problems lead to some expensive training and adaptation costs and slow the dynamism of evangelization in the country.

For these reasons, Western religious organizations are increasingly opting for the nationalization of missionaries abroad. The words of Rev. Aka justify this new turn in evangelical internationalization: *"There are less and less white Western missionaries. Western missions prefer to take Africans to operate as missionaries at home. They are assisted by a strict evangelical training and are more likely to work better because they know their own realities."*

Although there is a strong presence of flourishing Western evangelical organizations in Africa, it is clear that their impressive growth often occurs in difficult circumstances because of the many limiting factors to which they are exposed throughout the expansion process.

Limiting factors of Western evangelical organizations

The main limiting factors faced by the Western religious organizations studied are of three kinds: political, cultural and human. At the political level, it is essentially the religious barriers to entering some countries. Indeed, the religious organization may feel a great need to locate in a particular country for spreading the Gospel to its people. However, the political and religious measures taken by a country can make access difficult for an evangelical mission.

The informants gave us the example of countries whose constitution is Islamic (e.g. Mauritania, Sudan). When you are known as a missionary, you will automatically be expelled from the territory. For this reason, the Western evangelical missions prefer to expand in secular countries. However, some strategies are employed to overcome these barriers. Rev. Tiécoura gives us an example: *"A religious organization may involve methods of camouflage by sending missionaries in these Islamic countries as professionals (mostly teachers). On this basis, the missionaries are registered for immigration as teachers. And from that status, they could gradually do their missionary work."*

Cultural factors are related to adaptation difficulties experienced by Western missionaries when they are sent to Africa and high maintenance costs attached to them. However, we note that these cultural factors are increasingly controlled by the use of nationals as missionaries in their own country.

The final factor is human resources. In some cases, Western religious organizations cannot find a local organization that meets their needs or shares their gospel vision. In the latter case, internationalization may be difficult or even impossible.

The internationalization process can only be effective after the implementation step in the selected country has taken place. For this step to be successful, the religious organization must implement strategies to recruit followers, and keep them loyal. From this perspective, marketing plays a vital role as religious organizations use it to develop and propose a marketing/communication plan around a religious "offer" that meets the spiritual needs of their public (Abreu, 2006).

Marketing activities implemented by Western evangelical organizations

The use of marketing in the religious sphere has long been seen as something shameful. Many people see it as a tool of manipulation and conditioning. In a study by Wrenn (1993, cited in Newman and Benchener, 2008, p.2) on the perception of marketing by religious leaders, we note the following comments: *"(...) it strips the sacred significance from religion, it is at odds with biblical views."*

There is now, however, a marketing comeback in the evangelical communities in particular since they see marketing as a tool allowing religious leaders to know the intentions and needs of their various "markets" and to act more efficiently (Peycelon, 2009). In his book, *Marketing the Church*, Barna (1988), "The Man Who Brought Marketing to Church" claimed precisely: "the fastest growing churches are those which have learned to effectively apply marketing techniques" (cited in Newman and Benchener, 2008, p.1). In a recent study, Vokurka et al. (2002) showed that the explosive growth of evangelical churches happens in large part because they take advantage of marketing techniques in their strategies for winning religious market shares.

Marketing also occupies an important place in the heart of the strategies of the Western religious organizations interviewed. In this regard, the Rev.Koudou said: *"The Gospel must be preached in the era of its time, with the means of its time. This implies that we must use the most current marketing techniques to spread the Gospel of Christ."*

Indeed, the leaders surveyed rely heavily on marketing communication tools to bring their messages to the faithful. In the Ivoirian evangelical "market", there are two categories of church when it comes to the use of marketing techniques. On the one hand, we have the old religious organizations which have been established for several years and on the other, young organizations that have been established for only a few years. For older ones, the communication techniques used are generally traditional (roadshows, displays, radio, television spots, outdoor and door-to-door evangelization). This is explained by the fact that these organizations are very well-established and enjoy a good reputation and a very wide pool of followers. For the younger organizations, marketing efforts are more important when increasing market shares. Thus, they employ aggressive techniques through a strong presence on television and radio. In addition, they use new media including the Internet.

The MEGVIE, for example, has an online television project and associates itself with Christian websites to promote its image among Ivoirian Christian internet users. These newly established organizations are playing heavily on differentiation strategies by offering an experiential religious "offer". The case of MEGVIE is a good example. This organization is perceived in Côte d'Ivoire as "the church of stars." Indeed, most political and show business personalities belong to this church.

This positioning causes many word-of-mouth effects. In addition, this church is also distinguished by an emphasis on dress code (those who go there are required to dress in a jacket during the celebrations) and the Bishop's preaching are focused on personal achievement, entrepreneurship and prosperity. This folklore attracts many curious people who come to pray to God and to build professional and business relationships.

Furthermore, there is a great interest in social work as a means to build the church reputation. To this end, organizations finance micro-projects, fight against poverty, create hospitals and provide health care assistance. This social strategy has an enormous impact as Rev. Tiécoura said because it has allowed his religious organization to be easily accepted in Senegal where it is one of the fastest growing evangelical missions. Also, the communication tools are adapted in rural areas where literacy rates are very low. In these areas, organizations are using communications media such as Christian films presented in different dialects and outdoor evangelization campaigns.

Can we apply the internationalization model to the Western evangelical organizations expansion process?

The different stages of internationalization for Western evangelical organizations that we have detailed appear to have strong similarities with the internationalization theories developed by some researchers in the context of profit organizations. Indeed, in their seminal work, Johanson and Vahlne (1977) proposed the Uppsala model. According to these authors, internationalization is presented as a sequential process organized around different stages through which companies gradually increase their level of international involvement based on two main variables: the degree of market knowledge and the learning or mastery level of international operations.

As we noticed during our interviews, the idea of internationalization in Africa and specifically in Côte d'Ivoire is driven from the parent church already operating in the West, which seems to confirm stage 1 of the Johanson and Vahlne model (begin internationalizing with ad hoc exporting). In addition, we saw that the choice of internationalization in the target countries is motivated by a principle of caution. This caution explains why both profit and non-profit organizations (Western evangelical organizations in our case) prefer to follow stage 2 of the Johanson and Vahlne model (formalize entry through deals with intermediaries, often agents, who represent the focal companies in the foreign market) by using intermediaries (local pastors already settled in the target country are contacted) in order to minimize risks due to uncertainty, cultural adjustment, as well as financial risks related to potential changes in missionary staff management.

In many ways, however, the process of internationalization for evangelical organizations differs from the model proposed by Johanson and Vahlne (1977). Indeed, the authors consider that companies, before moving to step 2 of the internationalization process (export via independent representatives (agents)), must first make sure to have

control of and learn greatly from their local market. This idea does not apply to religious organizations because they are essentially deigned to be international if we refer back to their biblical mission (Holy Bible, Mark 16 v.15). So, they are born “international” and thus, unlike companies, they do not require a prior period of preparation before starting their international operations. Johanson and Vahlne(2009) also suggest that companies must choose markets that are similar to their local market on political, cultural, social and economic levels. The evangelical organizations studied here illustrated that the choice of target country is driven primarily by the existence of a great spiritual need regardless of its congruence/incongruence with the parent church country of origin on cultural, social, political or economic levels. Furthermore, we note that steps 2 and 3 are not really sequential, but rather interchangeable: religious organizations have the choice to opt for independent intermediaries (partnerships with pastors already installed in the target country) or to use their own intermediaries or representatives abroad (pastors trained in their church in the West).

Conclusion

This paper has allowed us to explore an emerging research area in marketing and consumer behaviour: religion. By focusing on the internationalization process of Western evangelical churches in Africa, we are responding, in part, to a research problem long studied by researchers in sociology and religious studies. The conclusions of this paper allow us to understand that the process of religious expansion is not the result of an accident or divine inspiration, but rather a result of strategic reflections supported by marketing tools and communication (Table 2). This confirms the growing importance of marketing as a helpful tool for profit and non-profit organizations.

This study is relevant at managerial and theoretical levels. From a managerial point of view, it shows the different steps that a religious organization can take for successful internationalization. It also presents the potential limiting factors that need to be taken into account and how to circumvent them. In the era of globalization, evangelical religious organizations need to ensure their growth abroad particularly in the so-called emerging spiritual countries of Africa, Asia and Latin America. The results of this study provide a good basis for the selection of modes of expansion. From a theoretical viewpoint, this study makes a contribution to the knowledge in marketing as it is one of the first studies to look at the internationalization of religious movements in the context of globalization. It is also an early contribution to a reflection on the development of an international-specific model or theory for non-profit organizations.

Despite its relevance, the study has some limitations. We used an exploratory approach and a case study method that restricts the conclusions of our study to Côte d'Ivoire and West Africa. However, given that internationalization of religious organizations in Côte d'Ivoire is not very different from internationalization in other African countries, this does not hinder the actual relevance and validity of our findings. It might be interesting to conduct a comparative study of the internationalization process of the Western churches to African countries versus Asian countries, Latin America and even European countries (e.g. Eastern Europe).

In this study, we witnessed the emergence of a new phenomenon of evangelization in Africa, characterized by the rise of local initiatives that are not only expanding in African countries but also in Western countries. It may be profitable to conduct a study on this form of religious globalization and to compare these two types of internationalization: the internationalization process of Western churches in developing countries, and developing countries' churches in Western societies. We have initiated some reflections on the non-profit organizations' internationalization process. Future studies might explore this research area by proposing a model more suitable for non-profit organizations at large (churches, NGOs, etc.).

TABLE 2: SYNTHESIS OF OUR MAIN CONCLUSIONS

Research questions	Main conclusions
What are the key factors that motivate the choice of Côte d'Ivoire as a missionary field in West Africa for Western evangelical communities?	The choice of Côte d'Ivoire as a missionary field in West Africa is motivated by four main factors: <i>structural</i> (existence of spiritual needs to be fulfilled in the target country), <i>strategic</i> (the country's geographic and economic importance in the Western evangelical organization expansion), <i>political</i> (the country's political stability and openness) and <i>competitive</i> (other evangelical organizations' competitive intensity).
What are the different stages of the internationalization process and the different actions at each stage?	The internationalization process of Western evangelical organizations is organized around four main stages which precede the implementation stage: <i>identification of potential expansion areas or countries</i> , <i>exploration</i> , <i>choice of target market</i> and <i>expansion modes</i> .
What are the main limiting factors of the internationalization process?	The limiting factors are mainly of three kinds: <i>political</i> (the country's religious openness to accepting evangelical organizations), <i>cultural</i> (adaptation to local climate and dialects/languages) and <i>human</i> (availability of local contacts to support the Western evangelical organization expansion).
What are the marketing efforts undertaken to successfully implement a religious organization on the local ground?	In the context of Western evangelical organizations in Côte d'Ivoire, some <i>traditional marketing tools</i> (road shows, displays, radio, television spots, outdoor and door-to-door evangelization) and <i>modern marketing tools</i> (experiential marketing techniques, Web communications via websites and social marketing activities) are used.

For a full list of reference, please contact the author(s).

Crisis of habitus: the experiences of South Asian migrant managers and professionals in Australia

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Abstract

The aim of this paper is to examine the career experiences of managers and professionals who choose to migrate from South Asia (India, Pakistan, Sri Lanka and Bangladesh) to Australia. Using a combination of phenomenology and analysis of narratives, data was collected from 21 migrants through in-depth face-to-face interviews. Analysis of the data reveals a 'crisis of habitus' that leaves the participants with a sense of disembeddedness that prompts them to reconcile this crisis through processes of acculturation and sense-making. The analysis suggests that participants tended to make assumptions about their environment that often hindered their adaptation and career progression. While the research is limited to Australia, the results have wider significant theoretical and practical relevance. Applying the concept of habitus contributes to current understandings about the career challenges faced by migrants. This brings to light new and significant insights and have the potential to raise awareness amongst policy makers and business organisations.

Introduction

Every year Australia receives skilled migrants from different regions of the world to fulfil the Australian labour shortage. According to the statistics of the Australian Department of Immigration and Citizenship (DIAC, 2010a) for the financial year 2008-09, the number of skilled migrants that came to Australia from the region of South Asia was 17,320. The regions from where skilled migrant arrivals are mainly sourced are the nations of Bangladesh, India, Pakistan, Sri Lanka and Nepal. Among these nations the largest group of migrants arrived from India with 12,304 skilled migrants. India was ranked second after United Kingdom from where 15,803 skilled migrants arrived and China was ranked third with 8,189 skilled migrant arrivals (DIAC, 2010a). Highly skilled managers and professionals were among the top ten in the list of skills recognized by DIAC (2010b).

In a broader sense the aim of Australian migration policy is that these individuals will become a productive part of a multicultural nation – a nation which until 1975 had a strict 'whitesonly' policy that excluded non-European immigrants with the aim of achieving racial and cultural homogeneity (Jupp, 1995). This policy enjoyed community support as political leaders provided them with assurance that the numbers and types of immigrants would be strictly controlled by the government and thenation's core Anglo/Celt ethnic identity would be preserved (Tavan, 2005). Despite the abolition of this policy and the advancement towards multiculturalism 'White Australia' still retains a residual appeal (Tavan, 2005). Therefore, gaining professional recognition and breaking social barriers can still be challenging for skilled migrants from non-European backgrounds. According to Beck (2002) migrants can be treated as 'excluded others' in host nations creating a situation where they live in two frames of reference, being at the same time 'here' and 'there', located in and in-between different incompatible framings of social inequalities and political conflicts. This raises interesting questions about whether migrants living in this situation find a path to resolution as they rewrite their biographies in their new environment. The purpose of this paper is to attempt to address this issue and bring to light the challenges faced by highly skilled professionals and migrant managers from South Asia as they try to build a new career in Australia.

Highly skilled professionals are individuals who possess tertiary qualifications as well as spend years of studies to gain experience to certain formal qualifications in order to gain acceptance by professional bodies (Crook & Waterhouse, 1995; Koser & Salt, 1997). Professionals can be managers; it depends upon the environment in which they exist, in as much as management is a general activity and managers are those people who achieve tasks themselves or create environments where others can work effectively (Crook & Waterhouse, 1995). Discrimination against highly skilled migrant professionals and managers especially those of Asian origins is a common research theme in the extant literature (Bhattacharya & Schoppelrey, 2004; Varma, 2002; Ward & Masgoret, 2007; Watson,

1996). The research pertaining to Australia suggests that the local managers felt more comfortable hiring locally-born employees as they were of the view that overseas qualified managers and professionals have not lived here long enough to understand the Australian management psyche (Watson, 1996). In addition, some research evidence suggests that discrimination is experienced within the system rather than as a barrier to entry; for example, discrimination that mitigates against promotion (Mellor, 2004). A similar gap between the immigration policies and job recruitment was also identified in New Zealand by Ward and Masgoret(2007). Some literature also points out that as a consequence of non-recognition of the skills migrants possess, host nations experience a phenomenon of 'brain waste'(Salt, 1997).

Researchers also point to the role of gender in the settlement skilled migrants. Froroutan(2008)examines the experiences of South Asian female migrants finding that family and religion plays a vital role in their employment status. He further explains that specifically Muslim women are at an additional disadvantage if they follow their religious values such as dress code, etc.Iredale(2005) explains that cultural attitudes have a great impact on female skilled migrant's employment and settlement. She argues that attitudes to employment, career, and family and societal values affect the position of females in society and their ability to migrate.

Although culture and gender have an impact on the migrant experience, other factors are also at play.According to Syed (2008) previous research done on migrants to Australia, USA, UK and other Western industrialized countries focus on looking at skilled migrants as a factor of production flowing across international borders. He further explains that skilled migrant experience cannot be not just confined to either human capital or socio-cultural perspective. Their employment experiences are more complex and are shaped by not only skills and economic factors but also by perceptions and experiences of the host society and its occupational opportunity structure. Taking Syed's argument as a point of departure, this paper will explore the complex phenomenon of being a highly skilled South Asian migrant professional and manager in Australia. To this end, the theories of habitus (Bourdieu, 1986),disembedding/re-embedding (Giddens, 1990), acculturation (Redfield, Linton, & Herskovits, 1936) and sense-making (Weick, 1995)will be used as a framework for analysis.

Every individual possesses a habitus that is formed through different forms of capital that is cultural, social and economic (Bourdieu, 1986). Cultural capital can exist in three forms in embodied state that is about a person's accent race or accent etc., objectified state which can be a person's way of dressing or some art collection etc. and finally in the institutionalized form that is a person's qualifications or degrees earned (Bourdieu, 1986). Since the highly skilled migrant professionals are up-rooted from their inherited social conditions they are dismembered(Giddens, 1990). Their different forms of capitals are altered in the host country and this alteration puts them in a crisis of habitus (Zipin & Brennan, 2003). This prompts them to reconcile this crisis in order to get re-embedded in the host country's work and general environment. The process of reconciliation is explored by utilizing theories of acculturation (Redfield, et al., 1936) and sense-making (Weick, 1995). Firstly, acculturation is characterized by integration, assimilation, separation and marginalization of the migrants in their new environment (Sakamoto, 2007). Secondly, sense-making is described as a process in which individuals make sense of their environment and rationalize their behaviour based on the interpretation of the environment to which they belong (Weick, 1995).

Methodology

A qualitative mixed method approach is used to collect and analyze the data of this research. According to Johnson, Onwuegbuzie, and Turner(2007) the reasons behind mixing methods are to provide a full picture and a better and deeper understanding as well as meaningful more useful answers to the research questions and to improve the validity of the findings.In this study phenomenology and analysis of narratives have been employed.A phenomenological study describes the meaning of lived experiences for several individuals about a concept or a phenomenon (Creswell, 1998). According to Sanders (1982) it is the study of a conscious phenomenon that is an analysis of the way in which things or experiences show themselves. This paper describes the lived experience of being a highly skilled migrant professional from South Asia as expressed by the participants in their narratives.

A narrative is defined as a spoken or written text giving an account of an event /action or series of events or actions chronologically connected (Czarniawska-Joerges, 2004 ,17). A story in a narrative research is a first person oral telling or retelling of events related to the personal or social experiences of an individual , often these stories have a beginning, middle and an end (Ollerenshaw & Creswell, 2002). As this study is using the interviews of highly skilled migrant professionals and managers and the interviews are about their experiences. These experiences have a time line from arriving in Australia as a migrant to time when interview was conducted. Furthermore it involves their personal and social experiences.Ezzy(1998) emphasized that it is a mistake to assume that lived experience is in some way separate from narration, as if reality from fiction. Furthermore lives and texts are not configurations rather; they become completed compositions in their reading. A clear example of this is the way in which events become episodes as part of the plot of the story Ezzy(1998).The phenomenological and narrative analysis techniques complement each other as the world of the migrants of this study is their reality and that reality is a phenomenon. The narratives of the migrants of this study are the stories which reveal the process which brought them to that reality, which gave them their new identities in their new home country Australia. Twenty one participants were interviewed for this study belonging to different countries of South Asia. The participants included both males and females. NVIVO8 software was used for the analysis and examination of the different themes emerging from those interviews.

Findings

Analysis of the interview data revealed that the capital possessed by the participants of this study that included cultural, social and economic, was altered upon immigration to Australia. This led them to disembedding and consequently a crisis of habitus. This crisis of habitus is firstly cultural; in this case the cultural capital upon which the participants relied alters to the extent that embodied cultural capital (related to his or her ethnicity and cultural background) becomes far more important than institutionalized cultural capital (education) that was previously of primary importance. Secondly it is social in that participants did not have a local network to socialize within and make contacts resulting in a loss of social capital. Finally it is economic, in that the savings of participants became depleted resulting in a loss of economic capital.

The participants of this study experienced a shift from institutional to embodied cultural capital. As they arrived in Australia they were confident that their overseas qualifications and skills (institutional cultural capital) would get recognition in Australia.Contrary to these expectations they faced non-recognition of skills and qualifications even though they were in accordance with the requirements of their chosen occupation. The only conclusion they could reach therefore was that their rejection had more to do with their ethnicity (embodied cultural capital).As participant 6 from Sri Lanka stated:

I expected that I will give some of these skills to this country. I expected that this country would be able to make use of them recognize them and put me at an appropriate level but to my surprise this did not happen.....My experience was ignored and I found it very frustrating so I would attribute that to some kind of prejudice based upon my background or colour or it could be through fear that my experience and my past background would be a threat to the senior management.

The above respondent believed that he had the right qualifications therefore the only reason he was ignored could have been his ethnic back ground. The analysis of the data also revealed that the crisis of cultural capital can be encountered even after successfully stepping into an organization or getting a job related to ones profession. For example participant 20 from India stated that:

But the expectations that you see from your own colleagues are still higher then you question yourself that how much more do...what I get reminded, very well said by Mohammed Ali the great boxer when he came to Australia in an SBS TV interview that in his time he thought it was so unfortunate that every black man has be Mohammed Ali to get any respect from the white people.

This participant also stated that the expectations of his colleagues in the organization are higher just because he was a migrant and he has to work harder to prove himself. Therefore the migrants like this person can face a continuous state of crisis of cultural capital.

While the experiences of the participants did not vary according to cultural and national diversity, gender appeared to play a role in the crisis of cultural capital. The females in this research reported having to conform to certain cultural norms that were different from the males. These norms added to their cultural capital crisis. As participant 15 from Pakistan expressed:

Although I am working and although my husband is very supportive everything is ok. But there are a few.....being a Muslim I cannot go beyond this limit or I would not try to cross these limits. But if I am a male for example.....I can still socialize with them or talk to them and try to be more communicative with them.

This participant believed that the male counter parts from her cultural background have less cultural barriers as compared to females in the organizational environments. Summing up the crisis of cultural capital the shift in between the embodied and institutional cultural capitals was a very critical event in the lives of the participants of this study.

The participants of this study also faced the crisis of social capital due to lack of understanding of the organizational socialization and cultures in Australia. The participants in this research fully understood that leaving behind their social capital was the very first compromise in their lives as migrants. This understanding is very simple and straight forward and can be considered quite realistic, for example participant 1 said:

I was mentally prepared that I might not work in Australia on the same status and I might not come back to Pakistan for years and I will lose 80 percent of my social contacts.

Some participants did not realise however, the difficulties they would have building up their new contacts and networks (social capital) in Australia. They seemed to underestimate the importance of becoming the part of the organizational socialization cultural pattern that could help them in networking. However some participants also had a late realisation of this social capital crisis. For example participant 10 from India stated:

I suppose in career you expect when you come here and do your job and you automatically get recognition and you automatically sort of rise up the ladder in the organization ... but I think that probably organization are already top heavy and may be not going that fast may be you have to market yourself a bit more may be because of those things it didn't automatically happen as I expected.

The above quote represented a realisation that working hard is not enough a person also needs to market him or herself in the organization. Some participants also remained in a state where crisis of social capital can remain unresolved as they believed that cultural barriers between them and locals would always remain. As participant 3 from Pakistan mentioned:

I realized that as migrant if you want to succeed in your profession there are a few things you need to keep an eye, the first is networking you cannot go stronger on that because of the social aspect we cannot integrate socially too much and the other is language barrier not the academic or Grammatical but the accent and the third one is cultural. So these are the three four points which segregates you among the mainstream and you are not able have the networking.

The above quote represents a feeling of always being side lined because of the migrant cultural identity. The crisis of social capital was somewhat different for the females in the sample. Coming from male dominated societies the expectations for them were quite different. The females interviewed did pursue a professional career but were also expected to be good homemakers. Even migrating to Australia was a choice of their husbands and they also needed their husband's approval for organizational socialization. For example participant 16 stated:

I came to Australia from Pakistan three and half years ago. It wasn't really my choice I had migrated because my husband was migrating to Australia so I had to move along with him. I want to move forward and I have to make more friends.....don't know if it happens with others. That's how it happens in my organization if you want to progress you have to know the right people at right time. I still feel reluctant to go to these parties.... my husband said don't feel shy just go there and if you want to move forward.

As the societies from where the females interviewed originate, if the husband would not approve of them going to a social event she would have to withdraw from such events. Therefore it can be concluded that role of cultural background cannot be ignored in the context of the crisis of social capital. As the participants of this study faced the crisis of cultural and social capital they also faced the crisis of economic capital. The reason behind this crisis was that they were not able to convert their institutional cultural capital into economic capital through their earnings. Secondly, they also lacked any social networking due to which they did not have suitable referees who

could support them in their applications for jobs. As a result periods of unemployment and underemployment led to a gradual decline and economic capital. For example respondent 1 mentioned in his interview:

When I came here I had only A\$ 5000 in my pocket in the very first week I was able to realize that I might not find job in accordance with my qualification and experience..... When I came to Perth I even had less money than my initial arrival in Australia.

The analysis of the data reveals that the participants of this study did make an effort to resolve this crisis of habitus. The conclusions which they reached illuminated the way they attempted to resolve this crisis. During the resolution phase some participants enhanced their cultural capital, some enhanced the social capital and some made efforts to enhance both. The result of this effort could lead to some re-embedding in their new career environment through sense-making and acculturation. Sense-making is a process that can explain the resolution of the crisis faced by the participants with respect to the efforts of re-embedding. The basic idea of sense-making is about the construction of a reality which is an ongoing accomplishment that emerges from efforts to create order and make retrospective sense of what occurs in the environment (Weick, 1993). One of the findings of this study was that the sense-making properties of identity, retrospect, social, extracted cues and plausibility played a role in the crisis resolution.

Identity is about the discovery of a person's thought process based upon who he is or what is his actual identity (Weick, 1995). In the case of the highly skilled migrant professionals and managers, they were able to make sense that they were carrying an embodied cultural capital with them which gave rise to their new identity in their new home land Australia and this identity also had a deep impact on how they thought and made sense of the situations and the work environment around them. The feeling of this identity was very strong among them and it existed no matter what stage of their career they belonged at a certain point of time. For example participant 15 expressed:

The main thing is that the general example they give that if you are sitting among two other Australians and you three are going for same specialization although you have got all the credentials you have got experience you have got interest everything is there but still they don't know you because your skin colour is different because you are not from here and because you haven't worked with them.

The above quote is an example that how a participant from the medical profession felt that she could not get into the choice of her specialisation because of her identity. Therefore her resolve would be to choose a specialisation where her identity would not become a stumbling block. The participants of this study have gone through a learning process when they evaluated and compared their earlier views and their current conditions with respect to their professional attainment. In the sense-making process retrospect is to learn about one's own thinking from what you said earlier (Weick, 1995). One resolution about which skilled migrants thought or acted upon after looking at their experience in retrospect was to start their own business. For example participant 3 concluded:

I have started to think to develop or start my own business. For the last few months I have not applied for any job because I am a bit reluctant go again into an employee employer relationship. For my own business I don't think its negative I feel I can do much better for the profession and the society with my own business rather than just working for someone.

The reason behind this kind of resolution was a feeling to achieve a professional attainment where a person could never be side lined because of being a migrant. The skilled migrants' professionals and managers who did not want to work for local boss might as well be reluctant to socialise with their local colleagues. However socialization is a very important property of sense-making process. As in the sense-making process a person's conclusions very much depend upon who that person socialized with and how that socialization process took place (Weick, 1995). This socialization did help the participants in the resolution of the social capital crisis but the extent of this resolution could be different. There is one category of people who have rejected the idea of socialization as their resolution. . To further understand the process of social resolution of the crisis it will be useful to look at quote of participant 20 he stated:

Somehow unfortunately I have never been able to build up any rapport except for professional pure working relation only as and when required beyond that there is hardly any relation. I don't know whether it's got something to do with what I see every day being done to my junior colleagues the overseas doctors or don't know what it is but I think that subconsciously it has affected me.

On the other hand another participant recognised the importance of social contacts and reached a different resolution participant 7 stated that:

I had good contacts with the persons who worked with me and who even left our company and are with other companies now through email etc. In a way that's very good for what I am doing as an expert.

Sometimes selective perceptions of the participants also had an impact upon their resolution process. This is explained by the property of extracting cues in sense-making which is about what a person singles out and embellishes as the content of the thought is only a small portion of the utterance that becomes salient because of context and personal dispositions (Weick, 1995). This property was also about some personal experience which stays with a person for example participant 9 said:

I think once I got the Australian citizenship I really felt that I was an Australian and soon after that I was flying to US and this American lady sitting next to me asked me that where did I come from and I said to her I am Australian. She said yes you come from Australia but what you are just looking at my face and that jolted me that you can change your nationality on paper but people do want you to have another label.

The above quote represented a link to the embodied cultural capital. As a result of considering their cultural and ethnic attributes as their weakness skilled migrants turned to plausible sense-making. Plausibility is a thought process in which persons believe that what they think is enough for them to carry on with their work (Weick, 1995). For example participant 1 made a comment about his accent, he said:

I was very confident my accent had also slightly changed. I still believe that by living here for years you can brush up your English language skills but you cannot change your accent. When I talk to someone he might say that I was talking to an Indian guy it is not an abuse to me any more I know that it can be refined it cannot be changed.

This represented a very plausible concept as born Australians still recognize him as an Indian male and he still believed that his accent is refined. Secondly, the above respondent has used the word 'abuse' for being recognized on basis of one's embodied cultural capital. This represented a very strong sentiment but the person is saying that he has learned to live with his cultural attributes this part represented the resolution and the part in which he said that my accent is refined now represents plausibility associated to this resolution. As being a first generation migrant he was just using plausibility in the process of sense-making by saying to oneself that it did not matter if one got recognition or not it was a milestone that the accent was refined. In the context of sense-making the resolution of the crisis is about coming to terms with the switch of the different forms capital with certain conclusions. The next step for the participants after reaching those conclusions was to find ways to integrate in the Australian work environment. The acculturation process will help in understanding the extent of integration of the participants of this study in the Australian work culture.

The process of acculturation is divided into four categories integration (accept old culture, accept new culture), assimilation (reject old culture, accept new culture), separation (accept old culture, reject new culture), and marginalization (reject old culture, reject new culture) (Sakamoto, 2007). An in-depth look into the experience of the participants using acculturation process theory revealed that the participants of this research integrated to some extent, there was also evidence of separation and marginalization but there was no evidence of assimilation. Some of the participants of the study separated because they felt that they could not adapt the local culture. As participant 1 said:

I liked to socialize with my colleagues in my previous job but due to some cultural constraints for example I might fund an after hour's party and not attend it as if drinking (alcohol) is the main part of celebration I can't be a part of that, in my culture the concept of celebration is different. The cultural gap always existed it is not created by the management but it is always difficult to overcome that one.

Some participants of the study also tried to find middle grounds where they can accept both home and host cultures to have an integration experience. For example participant 12 mentioned:

What I have realized is it's an important part of Australian life when you are working on Friday evening you go with you mates and have a few drinks and there are things that are discussed and shared during those sessions. Coming from Muslim back ground we are not part of those discussions..... I always joined them, to have some non-alcoholic drinks.

Since alcohol is prohibited in the above participant's religion but he found a way to integrate in the work place socialization by keeping his culture as well as adapting to certain aspects of the local culture. Evidence of

marginalization was apparent in the experience of one participant. This experience will provide an insight that how a person can reject both host and home country cultures.

Due to problems that I faced in the public schools when I was working there from my bosses, colleagues and students and sometimes from the community, everywhere did face some sort of problems so after working for three years I decided that I cannot continue this way and that's going to affect even my professional carrier..... I moved back to Perth and started looking for a job in this sector first I got job in a different school it had completely different atmosphere. The people dealing with me had a totally different attitude. I felt that I am in a different planet may be so that's the difference that I felt, that was before this school that was also an Islamic school.

The respondent before coming to Australia worked in supervisory position in his home country. His entire career before coming to Australia was in the main stream of his profession so the organizations he worked in were part of the culture of the majority in his nation that is without any religious affiliation. However after facing discrimination and the realization that he would never be able to gain a high position in any main stream Australian organization he joined an Islamic organization that was not main stream but that was the only place where he could get such a high position.

From the above discussion it can be noted that being a highly skilled South Asian migrant professional and a manager is not just about having skills and qualifications recognized by the immigration department; this is just the first step. Launching a successful professional career is a completely different story. The reality is more a story of continuing and sometimes grim struggle to find a new career identity. The issues raised in this research are significant in looking at issues of successful integration into the Australian work environment. The acculturation process for participants in this research is a journey of resolving a crisis of habitus.

Conclusion

This paper has attempted to provide a window into the challenges faced by the participants of the study and the efforts to resolve them. Although the main focus of this research was the professional lives of the skilled migrants and managers from South Asia, this research also successfully revealed the consequences of the struggles of everyday professional life. The use of theories of habitus and disembedding helped in explaining the phenomenon of being a skilled migrant from South Asia in Australia. The theories of sense-making and acculturation successfully explained that the how these migrants resolved the crisis of habitus and re-embedded themselves in the Australian work force. However, there are also implications for the employers or the potential employers of the highly skilled migrant professionals. It seems that non recognition of the overseas skills, qualifications and experience can create an air of distrust between the migrant employees and local employers. Secondly, the indifference of the local employers to the struggles of highly skilled migrant professionals adds to this atmosphere of distrust. Despite this, there is a need for more research into the process of accommodating highly qualified and skilled professional migrants into Australian organizations. Attention should be paid at both the technical and social levels as looking at only technical skills is just as looking at a portion of the whole picture. For policy makers and the organizations research that takes into account the broader scenario of flaws and loopholes in the system of skilled migrant settlement as identified in this paper will help them make better use of the skills, experience and qualifications of migrants in the task of meeting the challenge of filling the ever-increasing skills gap in the Australian economy.

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The Influence of Cultural Differences on the Perception of a Web Site. A Comparison between Mexico and Spain

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Abstract

The cultural background in the development of the Website is important to avoid mistakes that may cause bad image to the customer. (Nantel and Glaser, 2008) have found that language, a major cultural factor, is less important when the quality of the offered products is attractive to the buyers. The native language of the site does not have a big impact on the perception of the usability of a site and purchasing decisions.

This paper examines if the cultural background of the website is perceived when using English language in the design. The Website was designed and developed specifically for this research, using usability principles, trying to access to a multicultural buyers market. So far the relationship between usability and Hofstede's cultural dimensions has been an important factor in cross-cultural work. Based on this, we analyzed the data collected by a survey in Spain and Mexico to verify our research question.

Background

The first studies about the implementation of a Web site used to focus on the development and the technical aspects of the site, which has led most research on web site design to analyze technical aspects of it. Thus, it has generated a large number of design elements that will apparently make a web site to be successful: usability, use of images, aesthetics, navigation and search, site interactivity, elements such as brand power and the degree of site customization (A°berg and Shahmenhri, 2000).

According to Falk et al. (2007), not only the technical design of a Web site is the key to success. Also it should be considered other important factors such as the culture of the users that the site is focused on. It is not about adapting the company sites to attract customers from different regions, something that many companies do just by switching the language (Lynch et al, 2001). For example, designing a Web site made for entertainment or educational purposes may not be compatible with the same approach as it is done in the design of a commercial site (Cook and Finlayson, 2005). Therefore, it should be always included the cultural analysis and, as well, to establish standards that bring together the preferences and expectations of a community that is intended.

Companies that offer their products in different markets are willing to improve the usability of their sites to attract more visitors. Examples of some pieces of work are those of Ferreira (2002), that examines topics related to language besides to the metaphors used, the attitudes and preferences that weigh in the cultures to which the site aims to reach (Nantel and Glaser, 2004), which also focus on the use of language to improve the usability of a site and thus attract more visitors, offering create sites oriented to each culture rather than a universal one. In sum, most of these works are based on understanding the cultural differences and from there designing a specific site.

The models proposed so far come from computer science. However, we believe that you cannot leave out the cultural and organizational factors affecting the development of the site (Ogbonna and Harris, 2007). Thus, cultural issues and dynamics faced by organizations are a very important factor that impacts the design, development and implementation of a site. What if the site is oriented at a different market to the cultural background of the designer? Nantel and Glaser (2008) have found that a cultural factor as relevant a priori, as is the language, it is less important when the quality of what is offered is attractive to the prospective buyer. Hence, sometimes the native language of the site seems to have no impact on the perception of usability and in the purchasing decision taken by the user. While there are various models for analyzing the cultures from different perspectives, some of the dimensions and their interpretations of how a culture behaves under those values is equivalent between the different

authors. Models, regardless of whether they are related to areas such as politics or business agree mostly in two dimensions: Individualism vs. Collectivism and risk aversion. Many of the studies that have been made about culture and the Internet are related to the reduction of uncertainty or risk at the time of a commercial transaction, or tried to model sites that may be perceived the same way by different cultural groups (Hofstede, 2002; Trompenaars and Hampden-Turner, 1998; Chaney and Martin, 2005; House et al., 2002).

Marcus and Gould (2000) made an analysis of several Internet portals where they assess and classify different groups defined according to the dimensions of Hofstede and found that different cultures affect the design of their sites. Their conclusion is that culture, expressed through the dimensions of Hofstede affects the design of Web pages. In the study by Matei and Ball-Rokeach (2001) it was found that among the ethnic communities living in Los Angeles the groups of the most collectivist societies (in this case Korea and China), make from three to two times more on-line friends than the groups of European origin (while Hispanics were the ones with the lowest percentage at the time to make friends on-line). Kim and Yun (2007) attribute this to that in collectivist societies is easier for users to express their emotions in an environment where it would be impossible to communicate face to face, as is the case of Korea. In the work of Miura and Yamashita (2007) we observe that the same applies to Japanese users of blogs. They are more sensitive to the negative responses on their sites, concluding that this is due to the collectivist mentality of Japan, where they perceive less risk to say something negative when it is not say face to face. The work of Nath and Murthy (2004) shows that issues such as community, income level, the country's innovation, risk aversion and masculinity of a culture have a significant impact on Internet penetration. As far as differences regarding gender, countries with a high level of masculinity value productivity and try to be the best (Alberts-Miller and Gelb, 1996), and advertising shows how effectiveness of a product emphasizing on all the capabilities of site performance.

Studies have found that much of the risk perception is influenced by the culture of a country, since this is one way of interpreting the world (Ueltschy et al, 2004). Traditionally it has been perceived as a higher risk purchasing services than goods, due to the intangible nature of the former. Regarding on-line sales is practically saying that all sold products are intangible, so that the perceived risk increases among consumers and users (Ueltschy et al, 2004). The same applies for the Internet adoption in economically undeveloped countries, where users represent less than 1% of the population like in countries such as Bangladesh, Nigeria, Vietnam and Zimbabwe (Nath and Murthy, 2004). Yeniryut and Townsend (2003) found that the lower acceptance of new products can be supported with power distance and risk aversion, finding that technological innovations are high in countries with small power distance, low risk aversion and higher individualism. While Linjun et al. (2003) show that power distance is a key element in the e-mail acceptance in China. The use of color can also reduce ambiguity for cultures with high levels of risk aversion, or it can be used to maximize information without redundancy, for cultures with low levels of risk aversion (Zahir et al, 2002). Starting from this point, for the specific case of this research, it has been worked on a site previously designed with usability principles developed by Nielsen (1994), relating these to indices of Hofstede's cultural values. Thus, the hypotheses have been developed for each cultural value related to Web design as it is indicated below (TABLE 1).

TABLE 1. SUMMARY OF THE FORMULATED HYPOTHESES

Hofstede's values	Relationship of usability	Hypotheses	Element of usability
Risk aversion	H1a: (-)	The higher the risk aversion index from a country, the lower the perception of Web site security.	Security
	H1b: (-)	The higher the risk aversion index, the lower the perception of navigation easiness of the site.	Navigation Efficiency
	H1c: (-)	The higher the risk aversion index, the lower the perception of control on the site.	Control
	H1d: (+)	The higher the risk aversion index, the greater the importance of the site content	Content
Collectivism	H2a: (+)	The higher the index of collectivism, the lower the perception of control on the site.	Control
	H2b: (-)	The higher the index of collectivism, the lower the perception of freedom of navigation on the site.	Navigation Efficiency
	H2c: (-)	The higher the index of collectivism, the lower the interest in the site.	Emotion
	H2d: (-)	The higher the degree of collectivism, the lower the perception of a site as safe.	Security
	H2e: (-)	The lower the index of collectivism, the greater the importance of the site content.	Content
Masculinity	H3a: (+)	The higher the masculinity index, the greater the importance in the performance of the site and its products (easiness of use.)	Easiness of use
	H3b: (+)	The higher the masculinity index, the greater the importance of taking control of the Web site.	Control
	H3c: (+)	The higher the masculinity index, the greater the importance of the navigation easiness of the Web site.	Navigation Efficiency
Power distance	H4a: (+)	The higher the power distance, the greater the perceived need for security features on a site.	Security
	H4b: (+)	The higher the power distance index, the greater the importance in the site content.	Content
	H4c: (+)	The higher the power distance index, the greater the importance in the language used on the site.	Language

Taken into account the principles of usability of Nielsen (2002) for the design of Table 1, in the case of this variable there are reduce the number of actions that the user must do in order to avoid losing it, being necessary to convey a sense of security and credibility on the site. FIG.1 shows the proposed full model with all the hypothesis listed.

Sample characteristics

For the sample college students from Mexico and Spain were selected discretionally and by convenience. The countries were chosen because: 1) they represent a wide difference between their range for risk avoidance, power distance, and individualism / collectivism, being the dimension of masculinity / femininity which has a narrower range of disparity between the participants from those countries. Besides the fact that Mexico is a natural neighbor of the U.S. and the cultural influence in this country is evident by the verbal communication of Mexicans. Spain plays an important role in the Spanish language, since it is the country of origin of this idiom and its Anglophones inhabitants are more familiar with British English than with the one from the U.S. Some authors recommend at least 200 visitors to obtain a reasonable sample size (Swearingen, 2009). Data collection was performed during the period from April to June 2010, so it has been possible to achieve an appropriate size for the test statistics. For technical reasons, the survey had to be answered in one session; therefore it could not be interrupted. In order to approximate the sizes of the different subsamples, 206 questionnaires from Spain and Mexico were taken. In order to obtain the test results and all statistical models SPSS version 18 and AMOS 18 were used.

The site and its user interface are based on a model of e-commerce distribution and sale of music in order it matches with the four elements that Postava-Davignon et al. (2004) mentioned: a feeling of confidence, sense of security, sense of interest in the site and desire to return to the site. It was decided that the criteria of usability of Nielsen (2002) was the main basis to design the site and also were taken into account the categories of usability from the Microsoft guide described by Keeker (2004), including those areas identified by Agarwal and Venkatesh (2002) and Postava-Davignon et al. (2004). The site is in English and sells independent music, as a consequence the language does not have a representative impact on the perception of usability as the quality of what is offered is attractive to the consumer (Nantel and Glaser, 2008). While CD sales have declined, it is still a major source of online sales. Independent music labels have survived through the sale of formats that are believed missing -such as vinyl- and a target market consisting of an informed public, which continues to consume music in traditional formats (Hidalgo, 2009). Using a portal designed in English will also help to find whether the application of usability elements in site design effectively reduces the cultural impact of it, fulfilling a major premise that a Web site allows: it serves as a knowledge distribution channel for both providers and users of a site (Fang and Holsapple, 2007).

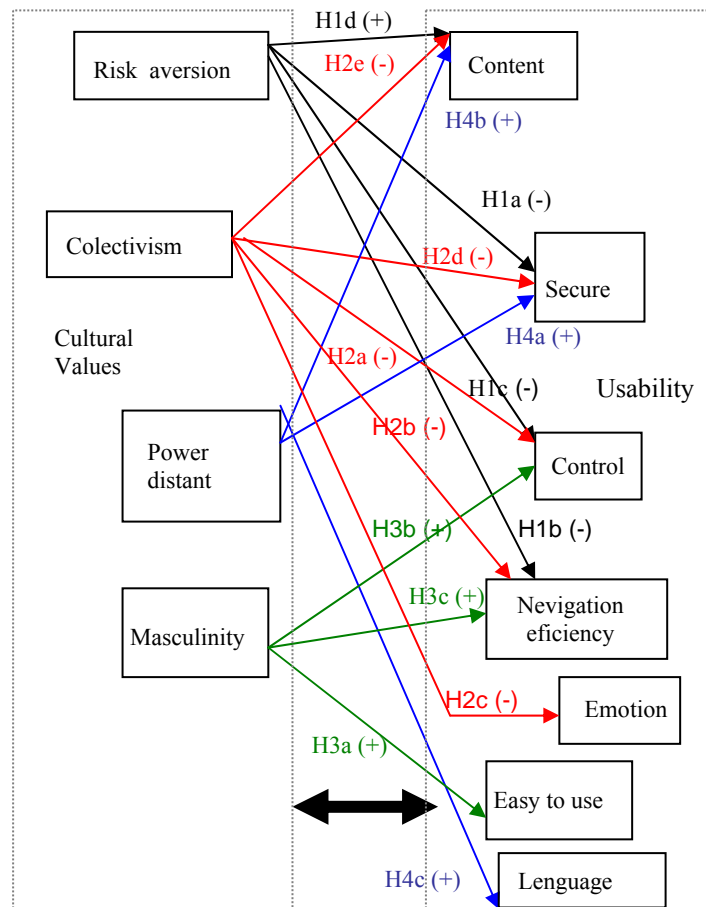


FIG 1. MODEL OF THE RELATIONS BETWEEN USABILITY AND CULTURAL VALUES AND THEIR HYPOTHESIS

The online design and implementation was carried out by a Mexican company that has experience in Web sites, even at a governmental level. The Web site design was the most "culturally neutral" as possible, considering

that there are users whose cultural values are opposite. The model is based on the Visibility Graph Usability Center at Georgia Tech (Fang and Holsapple, 2007), that suggests raising a series of instructions for the participants in order to explore and then execute a series of tasks, which are: seeking for information or for a particular object. Part of the demographic information and prior experience, appears in most of the usability studies and perception of a site, as well in analysis on Internet usage and satisfaction (Roy et al., 2001, Palmer, 2002; Ferreira , 2002, Agarwal and Venkatesh, 2002; AMIPCI, 2004). The culture dimensions are shown in TABLE 2.

Several authors use the site navigation to assess perceptions of usability (Nielsen, 1994, Agarwal and Venkatesh, 2002; Palmer, 2002, Hall et al., 2004). The effects on the usability dimensions are restricted to site navigation tasks such as selecting an item, obtain personal data and product selection of a music sales company. The dimensions of culture are shown in TABLE 3

TABLE 2. DESCRIPTION OF THE DIMENSIONS OF CULTURE

DIMENSION	ITEM	DESCRIPTION
Risk aversion RISK	RISK1	Safety is an important concern in my life
	RISK2	Life is so uncertain that I must be in constantly alert to not be in disadvantaged
	RISK3	It is important to consider different points of view when I take personal and social decisions
Collectivism / Individualism COLECTIVISM	INDIVIDU1	I like to share little things with my neighbors
	INDIVIDU2	Being an unique person is important to me
	INDIVIDU3	The decisions achieved in group are better than those achieved individually
	INDIVIDU4	Usually I sacrifice my own interest for the benefit of my group
	INDIVIDU5	I prefer to rely on others
	INDIVIDU6	It is important for me to be useful for others
Power distance POWER	POWER1	El jefe de uno es una persona igual a cualquier otra My manager is a person like any other
	POWER2	Managers are always inaccessible and distant
	POWER3	The way to change society is to make everyone equally powerful
	POWER4	Other people are a threat to my power of one and I cannot trust them
Masculinity/ Femininity MASCULIN	MASCUL1	Having a career is more important for men than for women
	MASCUL2	Men usually solve problems with logical analysis, women generally are more visceral
	MASCUL3	Solving difficult problems usually require a strong and active approach, which is typical of men
	MASCUL4	There are some jobs that a man can always do better than a woman

TABLE 3. USABILITY DIMENSIONS DESCRIPTION

Dimension	Item	Description
Security SECUR	SECUR1	The site is secure
	SECUR2	I trust in the site
	SECUR3	I relied more on the site as it has social networking (myspace, twitter, facebook)
Navigation Efficiency	EFICIENCY	The site is simple to navigate
Control CONTROL	CONTROL1	It is easy to do what I want to do
	CONTROL2	The performance of the site was excellent
Content CONTENT	CONTENT1	The site provides good information about products
	CONTENT2	The image quality is great
	CONTENT3	The site produces purchase wishes
	CONTENT4	I identify with the images of the site
Emotion EMOCION	EMOCION1	The site is interesting
	EMOCION2	The site is fun
Easiness of use	EASY	Obtaining information is easy
Language	LENGUAGE	I identify with the language used on the site

Covariance structure model (CSM)

In order to formulate the covariance structure model there were carried out two stages proposed by Anderson and Gerbing (1988): 1) To analyze the goodness of the psychometric properties of the measuring instrument used, performing a confirmatory factor analysis (CFA). 2) After the goodness acceptance of the measuring instrument, this is modified including the theoretically proposed structural relationships that are analyzed by a Structural Equations or Covariance Structure Model (CSM). Before using these tools, prior analysis was required, such as inspecting the homogeneity of the standard deviations and doing multicollinearity and normality testing of variables. Subsequently it was conducted an exploratory factor analysis that allowed to observe the structure of relationships among variables.

Preliminary analysis: homogeneity, multicollinearity and normality

It was found that there is consistency among the variables due to the observance of averages and standard deviations. Thus, we ensure good adjustment goodness in later models; it is advisable that there are no variables in the model with a lot of variability and others with few. The multicollinearity test of the tolerance statistical values are above 0.1 and the inflation variance factor (IVF) is below 10; therefore it is not perceived a possible problem of multicollinearity for any variable. Thus, the variables of the model met the requirements for their use.

Exploratory factor analysis

To assess the unidimensionality of the latent concept, we performed an exploratory factor analysis. The extraction procedure has been the Principal Component Analysis (PCA) for the dimensions of cultural values and usability. Regarding the results of the usability dimensions, the measure of sampling adequacy Kaiser-Meyer-Olkin (KMO) has a value of 0.873, higher than the acceptable value of 0.7, while the Bartlett's sphericity test has a p-value inferior than the significance level (0.05) to reject the null hypothesis that the correlation matrix is an identity one; therefore it is concluded that the factor is adequate. Concerning the test for the variables of culture, the measure of sampling adequacy Kaiser-Meyer-Olkin (KMO) has a value of 0.720, higher than the acceptable value of 0.7 and the Bartlett's sphericity test has a p-value lower than the limit of level of significance (0.05) to reject the null hypothesis that the correlation matrix is an identity matrix, so we conclude that the factorial is adequate.

Model applied to Spain

The model for Spain (FIG. 2) consists of ten variables. Masculinity only has impact on the efficiency of navigation, but with a negative sign ($\lambda = -2.347$) in an approach contrary to the expectations. Collectivism also influence this variable ($\lambda = 2.044$), which is also reflected in emotion ($\lambda = 2.052$), control ($\lambda = 2.052$), content ($\lambda =$

2.947) and security ($\lambda = 2.028$).

Of these, the greatest influence of this construct is produced on emotion. For Spain, the variable of perceived risk emerges, which is reflected in the content ($\lambda = 3.100$). In addition, power distance, measured only by the indicator "Security is a major issue in my life" influences the language positively ($\lambda = 3.818$), however the content ($\lambda = -1.654$) is influenced negatively.

Verification of the hypothesis (TABLE 4) was carried through the analysis of each of the standardized coefficients and their significance level. Regarding risk aversion, no relationships were found between safety and efficiency or easiness of use. The five hypotheses for collectivism are accepted, while for the dimension of masculinity / femininity only one hypothesis was accepted. In terms of power distance, the only hypothesis not proved was the one related to its influence on safety.

TABLE 4. VERIFIED HYPOTHESIS FOR SPAIN

Variables	HIP.	Verification
Risk Aversion	H1c: (-)	YES. With opposite sign
Collectivism	H2a: (-)	YES. The measured variable is individualism, in opposition to collectivism, the sign changes
	H2b: (-)	YES. The measured variable is individualism, in opposition to collectivism, the sign changes
	H2c: (-)	YES. The measured variable is individualism
	H2d: (-)	YES. The measured variable is individualism
	H2e: (-)	YES. The measured variable is individualism
Masculinity	H3c: (+)	YES. With opposite sign
Power Distance	H4b: (+)	YES. With opposite sign
	H4c: (+)	YES

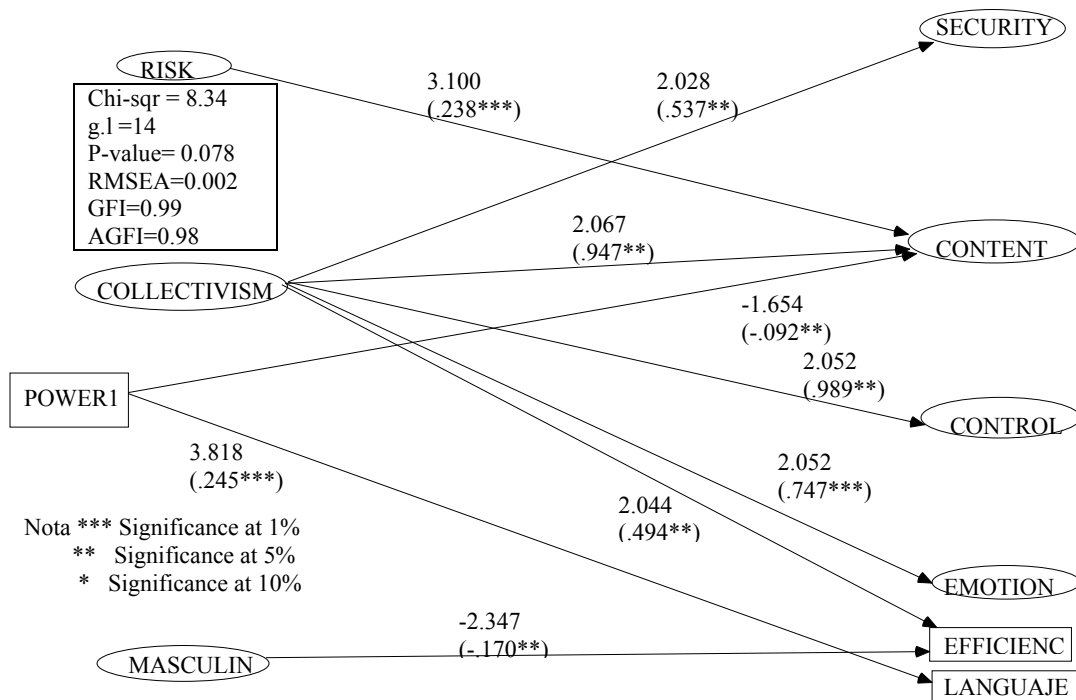


FIG. 2 STRUCTURAL EQUATION MODEL FOR SPAIN

Model applied to Mexico

The model for Mexico only comprises two cultural variables: Sex ratio vs. femininity and collectivism. The two appear as latent variables and all enclose their reflex variables (Fig. 3).

In terms of usability variables, four of them are exposed as latent variables and two as observable variables. The observable variables are efficiency and easiness of use, which are influenced by the masculinity variable $\lambda = \lambda = -2.929$ and -3.224 respectively. It can be noticed that values have negative signs. There is a latent variable that influences also masculinity, control ($\lambda = -2.016$). The three variables have a different weight, being the ones with the greatest influence easiness of navigation followed by the navigation efficiency. The three variables are significant at 1%. The estimators for the collectivism variable are: efficiency of navigation, which is an observable variable with $\lambda = -2.968$. The other four appear as latent variables, being content the one with most significance ($\lambda = 3.166$), followed by excitement ($\lambda = 3.110$), control ($\lambda = 3.045$) and finally safety ($\lambda = 2.693$), all with positive signs. Again, it is collectivism the cultural dimension that best represents cultural differences. These values are consistent with what has already been shown in other studies (Yano and Seo,2003; Zandapour and Harich, 1996; Matsumoto et al., 1998) on these dimensions, which also explains the behavior and characteristics of many countries and are also key parts to deduce the origins of cultural differences that cause problems to achieve success with a website.

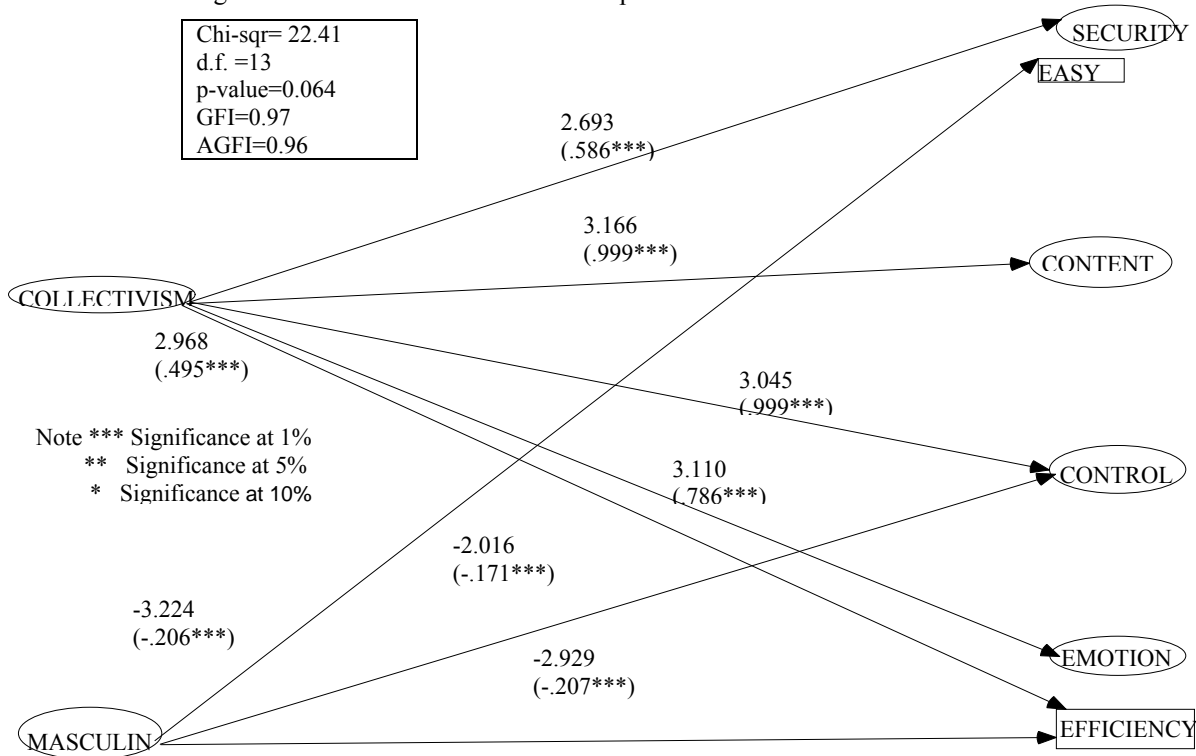


FIG. 3 STRUCTURAL EQUATION MODEL FOR MEXICO

TABLE 5 shows the assumptions that have been demonstrated for each cultural dimension regarding the variables of usability

TABLE 5 VERIFIED HYPOTHESES FOR MEXICO

Variables	HIP.	Verification
Collectivism	H2a: (-)	YES. The measured variable is individualism
	H2b: (-)	YES. The measured variable is individualism
	H2c: (-)	YES. The measured variable is individualism
	H2d: (-)	YES. The measured variable is individualism
	H2e: (-)	YES. The measured variable is individualism
Masculinity	H3a: (+)	YES
	H3b: (+)	YES
	H3c: (+)	YES

Results and conclusions

Structural equation models have helped us to propose and analyze a complete model of analysis about cultural perception and demonstrate that the site's users perceive the existing cultural differences since the web site was developed by a person of a particular national culture. The resulting models were different for each country; this is that users from Spain perceived differently the site designed by Mexicans. These results are consistent with authors such as Barber and Badre (1998) that had already pointed out: there are elements prevailing in the interface design within a given culture, known as cultural markers.

Only the model of Spain validates the four constructs of culture, although "power distance" is perceived as a reflecting variable. Stronger relationships between culture and perception of a given site are present on the "collectivism / individualism" level, construct present in two models with the five variables of usability that were proposed in the cultural model. Indeed there is a relationship between culture and usability for the dimension of collectivism / individualism. The positive and direct influence from collectivism to usability is given for the dimension of "content" for both Mexico ($\lambda = 3.166$) and Spain ($\lambda = 2.067$). As these two nations are more oriented toward collectivism, these results agree with the importance attached to the site's content, as Gibbs et al (2003) mentioned in their work. The dimension of collectivism has been consistent. This hypothesis is confirmed in its entirety to this cultural dimension, as a consequence the higher the degree of collectivism of a society, the lower the perceived safety of a site. As the site has been designed in English, but considering the collectivist culture (Mexico), issues related to security had to take into account to increase the control on the site, prioritizing the site content as well as limiting the freedom of navigation.

Relationship between Web design and cultural differences has been being discussed since the early years of the World Wide Web, where it begins to emphasize that culture plays an important role in the design of information systems (Gallupe and Tan, 1999). Despite the facts that a site can be written in a language such as English and can be directed to an international market, it must have a design that emphasizes the quality of the offering, to create interest in the prospective buyer. Nevertheless, many companies create multicultural designs or different versions for distinct markets but with an ethnocentric view, which is detrimental to the success that the site may have (Becker and Mottay, 2001). Again, is the consideration of cultural issues a key to the successful design of a site and avoid

that if it will be translated, it is transformed with mistranslations and grammatical inconsistencies that are not appropriate to the culture.

Not only should the limitations of a national culture also be considered, but also the technological infrastructure and economic development that may affect the development of electronic commerce (Jungles and Watson, 2004). The lower the country's economic development is, the implementation of successful models in other countries with economic development does not mean it will succeed in a country with less economic development, consequently users' concerns about safety should have to be taken into account. This is the reason of why a good design of a site that comprises good information about the site or products, etc., can help to reduce that risk perception (Zahir et al, 2002; Graeff and Harmon, 2002; Cunningham et al. , 2005; Pollach, 2006).

The issue of designing influences the reduction of uncertainty in a site, when it allows confidence and enables the navigation to be more accessible. It is precisely in the study of culture that has been confirmed that designing forms vary according to cultural values of a country (Marcus and Gould, 2000), in this case, using Hofstede's cultural dimensions to test the hypothesis it was proved that there are indeed different appreciations on a site, according to the culture that visits. The usability-engineering design of a site helps to make it more efficient and reduce any potential fears, but this is not enough. Once more it is emphasized that cultural differences should be considered (Nielsen, 1994; Quesenbery, 2001; Agarwal and Venkatesh, 2002; Gray and Salzman, 1998). While there have already done work on cultural differences and usability, these have been focused on making a site optimal and it has not found any of them in the test for various nationalities.

The models emerged from this study indicate that indeed, not only is necessary to make use of usability, but also allow for cultural considerations. Moreover, it is demonstrated that a universal site cannot exist because the cultural significance is such that, although the origin of the designer is not detected, the appreciation differs slightly by users from distinct nationalities. It is especially important to note that one of the cultural dimensions that represent a weighty role in cultural issues is individualism / collectivism (Ferreira, 2002).

Limitations of work and future research

The most important limitation of this work comes from its exploratory nature and foremost from the source of data collection. The survey was based on a sample of convenience that cannot be regarded as homogenous. Firstly, because although it has been distributed mainly among university students in Mexico and Spain, other users have had access the Web and therefore have produced biases related to age or educational level, mainly. Therefore, in subsequent studies it will be considered conclusive this limitation by designing a sample that, although it could be convenience, has the same amount for socio-demographic variables that may produce a higher bias in relation to the cultural dimensions or the principles of usability. Second, the participants are not necessarily music buyers and collectors of records, consequently the user characteristics of collectors are not reflected in the site preferences. For further studies, we believe mandatory to use samples that truly represent the people who visit such sites. Another limitation regarding the chosen sample is that although the web is the model actually used by several companies, it does not represent one of the major industrial markets. Although sales of vinyl records in formats have increased, it is a fact that the music industry is in crisis and buyers of such products are a very definite segment with their own characteristics in the industry.

The Mexican sample is basically formed by students from Guadalajara, making it fairly homogeneous, while the Spanish sample has been more dispersed and for that reason more heterogeneity, but it was mostly held in the Community of Madrid. Besides the future lines already pointed out in regard to the limitations, another possibility is to make a real investigation into only one of these countries, with samples representing the whole population and not just the university sector. Given that the U.S. is a country where many people live from different national origins, also it could even be perform a segmentation in which the Hispanic market is compared with other segments. Even if research is conducted again in the analyzed countries, results from the U.S. Hispanic segment could be compared with the market in Latin America and Spain.

Despite all these limitations, our study represents a starting point that corresponds to a clear contribution in the field of electronic commerce. Therefore, we intend to develop further research where more cultures become

involved. These future studies will incorporate cultures that do not have a Western origin, including emerging markets like China and India. Other countries where Internet is already well established and developed but they belong to cultures other than the Western world can be also incorporated, such as Korea and Japan. In addition, Brazil also will be contemplated since it is an emerging country and Latin America, but also has a historical background and current development different from its Latin American neighbors.

References

For a full list of references, please contact the author(s).

The Mediating Effect of Knowledge Sharing Behaviors on Employee Job Satisfaction in the Context of Learning Organization

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Abstract

Recent research suggests positive association between learning organization and various outcomes on employee's attitudes and behaviors including job satisfaction, organizational commitment, motivation to transfer learning, and turnover intention. In the context of learning organization, knowledge sharing behaviors play a critical part in leveraging and generating the new knowledge for solving problems and improving organizational performance. The primary purpose of this research is to investigate the mediating effect of knowledge sharing behaviors in the context of learning organization on the employee job satisfaction. Based on analysis of 2,419 sample respondents from various organizations/industries, the structural equation modeling (SEM) analyses were conducted. The results reveal that knowledge sharing behaviors are positively and significantly associated with employee job satisfaction. The research results also confirm the practices of the learning organization in Thailand.

Introduction

Today many organizations are faced with more competitive, complex and dynamic environment as a result of globalization (Lopez, Peon, & Ordas, 2004). Learning organization that focuses on managing organizational knowledge (Kelloway & Barling, 2000) is the strategic management tool that is widely adopted to ensure that organizations could sustain their competitive advantage and hence survival (Afiouni, 2007). In a knowledge-based economy, organizations inevitably turn their focus onto human resources in the organization as well as knowledge sharing activities (Kelloway & Barling, 2000).

The results of previous studies suggest the relationship of organizational learning capabilities with key desired factors in human resources development in term of learning transfer, turnover intention, and organizational commitment. Many studies provide strong supporting evidences on the relationship between learning organization and job satisfaction (Egan, Yang, & Bartlett, 2004; Wang, 2007).

This research aims to investigate the mediating effect of knowledge sharing behaviors between organizational learning capabilities and employee job satisfaction.

Literature Review

Learning organization could be considered relatively new concept in the field of management and organization theory (Lien, Hung, Yang, & Li, 2006), especially in the field of human resource management (Kontoghiorghes, Awbrey, & Feurig, 2005; Lien, et al., 2006; Song & Kolb, 2009; Yang, Watkins, & Marsick, 2004). Learning organization is the accumulative function of creating, acquiring, transferring knowledge as well as modifying the behavior to reflect the new knowledge (Garvin, 1993). It is potentially a path way for change especially for the evolution of organizational culture (Senge, 1990). One of the major objectives in building the learning organization is to enhance the capacity to learn, adapt and change (Gephart, Marsick, Buren, & Spiro, 1996).

Organizational learning concentrates on the processes or activities in organizations (Aggestam, 2006; Nevis, Dibella, & Gould, 1995), especially those with the processes of change (Cook & Yanow, 1993; Lien, et al., 2006). Organizational learning involves the experiences and actions of members in the organization, the integration of structures, strategies, and processes need to exist in order to provide adaptive learning environment (Goh, 2003). In this regard, learning organization is supported by organizational learning culture as a bundle of mechanisms of

tangible and intangible resources allocation (Bhatnagar, 2006) especially to bind knowledgeable or valuable workers to the desired changes.

Findings from previous empirical studies show that organizational learning capabilities are related with the organizational financial performance measures and innovation aspects (Ellinger, Ellinger, Yang, & Howton, 2002). Organizational learning capabilities are also found to be related to human related issues in term of motivation to transfer knowledge, turnover intention, organizational commitment and job satisfaction (Egan, et al., 2004; Wang, 2007)

Loermans and Flink (2005) proposed that organizational learning capabilities or learning organization acts as enabler processes or fosters culture mechanism in creating changes that yield some particular useful knowledge for people in the organization to further apply for their work to meet the desired organizational objectives and vision (Loermans & Fink, 2005). Supporting this notion with the idea proposed by Liao (2008) which emphasized that in order to encourage interaction and communication among knowledge workers within and across business units, organizational culture or policies could promote or facilitate these actions to happen as the way in pursuing for competitive advantage (Liao, 2006, 2008).

As organizational learning capabilities are an enabler factor for knowledge workers sharing and exchanging of their particular knowledge toward work (Liao, 2006, 2008; Song, 2008; Song & Kolb, 2009), then knowledge sharing behaviors seem to be the proactive behaviors as well as key output from the processes of change in the learning organization. Adopting the theoretical concepts developed in the Western culture, this research addresses the main research question on what is the mediating role of knowledge sharing behaviors in the context of learning organization in creating employee job satisfaction? Our hypothesis for this research is formulated as follows:

Research Hypothesis: Knowledge sharing behavior mediates the relationship between organizational learning capabilities and job satisfaction.

Methods

Instruments

This research employed the self-reporting questionnaire survey to assess the individual employee perception in an organization. This research adopted many available and well-tested instruments, i.e., DLOQ, KSB and MSQ.

Dimensions of learning organization questionnaire (DLOQ) developed and used by Watkins and Marsick, 1993 and later validated by many other studies such as Marsick & Watkin (2003), Yang et.al. (2004), Song, Joo, & Chermack (2009). Based on the original short version of 21 items, this research measured the learning organization as multidimensional construct (Yang, et al., 2004) and named this construct as organizational learning capabilities (OLC) which still assessed the important of seven dimensions of the learning organization : continuous learning (OLCL), inquiry and dialogue (OLDI), team learning (OLTL), share learning system (OLSL), empowerment (OLEM), external connection (OLCE) and supportive leadership (OLLL). Each sub dimension was measured by three items, then total of twenty-one items were measured to assess the organizational learning capabilities (OLC) in this research.

The second instrument is knowledge sharing behavior (KSB),based on the knowledge sharing process proposed by Van den Hoof and Van Weenen (2004). The knowledge sharing process is divided into two different variables: knowledge donating and knowledge collecting (Bart. Van den Hooff & Van Weenen, 2004). As knowledge donating and knowledge collecting could be found both within and with other working units and according to procedure from previous studies, this research applied four constructs to assess the knowledge sharing behaviors (KSB): knowledge donating within department (KSDO_IN), knowledge donating with other department (KSDO_OUT), knowledge collecting within department (KSCO_IN) and knowledge collecting with other department (KSCO_OUT) (Bart Van den Hooff & De Ridder, 2004; Bart. Van den Hooff & Van Weenen, 2004; Bart Van den Hooff, Vijvers, & De Ridder, 2003). Two sub-constructs of knowledge donating were measured by three items, and two sub-constructs of knowledge collecting were measured by four items, resulting in total of fourteen items and all were incorporated to one construct as knowledge sharing behaviors (KSB).

To assess the job satisfaction, this research adopted the short version 20 items of Minnesota Satisfaction Questionnaire (MSQ) as it was frequently used in many research to assess employee's job satisfaction (Wang, 2007; Weiss, Dawis, England, & Lofquist, 1967). This research divided job satisfaction into three sub constructs: general job satisfaction (JS_GEN), intrinsic job satisfaction (JS_IN) and extrinsic job satisfaction (JS_EXT).

All items of three main constructs in this research were measured by a six-point Likert-scale, organizational learning capabilities and knowledge sharing behaviors constructs range from 1 = almost never to 6 = almost always, while items in the job satisfaction were ranging from 1 = completely false to 6 = completely true.

All of the instruments used in this research were originally developed in English. Thus, an English-to-Thai translation and back translation from Thai to English was performed carefully. Then, the conceptual equivalence was checked to reach the final version for the survey

Sample and Data Collection

The convenience sampling from different organizations and industries was applied, targeted at individual employees who work in an organization from various positions. The researcher approached the HR manager or person in charge at the organization in order to get the permission and asked for further distribution of the questionnaire to interested employees who would like to participate in this research. Initially, 2,900 questionnaires were distributed. About 2,634 were returned and 2,419 are usable, which is about 83.41 percent response rate.

Most of the respondents are female (65.52%) holding a bachelor's degree (57.79%) with permanent employment (93.51%). Most are working at non-management level (74.65%). The majority of the respondents also work in the for-profit organizations (74.53%) in various functions such as in the marketing and sales (18.60%), administration and supporting staff (15.30%), in financial and accounting (13.31%) and in the operation and production (10.21%). The data were obtained from 146 different organizations.

Data Analysis

In this research, about 2,419 sample responses are analyzed. Normal distribution test, scale reliability, construct validity, discriminant validity, correlation analysis, and structural equation modeling (SEM) were conducted to examine the proposed relationships among three constructs. SPSS 17 and LISREL 8.72 were utilized in this research for data analysis. In addition, to test the mediating role of knowledge sharing behaviors between organizational learning capabilities and job satisfaction, this research followed the procedure proposed by Holmbeck (1997), which is also widely used in many research (Holmbeck, 1997; Prajogo & Sohal, 2006)

Results

The results of normal distribution analysis by Kolmogorov-Smirnova show that all fourteen factors under three main constructs are not normally distributed. In addition, skewness of the variables varies between -0.357 and -0.09; and the kurtosis varies between -0.438 and 0.046, which indicate that there is no substantially non-normal distribution. In this regard, the estimation with maximum likelihood (ML) could still be performed as the skewness below 2 and kurtosis below 7 (Curran, West, & Finch, 1996). Reliability test based on sub-dimensions of each construct were performed by the item internal consistency. The results of Cronbach's alpha shown in TABLE 1, all are above the criteria at 0.70 except extrinsic job satisfaction (JS_EXT) at 0.64 and Continuous learning (OLCL) at 0.68.

To ensure the construct validity of each sub-measurement construct, the confirmatory factor analysis (CFA) was performed with all three proposed research constructs. Even Chi-square is the most fundamental measure but it tends to reject the model when investigating with large sample. Hence, several fit indices were used in this research to examine model fit to the collecting data including root mean square error of approximation (RMSEA), root mean square residual (RMR), goodness of fit index (GFI), comparative fit index (CFI) and non-normed fit index (NNFI). RMSEA value less than .05 indicates good fit, and from .80 to .10 indicating moderate fit. RMR values less than .05 or less indicate well-fitting model, while GFI, CFI and NNFI value approach 0.90 providing the acceptable model fit

(Byrne, 1998). The results of an overall CFA analysis, the measurement model of three proposed constructs provides the model fit to data [χ^2 (df=71,n=2419) = 1060.18, p=0.00; RMSEA = .076; RMR = .05; GFI = .94; CFI = .98; NNFI = .98] with values of all factor loadings above .68. This indicates that each set of measurement items under the three investigated constructs reflecting the theoretical latent constructs. In other words, CFA results confirmed the construct validity of the three conceptual models within the Thailand context.

Then, the discriminant validity test was performed to establish the distinction between organizational learning capability and knowledge sharing construct, which test procedures adopted from Ahire et al.(1996) and Prajogo and Sohal (2006), (Ahire, Y.Golhar, & Waller, 1996; Prajogo & Sohal, 2006) . In this approach the two models were analyzed by confirmatory factor analysis (CFA). The first model allowed the correlation between two constructs to be estimated and the second model the correlation was set to one. Each model provides the Chi-square (χ^2) with different of degree of freedom at 1. The different of Chi-square (χ^2) values then were compared with critical value from Chi-square table. The results is $\Delta \chi^2$ of 198.41 with Δ df of 1, as higher than the value from Chi-square table (6.64, p<.01), so this is verified as significant. This evidence suggests that organizational learning capability and knowledge sharing are different constructs.

The results from the correlation analysis provided in TABLE 1 assess the interrelations among the internal dimensions of these three constructs. All of the correlation coefficients were significant. Then, the relationships among the three constructs were further explored according to the proposed hypothesis with a two-step approach of SEM. First, to assess the model fit to the data of the proposed structural equation, several fit indexes were estimated including Chi-square, χ^2 /df, RMSEA, RMR, GFI, CFI and NNFI. Second, to measure the magnitudes of the causal relationship among the hypothesized constructs, structural equation analysis was conducted.

Furthermore, the procedures proposed by Holmbeck G.N. (1997) to assess the mediating role of knowledge sharing behaviors also adopted, two models were compared and tested for their significant difference (Germain & Spears, 1999; Holmbeck, 1997; Prajogo & Sohal, 2006; Rupp & Cropanzano, 2002).

The two models show the relationships among organizational learning capabilities (OLC), knowledge sharing behaviors (KSB) and job satisfaction (JS). The model 1 (Fig. 2) assumes that knowledge sharing behaviors fully mediate the relationship between organizational learning capabilities and job satisfaction, so no direct path is presented from organizational learning capabilities to job satisfaction. The model 2 (Fig.3) adds another path from organizational learning capabilities and job satisfaction. This model presents partial mediation role of knowledge sharing behaviors. The results from testing SEM with LISREL suggest that all standardized path coefficient between any constructs as well as all factor loadings in each construct from both tested models also show the significant level at p<.01.

TABLE 1: CORRELATION ANALYSIS AND DESCRIPTIVE STATISTIC

Construct	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.OLCL	3.99	1.01	(.68)													
2.OLDI	3.82	1.06	0.67	(.77)												
3.OLTL	3.79	1.01	0.65	0.71	(.75)											
4.OLSL	3.80	1.10	0.62	0.61	0.64	(.80)										
5.OLEM	3.72	1.10	0.60	0.61	0.67	0.69	(.77)									
6.OLCE	3.93	1.09	0.60	0.62	0.65	0.64	0.71	(.81)								
7.OLLL	3.87	1.20	0.54	0.54	0.59	0.58	0.61	0.69	(.89)							
8.KSDO_IN	4.17	1.07	0.46	0.51	0.52	0.52	0.46	0.51	0.48	(.85)						
9.KSDO_OUT	3.62	1.20	0.44	0.45	0.49	0.49	0.47	0.46	0.44	0.60	(.87)					
10.KSCO_IN	4.45	1.00	0.39	0.42	0.42	0.39	0.39	0.44	0.40	0.61	0.38	(.89)				
11.KSCO_OUT	4.14	1.10	0.40	0.40	0.44	0.42	0.42	0.45	0.41	0.50	0.55	0.67	(.92)			
12.JS_EXT	3.99	0.99	0.53	0.52	0.56	0.51	0.55	0.60	0.60	0.46	0.43	0.40	0.39	(.64)		
13.JS_IN	4.31	0.82	0.46	0.45	0.49	0.45	0.45	0.56	0.50	0.51	0.38	0.56	0.50	0.73	(.88)	
14.JS_GEN	4.10	1.05	0.45	0.47	0.50	0.44	0.48	0.52	0.49	0.44	0.39	0.42	0.39	0.72	0.70	(.85)

Note: All Pearson Correlation are significant at the 0.01 level (two-tailed). OLCL: Continuous learning;

OLDI: Inquiry and dialogue; OLTL: Team learning; OLSL= Share learning system; OLEM: Empowerment;

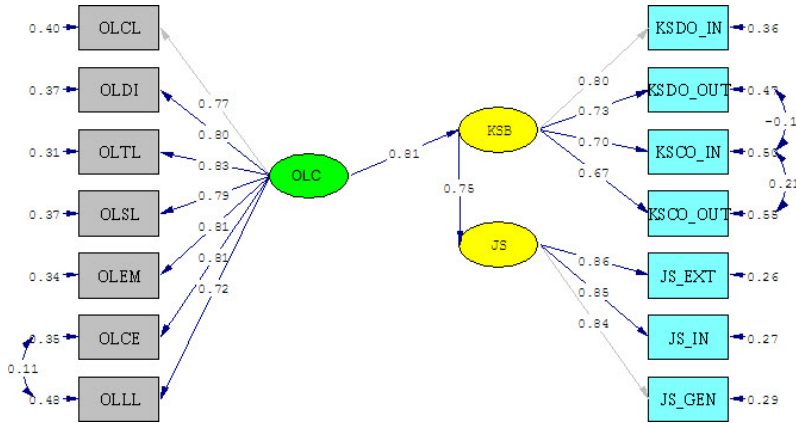
OLCE: External connection ; OLL: Supportive leadership; KSDO_IN: knowledge donating within department ;

KSDO_OUT : knowledge donating with other department ; KSCO_IN : knowledge collecting within department ;

KSCO_OUT : knowledge collecting with other department ; JS_EXT : extrinsic job satisfaction; JS_IN: intrinsic job satisfaction;

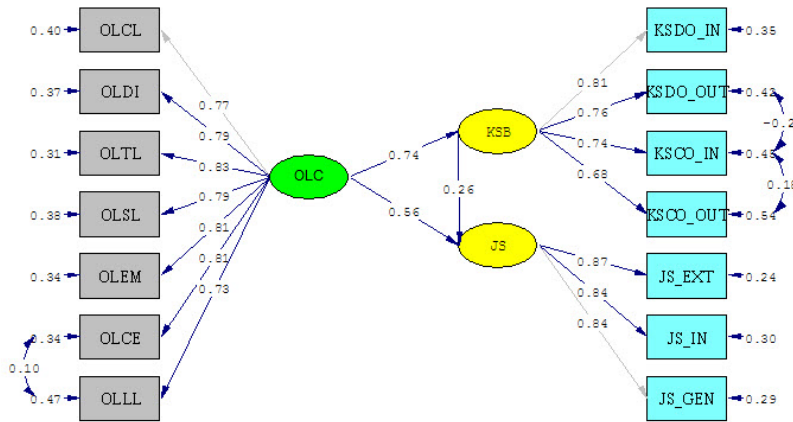
JS_GEN : general job satisfaction ; () Cronbach's alpha reliability coefficient

FIG 1: THE STRUCTURAL RELATIONSHIP WITH A FULLY MEDIATION MODEL BY KNOWLEDGE SHARING BEHAVIORS



χ^2	Df	χ^2/df	RMSEA	RMR	GFI	CFI	NNFI
1396.71	72	19.3988	0.087	.12	.92	0.97	0.97

FIG 2: THE STRUCTURAL RELATIONSHIP WITH A PARTIAL MEDIATION MODEL BY KNOWLEDGE SHARING BEHAVIORS



χ^2	Df	χ^2/df	RMSEA	RMR	GFI	CFI	NNFI
1060.18	71	14.9321	0.076	0.05	0.94	0.98	0.98

The model 1 as full mediation by knowledge sharing behaviors provides $\chi^2 (df = 72, n=2419) = 1396.71$, RMSEA = .087, RMR = .12, GFI = .92, CFI = .97 and NNFI = .97. The model 2 as partial mediation by knowledge sharing behaviors provides $\chi^2 (df = 71, n=2419) = 1060.18$, RMSEA = .076, RMR = .05, GFI = .94, CFI = .98 and NNFI = .98. The results is $\Delta \chi^2$ of 336.53 with Δ df of 1, higher than the value from Chi-square table (6.64, $p < .01$).

This concludes that these two models are significantly different and the model 2 indicates the better fit by providing higher goodness of fit.

The results of total effect from organizational learning capabilities to job satisfaction between the two tested models provide the satisfactory sign, model 1 shows total effect at 0.66 and model 2 at 0.75. Even though there is some portion of variance that could not explain on job satisfaction by organizational learning capability with or without being mediated by knowledge sharing behaviors, the result of total effect in model 2 provides the higher value. This suggests that knowledge sharing behaviors affect employee job satisfaction in the organization.

Then, for mediating role, the result suggests that knowledge sharing behaviors only partially mediate the relationship between organizational learning capabilities and job satisfaction.

Discussion and Conclusion

This research aims to extend the finding of the existing studies in the area of learning organization and human resources development by incorporating a new variable as knowledge sharing behaviors into the study. Item reliability and construct validity were found to be statistically acceptable for the three investigated constructs in term of model to data fit. The simple correlation among sub dimensions of each construct also suggested statistically acceptable. Importantly, the discriminant analysis found the distinction between organizational learning capabilities and knowledge sharing behaviors. The results from standardized path coefficient presented that organizational learning capabilities and knowledge sharing behaviors both impact on job satisfaction.

Importantly, the results from the analysis found the mediating role of knowledge sharing behaviors on organizational learning capabilities and job satisfaction, which support the notion from previous studies that the learning organizations are more concerned with human or interaction of the workers in the organization (Marsick & Watkin, 2003). This shows that employees have satisfaction on their job from performing the sharing behaviors in the context of learning organization. Then, the findings from this research could emphasize the important role of knowledge sharing behaviors in term of increasing job satisfaction and as an important or proactive part of learning practices in the organization.

HRD practitioners should consider the benefits of knowledge sharing as one of the mechanisms to enhance the job satisfaction level in the organization. As well as treating as one of the important strategies for transferring knowledge among workers in the organization. In addition, knowledge sharing could support the traditional training program in helping to exchange both tacit and explicit knowledge of the workers which result in across the board competencies level improvement.

The findings of this study are consistent with previous studies that emphasize the important role of learning organization as the supporting context in the organization. Then, maintaining the aspect of learning organization as well as creating management stimulus also needs to establish, both in order to encourage employees to share work-related knowledge and to drive employee performance to meet various desired organizational performance measures as well as sustain the competitive advantage.

In this study, all variables were measured by the self-reported on individual perception, with cross-section survey, so a longitudinal quantitative approach with more objective measure may pursue for further study. In addition, as the proposed framework was developed from theoretical assumptions, some other alternative models could be considered possible based on data analysis.

Only a few studies investigate the role of knowledge sharing in the context of learning organization, this study also investigates the relationship with only the prominent variable in the field of human resource development which is job satisfaction. More studies also should investigate role of knowledge sharing with other important variables such as turnover intention, organizational commitment and self-esteem. Other possible moderators and mediators such as leadership, employee attitudes, organizational culture or policies as well as management strategies also should be investigated.

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Implementation of Lean Principles to Non-Manufacturing Processes Introducing Case Study with Focus on Human Factor

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Abstract

Lean management in non-manufacturing processes is a topic gaining still more and more attention in professional literature and practice. Literature sources offer wide range of tools, instructions and recommendations for successful implementation and sustainability of a newly-created system. However, it is practical experience with introduction of lean principles to offices, which reveals that every organization needs its own approach, adjustment of the general principles to particular conditions and special care devoted to employees. Often the companies encounter very unique problems.

The paper elaborates project of implementing a lean system to a real organization in Germany between 2001 and 2006. Though the company is of manufacturing character, lean initiative started in departments other than production. After identifying imperfections in the way the orders were handled, the company gradually expanded implementation to other departments as well. A three-level model of implementation was developed, starting with self-organization of each employee and workplace, defining standards of a work team on the second level up to standardization of processes on the third level.

A main problem the company had to tackle was the trust of employees and their engagement in the project. Therefore each level of the model was accompanied by a set of workshops in order to secure understanding and support of the workforce. Though the achieved success can be expressed in terms of financial indicators (EBIT increase by more than 16%) it can be mainly observed in satisfaction of employees and other capabilities.

Introduction

The need for the creation of lean management was identified decades ago; both scholars and practitioners dedicated extensive amount of time and effort into in-depth research and into formulation of new concepts. Even though lean management has been originally introduced into the manufacturing aspect of the business world, a recent trend emerging all across the world is applying lean management principles within non-manufacturing organizations and thus benefiting from reduced costs and increased effectiveness. The importance and suitability of this new approach has become evident due to the recent crisis raging through economies throughout the world. This paper addresses lean management in relation to human resources and presents a case study from a German organization that reveals several issues that can arise when applying lean management methods on real people. The paper introduces, step-by-step, a unique model which reflects the experience of the company with lean implementation acquired over years, and shows how any company can achieve great results by giving its workforce the power to make changes.

The company Alpha AG was established in 1899 as a family company. For over 110 years, it has been concentrating on the development, production and distribution of turbo machinery - steam turbines, compressors and turbo-blowers. It is a middle-sized company with five operations in Germany and other scattered throughout Europe and in USA. In 2001 the company started implementing the improvement system (never really calling it "lean" system as this term was considered to be de-motivating for the employees). The company managed to achieve great results in financial terms. The profitability increased more than sevenfold from original 2.7% in 2001 up to 19% in 2006 with 2006 EBIT at the level of €34 million. Sales reported in 2006 reached €270 million, which means there was a 125% increase compared to 2001. Total number of Alpha AG employees was 1,400 (580 in the factory that is analysed in this text) in 2006. In autumn 2006 100% shares in Alpha AG were acquired by a supranational corporation.

Starting points

The main goal of any entity is to make money. Achievement of this goal is usually expressed through margin. To say it simply, here we refer to the profit from turnover, which is calculated at the end of the accounting period. Internationally, this parameter is labelled as EBIT (earnings before tax and interest). Thus, the business success can be defined rather easily - each entity has to make money. But why only

few companies manage to keep their profit above the level of 5% and even fewer above 10 or even 15%? This is a simple question to answer. The success cannot be achieved by a single or few individuals at the top of the organizational structure; everyone's involvement is a key to success and this is an objective, which cannot be only mentioned here and there at regular company meetings. In order to really achieve significant profit growth, every employee has to be interested in doing so.

So how we do this? How can we motivate the employees and thus to achieve goal of any business? The hint is rather simple here. Let the employees to improve the processes themselves. Almost every employee gets motivated by being fully responsible for his/her own work and majority of companies wish to employ these individuals. Therefore responsibility should not be a barrier for forming the right company culture. Though this may sound easy, the process of forming adequate company culture with a defined and accepted responsibility is rather long and at the very beginning the company has to decide what has to improve.

3-Level Model

The machine components produced by Alpha AG are highly capital-intensive, custom-made products. In order to produce them, the company has to purchase expensive input materials, which were originally financed by loans provided by the financial institutions. The number of orders, entering the process through the sales department, was large. The sales department needed several weeks just to process the order and soon enough, it got overwhelmed by incoming orders. The more orders the sales department processed, the more borrowed funds were invested into purchase of expensive material. The company got to the point, where its cash-flow was not sufficient to cover the expenses. It was obvious that something had to be done. In order to solve the problem, the company avoided changing the number of employees at the sales department (which was later on identified as the "bottleneck"), but rather concentrated on creating such structure, where the employees would communicate and cooperate together and would be aware of each other's work. The results were faster order processing and increased satisfaction of employees. This is how the company developed its 3P system for improving processes within organization, with products, personnel and process representing its main core. The 3-level model is a result of efforts of the company aimed at involvement of employees in 3P system.

In order to engage all employees, the company developed and gradually improved the model of workshops consisting of three levels. The main goal of this model is to make sure that the information flows within the company continuously, to the right place, in the right volume, and to the right persons. The first level of the model focuses on self- organization of every employee at every workplace. The second level concerns improvement of information and material flow in every process in every department of the organization and the third level simply emphasizes improvement of team work at the workplaces. To sum it up, at the first level the employees are trained to work next to each other, at the second level they are encouraged to work with each other and at the third level to work for each other. The entire concept was introduced at an initial workshop, which lasted two days at the beginning; later it was cut just to one day as employees were more familiar with the concept. Upon introduction of the concept, the company was ready to work with all three levels. Here it is important to note that in compliance with the principles of continuous improvement, neither of levels is ever completed or closed. During the initial phase the company had to deal with the fact that the employees were willing to accept only partial responsibility; especially supervisors and middle managers did not want to delegate responsibility to their subordinates.

Despite the fact that Alpha AG was reporting profitability of 3% in 2001 and was a market leader with very good position worldwide, the company still had to face several internal problems, which became the reasons for seeking for new solutions.

- First of all the workplaces were in mess; no one really cared about keeping them neat and tidy; access to information and tools was complicated.
- The company kept high inventory of in-process items. The flow of information and material was inhibited and had to wait for further processing.
- The storing spaces in offices (for data) did not have any structure, which would be unified throughout the plant.
- Especially in the offices many processes were made twice.
- The throughput time of any item was significantly long.
- Collection of information took a long time and it was not delivered to a person responsible for making decisions in time.
- Despite implemented ISO managerial system, the standards were often not followed and the leaders let their employees to apply their own standards.

- At several workplaces the standards were missing completely.
- The processes were not set correctly and they prevented a single piece flow.

Through improvement the company endeavoured to achieve at least three general goals: quality improvement, shortening the individual working processes and shortening the overall throughput time. As a result of introduced changes, the company was able to reduce time needed for construction of nuclear power plant components (starting with an order up to payment for finished goods) from 3 months to only 5 days despite the fact that even the 3-month period was a goal hard to be achieved by many competitors. Out of all types of waste, such as overproduction, unnecessary transportation, inventory, motion, defects, over-processing and waiting, the company identified 2 types to be critical for the company: time spent on searching information and inventory. The survey showed that an employee spent in average 6 weeks per year by searching for information. One has to add another 6 weeks of vacation enjoyed by the German workforce and by a simple calculation the company found out that there are only 9 months in a year when an employee really creates value. Thus, there emerged an obvious need to cut the time necessary for collecting information. It was not possible to reduce this time to zero, while even in perfect system it takes a little time to acquire needed information, even when one knows where to find it. For example, after one year of workshops, the employees removed the doors from their cabinets as the act of opening and closing the door does not add any value; they rearranged the cabinets so the information could be found easily, and thus, they saved almost 20% of the time needed for searching information. The main point here was to present the need to reduce searching time to the employees and let them find their ways to do that. During the process of reducing waste, Alpha AG came to a conclusion, that significant improvement of the entire process can be achieved not only through improvement of discrete processes, but rather through synchronization of partial processes.

Level 1

The first level of the 3-level model of Alpha AG consists of the rearrangement of the workplace; at least that is how the employees perceive this at the beginning. However, by passing this level, more is achieved than just neater workplace. This step represents basis for improvement of information and material flow. In this phase the mobile walls between the workplaces are removed¹¹ so to avoid “cell-thinking” and the employees learn how to arrange their workplaces so to work efficiently. Simply to say, the working environment is rearranged so it enables continuous, barrier-free information flow and high efficiency of work. In order to implement this phase correctly, all obvious waste has to be removed. In offices this means to discard outdated documents and remove or sell useless furniture. Office supplies and devices are stored centrally and are accessible by all. In Alpha AG 30 to 50 employees working in the offices discarded up to 2 tons of paper, reused 300 to 500 paper files and removed 20-50 pieces of furniture from their workspace. It clearly shows what great results can be achieved when all employees look together at their workplace in order to remove what they do not need. In this step Alpha AG also collected 2-year worth volume of office supplies. One challenge the company has to face in this phase is to find the way of how to motivate the adult workforce to clean their workplace as they believe that their desks are their private territory. The company decided to reward its employees by giving their department 1 Euro for every 10 kilograms of shredded paper, 1 Euro for every reused file and 50 Euros for a piece of furniture. The response turned out to be very positive. Generally speaking the first level is usually met with excitement and it is of key importance for the company to maintain this excitement on its way to improvement.

Workshop at this level requires detailed preparation. Ideally, the group should consist of 40 employees and 2 moderators, who lead the workshop. The moderators have to be well prepared for their role and familiar with the concept. Before the workshop starts the moderators introduce goals of the entire workshop and tasks to be completed at the 1st level workshop, namely the principles of so-called 5S concept. Especially important is the first impression moderators give at the beginning of the workshop. Their attitude has to signalize that employees have nothing to worry about, the changes will affect their work only in a positive way and everyone should cooperate on achieving the required results. It is great for moderators to show their sense of humour. For example, a little joke always told at the workshop of the 1st level: “If this plant was about to get buried and found by archaeologists not sooner than after 1000 years, what would they think this company produced? Obviously paper!” always works in Alpha AG. This joke refers to huge amount of useless documents stored not only in Alpha AG but more or less in every company. The workshop at the 1st level also makes the change agents to realize whether the change will be easy to implement with the employees’ attitudes or not. The first workshop always finishes with the common breakfast for all participants. The idea is that if the participants experience something together, it will strengthen their relationships.

And then the work at actual workplace starts. In this phase the moderators have to make sure that every employee participates in the activities of cleaning and organizing the workplace. At first, the employees are kindly asked to “help” sorting the material in the offices. One may face certain resistance and therefore in Alpha AG the moderators at the workplaces directly encourage employees to clean their workspace by asking whether the items on their desks are really important and if so, what for. When a moderator is a new comer, he/she can use the chance to ask dummy questions, letting the employee explain or neglect necessity of a certain material. Experience with 1st level activities is as various as the employees themselves are. Even after 5 years 30% employees of Alpha AG were fully convinced about concept’s importance and supported it; 60% were cooperating willingly, but the remaining 10% resisted any attempts to change the ways the things had been done in the company. In this phase it is important to excite as many people as possible since they have the drive to turn other people to what they think is the best for company.

At the end of the first day of Level 1 workshop it is essential to receive feedback. The moderators ask the employees how did they feel about performed activities and in this way they point out that opinion of every employee is important. The positive responses included “Finally we got time for that” or “We should do this more often”. The moderators show the participants how much they are able to change themselves. The day number two starts with the summary of objectives achieved on the first day and introduction of further potential of the group. Once again the employees are asked to consider what else could they remove from their premises and the discarded material is ready to be transported. Generally speaking, the workplace should look like the cockpit of a pilot, where everything is easily accessible and ready to be used. Since employees are the pilots in everyday situations, they know the best how to optimize their workplace. Finally, the moderators conclude the workshop with presentation of achieved success and savings, set the date when another workshop will be held and when does workshop of Level 2 starts. Ideally, the top officials should attend the final meeting to learn about what has been achieved and what are the next steps. Their presence has a great effect on motivation of the employees.

Level 2

After a couple of months, the workshop of Level 2 is held. The period of 2 months gives the employees enough time to get familiar with the new workspace organization and stabilize the new system. Level 2 concentrates on improvement in more details, namely standardization of information and material flow within a given department. Here it is important to note that the company is not looking for a uniform method of performing the work throughout the organization but rather for the best possible methods of performing the jobs. The company divided the standards into four main categories:

- Standards of the department, standards of the workplace and working environment
- Standards of the work and processes
- Standards of communication and information flow
- Standards of the services provided

Generally speaking, Alpha AG employees were working well. They used 90% of their work time for productive activities. The work they perform is also up to 90% free of any mistakes. But simple calculation reveals that if performance of every department is 90% (0.9) and performance of 4 departments is required to complete the output, the total performance in order to satisfy the customer’s need is only 66% ($0.9 \times 0.9 \times 0.9 \times 0.9 = 0.66$) and that is just not good enough. This means there was clearly enough room for improvement. For example, when the sales department received an order for the product, a sales person forwarded such order to a project manager. After revising the order, the project manager had to ask the sales representative additional questions, answers to which had to be provided by a client. The order was further forwarded to a purchaser in order to purchase components. However, the purchaser may ask additional questions to the project manager. The employee in the production department had to seek for information required by workers, or order additional missing parts, which were not ordered by the purchaser before. The entire process is rather tedious, though it can be solved by introducing a simple principle: do not accept any mistakes – make no mistakes – do not push any mistakes further. And that is exactly the goal of Level 2: continuous improvement through deployment of standards. However, not everything can be changed at once because problems tend to be more complex without any universal solution; solutions themselves are often complex and important solutions require support from top management as they consist of essential changes and may also be connected with certain spending. It is important to let the employees at certain department come up with their own standards for performed works as they are closely familiar with the character of the work.

Presentation and workshop material (board, pins, stickers etc.) have to be well prepared for the workshop at the 2nd level. The introduction phase led by the moderators also starts with introduction of the topic and requires 2 days. In this phase the participants are required to prepare standards for the entire department or division, which are then presented and proposed for further discussion. The question is how to find the topics for Level 2 workshops; it means how we identify areas for improvement. Alpha AG asks directly the participants before or at the beginning of the workshop. At the beginning the employees are asked to identify the areas that could benefit from improvement. These are written down and every participant has two votes he/she can give to the most urgent topics. The groups are formed depending on the number of topics, participants and moderators. Normally there are 2 or 3 groups, in special cases the number of groups grows to 5 or even 7. Thus, the employees are offered an opportunity to work on several topics that are the most important for them. One group normally consists of 3 to 6 participants; more is usually too much for productive discussion. Not all the employees from certain department have to be present at the workshop as normal operation of the department has to be secured. However, it is useful when the participants rotate in the workshop and share their knowledge; nevertheless, all the employees from a given department shall participate in final presentation and conclusion of the workshop. Another option how to find out topics for the workshop is to let the future participants find the topics themselves for example through brainstorming or own observations.

A challenge one has to face in this phase is to involve the experienced employees who are not interested in any change. The company should not give up their experience, yet it cannot make them to be creative in the process of change. The same situation occurred in Alpha AG. The older and well-experienced employee Mr. Smith at the accounting department was resisting any changes or even participation in the workshop declaring he knows “how the system works and what is needed”. In an attempt to offer him insight into the course of workshops, younger colleagues introduced him their suggestions also presented at the workshop. They started a constructive discussion and after a while Mr. Smith started noting why this or that would not work and other change would fix the problem. Not only did he admit that there are problems that need some attention, he also provided the discussion group with valuable input. He participated in the following workshop and later on became a moderator. This only proves that every employee requires individual approach and it is the task of the moderator to find it.

Level 3

Once we have removed all the waste from the workplaces at Level 1 and we have set standards for individual departments at Level 2, now it is time to make the employees cooperate together. Even if the departments perform their work in the right manner, there is still no guarantee that the right things are made as perceived by the customers (internal or external). The principle “with each other” presented in Level 2 has to be changed to “for each other” now so the information and material can flow continuously. Level 3 results in reorganization of all activities performed to satisfy internal and external customers. Alpha AG divided all activities within Level 3 into the three phases.

The company processes, which will become focus of further analysis, are selected in the *first phase*. Once the processes are identified, the workshop is held at which the participants are introduced by the moderators, problems are clearly defined and evaluated and then a one-year improvement plan is carried out. The participants, one for each affected department, should be well experienced. It is of key importance that the top managers avoid participating in the workshops at this phase as the participants are encouraged to speak freely about existing problems. Presence of officials makes the participants hide mistakes and therefore top management is welcome to join the workshop not before the concluding phase. This is not only important for success of 3rd level workshops, but rather for the success of the entire program. In order to explain what the content of Level 3 workshop is, let us describe a real process in Alpha AG. The sales department received an order and entered it into shared data processing system appropriately. Once the order was confirmed, its status was “Confirmed”. The system showed the purchasing department which items had to be ordered for the particular job. Unfortunately, the system did not contain specifications, which would make it possible for the purchaser to order the items. So he contacted the competent project manager, who had been assigned to this project by the sales department and hence, was also identified as a contact person in the system. However, even project manager did not have the right information because the sales department had not negotiated all the details of the contract yet and, as usually, the specifications were still to be required from the customer. Therefore, even deadlines could not be planned in advance. In this case we can identify a lot of useless communications steps with no positive results and this process is obviously ready for an improvement. Since the problems described above concern several departments, the first

phase of Level 3 deals mostly with the “complex problems”. It is important to define who will benefit from the workshop; in our case it would be the purchasing department. Normally 5 to 10 people from different departments participate in this workshop and the procedure is as follows:

1. At first, the “borders” of the process have to be defined; the team needs to decide which sections of the process they wish to analyze. In our case the starting point was entering the order into the system and ending point was order of components.
2. Then, the goals have to be set, it means what should be achieved. In our case we want to reduce the volume of regressive queries.
3. The processes (by process mapping) are displayed with the main question being “Who does what?” The departments are displayed vertically and tasks horizontally.
4. The problems are highlighted in the map (with post-it) and the participants are asked to discuss where the potential is and quite intuitively they are able to identify the bottlenecks. Here the participants only highlight the problems, they do not propose solutions.
5. Problems are divided into categories depending on volume of needed resources and benefit provided. At first, the problems with low resources and high benefits are solved; the problems with high resources and low benefits are solved as the last ones. Here the (internal, external) customer’s perception of benefit prevails.
6. The problems are solved then; usually solutions emerge spontaneously during the previous stages. Often moderators help the participants to find the solutions by asking the right questions. Therefore it is sometimes convenient when moderators do not have detailed knowledge of a given process, so they can play their neutral role.

The implementation plan is carried out with clearly defined responsibilities for individual measures to be taken. Experience of Alpha AG proves that the employees actively working on defining the problems are even willing to take responsibility for identified solutions. The participants have 2 months for making the changes. After additional 2 months the team meets again and discusses improvements achieved through measures taken. Leaders of departments and company officials are present at the final meeting to appreciate the achieved results and fruitful cooperation of teams. In Alpha AG it is often said at the end of the workshop: “Here people do not blame each other for problems anymore; we learnt how to analyze and solve these problems.”

Upon successful completion of the first phase and detailed analysis and improvement of the major processes, the company is ready for the *second phase*, which consists of the benchmarking of similar processes. The idea here is to let two teams working on similar processes to learn from strengths of each other. This may be especially beneficial for companies with several branches in a given country or located internationally. Of course, the workshops in this phase are not as detailed as workshops held in the first phase. Following the first phase, Alpha AG organizes a workshop for one representative at the sales division and one representative at the improved sales division. Thus, the representatives are given an opportunity to share their experience. The same is arranged for project managers, constructors, mechanics etc. Further improvements are also achieved in this phase.

Once the problems are analysed and solved in the first phase of Level 3 and revised and improved in the second phase, the internal customers and their internal suppliers get into centre of attention in the *third phase*, in order to further improve the information and material flow. This concerns not only the major processes but rather all the activities within organization. At first, the teams focus on the company-wide processes; then follow the processes at quality, HR, controlling, communication and other departments. The main question everyone should ask is “What can I, as an internal supplier, do better, so my customer can work better?” The idea of this concept is to achieve improvement of every process starting on the very end and moving backwards. When analyzing systematically all the partial steps even in a small organization, one can easily come up with as many as 30 partial workshops.

After the third phase is successfully completed, the entire process starts again with site improvements, identification of complex problems and analysis of processes, as the conditions in the environment keep changing and the implemented solutions may no longer be optimal. This is what we call continuous improvement.

Results, facts, figures and company culture

Based on the improvements, described in this paper, the company managed to increase its profit sevenfold compared to the results reported prior the concept implementation. In 2006 Alpha AG took in average 1.8 improving measures per one employee. Just for comparison the largest association, Alpha AG is the member of, reported on average 0.3 improving measures per one employee per year for all its member companies, which implemented improvement programs (lean management). To sum it up, Alpha AG is 6 times better than the average in its industry. Of course, it is positive for managers

to learn that the company is doing so great in comparison with other competitors. Though, it is still not important how better the company is doing. What is important is the fact that the company found its way to the employees. This is proved not only by the number of improving measures taken in a given period, but also by the fact that once the measures were identified, they were all without any exception implemented and the employees were convinced that the measures they had chosen were taken in order to make things better.

Still there is a question what are the actual results of improvement program. Let's look at the two examples from the non-manufacturing departments.

Level 2 workshop in purchasing department: 3 workshops were held at the purchasing department in headquarters of Alpha AG in 2005. In one of the workshops two changes were introduced:

1. Orders up to certain amount were only sent to Alpha AG headquarters via e-mail instead of fax. Thus, the waste of printing and signing the document, bringing it to the fax machine, dialling the fax number, waiting for sending and waiting for a confirmation and then going back to the desk could be removed, as this was done more than 12,000 times per year.
2. On the other hand one does not need confirmation from headquarters for every order up to certain value. "Dear colleague, we trust you. Please proceed and send us purchasing documents subsequently." This message was sent about 4,500 times per year.

This means that through these two measures 16,500 acts are done better and with higher efficiency and hence, only a small change can save a lot of time and effort.

Level 3 workshop in payment flow: One Level 3 workshop on payment flow topic was held in 2005. Until then the information flow about payments was unclear at many points. For example, the foreign sales partners were mostly aware on which date make the customers their payments. But the sales division of the company usually did not get this information in time and thus, after numerous phone calls and late notices for commission payments from their contracting partners, the employees often had to call to the central accounting or finance division to find out whether the payments had already been made. Almost every time the international partners were true about their claims and Alpha AG was often in delay with commission payments. This problem got combined with problem of inter-organizational accounting and even more questions between the branches followed. At the workshop 12 measures were identified and also taken later on. Each measure improved some app. 100 activities per year. Thus, the workshop resulted in app. 1,200 permanently improved activities per year.

No company can afford making a mistake of underestimating the importance and influence of the organizational culture. During the workshops the employees of Alpha AG acquired the feeling of real involvement. The large private broadcaster got interested in the improvement program at Alpha AG and they came to the factory to shoot a short success story. Even the management got surprised when a random employee at the shop floor (without any preparation or without being asked to do so) explained to the reporter: "Here I can take a lot of responsibility. I and my colleagues feel that our opinions matter and we are taken seriously for the first time. Nothing makes me as happy as working for this company." The fact that this speech was not prepared in any way and many other employees answered similarly proves that it is really worth of trusting the employees. They can really appreciate this trust and move the business forward – all with excitement and pride. It is hard to find a company where the mood is so positive. Another example can be found in a benchmarking project. During the tour around the factory there occurred a situation, when a visitor asked a random employee, working at the site, about the new system. He explained to the visitors that their improvement system is not any concept, but rather a philosophy and main mind setting on how to cooperate together. These two examples clearly show how the way the employees think changed.

In Alpha AG the employees are considered to be the key resource of the company and therefore the company treats them in this way. Any management, which treats its employees wrongly or misuses them, does not understand who is responsible for success of the company and its results.

Conclusion

This case study proves how any company can improve its performance through employee engagement. The employees are capable of behaving as responsible partners once they are given trust and responsibility. As already mentioned in the introduction, in 2006 the company was taken over by a

large supranational giant. The companies like that prefer the figures to anything else but, unfortunately, such focus drives their attention away from the customer. They ask the basic question: “What did you save with your improvement system?” This may be misunderstood as the company actually did not save any costs because the number of employees and technology stays the same. However, the company still managed to boost the output with the same number of employees and it is able to produce more effectively, faster with minimum waste. Today, instead of appreciating the work of the employees, the mother company tries to convince them that they and their results are not good enough and in return they expect increased productivity. As may be expected, the employees are not satisfied; they do not trust their new employers and the results go the opposite direction. Motivation with “not good enough” method does not bring the company to expected results. Today the company still reports profitability of over 10% though the overall results are worse compared to those of 2006; 3P concept is rather neglected now. Despite that we may conclude that the lean management in this company has had significantly positive effects on the company’s performance in the long run, though the future remains unclear.

References

Contact author for list of references

End Notes

ⁱ*The name has been changed as the company wishes to remain anonymous.*

ⁱⁱ*Throughout the paper we use present tense, since the workshops never end; once problems are solved the news are identified, analysed and solved.*

A Study of Job Satisfaction in relation to Occupational Stress of Executives

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Abstract

In this study we examined the relationship between occupational stress and job satisfaction of private and public sector executives. The comparison of occupational stress and job-satisfaction of both sectors executives is also a part of study. A random sample of 100 executives (50 from each sector) was drawn from the study population. Data were gathered using reliable and valid tools. The findings indicated, private sector executives experienced more occupational stress on its sub-scales; role overload, unreasonable group and political pressures, intrinsic impoverishment, unprofitability and on total stress. Public sector executives experienced more job satisfaction and relationship on two variables were reported, significant by executives on the stress of role conflict, under participation, powerlessness, poor-peer relations, intrinsic impoverishment, low status and on overall occupational stress and with the level of job-satisfaction. However, a low and moderate positive statistically significant relationship was found to exist between occupational stress and job satisfaction.

Introduction

There is an enormous pressure on organizations to work in non-traditional environments. Globalization is at the center of this. It is one of the big reasons for the stress related to work. Working global means that executives and employees have to work in quite an uncertain environment; have a global mindset and be able with the unexpected. Globalization has also presented the executives and employees of organizations with many challenges. Moreover the concept of globalization has affected both the public and private sectors. Therefore, organizations treat this phenomenon very seriously as it directly affects their performance and ultimately their existence. Stress develops when there is a mix of demands and pressures on the person on one hand and knowledge and abilities on the other. A new age of technology, the advent of digital age has brought about geographical boundaries seemingly closer and which has become some of the main reasons for the increase in the work related stress. Apparently with lives moving as fast as a click of the mouse, work stress is increasing. Employees cannot afford to relax in such a business environment. Stress is therefore multi-dimensional and depends upon the organization whether they see it as a problem or as a solution. Therefore it is important for executives to know where to draw the line between work and stress. Growing globalization has increased the needs of executives and under immense pressure they find it difficult to draw the line between work and stress.

It has been identified that globalization has been the primary cause of concern for the work related stress. Globalization is broadly defined as the idea by which we understand the transition of human society into the third millennium (Waters, 2002, p.1). It is also defined as a strategic effort to treat the world or a significant part of it as a single market in which to do business in (Tallman and Fladmore-Lindquist, 2002). Stress in organizations has been deeply studied by many researchers (Robbins and Sanghi, 2006). There are various causes of stress that have been reasoned out by these researchers. Work stress is a major factor as it influences human functioning in emotional, mental and psychological ways (Arroba and James, 1987). Kinney (1985) stated that biological changes affect the way we think while Spielberger (1979) said that work stress is one of the most important factors affecting work productivity. Work stress has been taken so seriously in the United states that once it was named as the "disease of 20th century (Krohe, 1999). Wages is one factor which seriously affects job satisfaction. The problem is a bit too serious for a country like India. India being a predominantly rural country with a population of more than 1 billion people has access to cheap labor. Looking back at the Indian population and labor literature, India has grown at an annual rate of 2.27 percent in urban areas and 0.66 per cent in rural areas (Chaddha, 2002). The public and private sectors account for majority of the employment in India.

In a distress perspective, occupational stress presents when employees' knowledge, skills, abilities and attitudes cannot cope with or do not match to their work demands and pressures in organizations. Consequently, it may

decrease the ability of employees to control and manage physiological and psychological stresses, such as disturb their self-regulatory bodies, and cannot meet their duties and responsibilities as a member of an organization (Cox et al., 2000; Critchley et al., 2004; Fairbrother& Warn, 2003; Mansor et al., 2003).

Recent studies in this area show that the ability of employees to manage their physiological and psychological stresses may have a significant impact on job satisfaction (Fairbrother& Warn, 2003; Snelgrove, 1998; Swanson et al., 1998). According to an organizational behavior perspective, job satisfaction is broadly described as a result of employees' perception or appraisal of their jobs that may create a pleasurable or emotional state (Locke, 1976; Locke & Latham, 1990; Kreitner&Kinicki, 2007), In an occupational stress model, many scholars think that physiological stress, psychological stress, and job satisfaction are distinct, but highly interrelated constructs. For example, the ability of employees to properly control and manage their physiological and psychological stresses in performing job may lead to higher job satisfaction in organizations (Antoniou et al., 2003; Fairbrother& Warn, 2003; Stacciarini, 2004).

Findings from these studies reported that the ability of employees to cope with physiological stress (i.e., workloads, working conditions, physical health and working hours) and psychological stress (i.e., relationships at work, support, mental health and positive thinking) had increased job satisfaction in the workplace.

Theoretical evidence supporting the relationship between occupational stress and job satisfaction

Harrison's (1978) person environment (P-E) fit model, and Karasek and Theorell's (1990) job-demand-control model state that individuals who have experienced high work demands with low work-control will have difficulties to meet the job demands, this may lead to increased occupational strains. Spector and Goh's (2001) emotion-centered model of occupational stress posits that individuals who feel stressful when exposing with an event in particular environments may experience occupational strains. Then, the concept has been expanded by Mueller and Maluf (2002) to establish a physical stress theory, which posits that the level of one's physical stress will determine the person's predictable biological response. For instance, a person who can habitually reduce his/her level of physical stress will be more experience a positive biological response compared to a person who often has high level of physical stress. This situation may lead to higher job satisfaction (Swanson et al., 1998; Stacciarini et al., 2004).

A diverse literature is still lacking in some parts. The literature does not have the particular distinction between the public and private sectors of India. The work stress level in these sectors is undetermined. In this paper, we seek to find out the major differences between the stress level of public and private sectors of India. We shall first take a look at the Indian market and the employment ratio's and then look at two different sectors separately to make a distinction. We conclude by highlighting the key differences in both the sectors.

Many of the research efforts, so far have been directed towards problems related to policies and programmes, training and development of employees etc., for improving the productivity of an organization. In this paper, we shall assess the stress from occupational perspective and also look at the difference in the occupational stress and job-satisfaction of both public and private sector executives, and an effort to understand the two concepts jointly along with their relationship.

Objectives:

1. To assess the occupational stress of private and public sector executives.
2. To compare job satisfaction of private and public sectors executives.
3. To identify the relationship between occupational stress and job satisfaction of private and public sectors executives.

Research Methodology

Target Population

Data for the current study were taken from a more extensive investigation. The sample of this study consisted of 100 executives from two population; public sectors(50) and private sectors (50), drawn on the basis of random sampling from 6 large scale industries situated in uttarakhand state, India. Most of the public sectors participants were drawn from Haridwar and Dehradun cities and participants of private sectors from cities of Roorkee, Haridwar and towns

of these cities within 70 kilometers of Uttarakhand state. Biographical data indicated that the subjects who were selected in this study (as early middle age) their age ranged from 35 to 45 years, and the mean age 41.29. All the subjects were educationally well qualified, 80 (70%) had degree and remaining 20 (30%) had post graduate degree. Data collected on both sectors executives were at least working 8 to 12 years duration in the same sector and only male participants were included. All the subjects completed Occupational Stress Index (Srivastava and Singh, 1981) and Job-Satisfaction Scale (Srivastava, 1996).

Procedure and Administration:

The present study was performed on data from the deleted assessment of occupational stress as far as relationship between occupational stress and job-satisfaction of private and public sectors executives. Occupational Stress Index (Srivastava and Singh, 1981) and Job-Satisfaction Scale (Srivastava, 1996) administered individually by the researcher. A random sample was collected by the address register requesting for co-operation to administration of both sectors and stratified to match them on age, duration of Job accordance to sample and inclusion only male executives. Before administration clarified the purpose of the study to them and gave assurance for confidentiality of their answers, For this, did not write the name of participant on the self made performa and administered both scales at their own convenient places (not necessary to working place) and time.

Instruments :

Two scales were used for assessing occupational stress and Job-satisfaction of executives: The Occupational Stress Index and Job-Satisfaction Scale.

1. The Occupational Stress Index (OSI)

This Scale was developed by Srivastava and Singh (1981). It consists of 46 items with 5 alternative responses. Out of 46 items 28 are “true-keyed” and rest 18 are ‘false-keyed’. The items relate to almost all relevant components of the job life which cause stress in some way or the other, such as, role over-load, role ambiguity, role conflict, unreasonable group and political pressures, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions and unprofitability. The reliability index ascertained by split half (odd-even) method and Chronbach’s alpha coefficients for the scale were found to be 0.935 and 0.90 respectively.

2. Job-Satisfaction Scale

This scale consisted of 38 items Likert type job-satisfaction scale developed by Srivastava(1996). Among 38 items, 28 indicate positive and 10 are negative responses for the measurement of job-satisfaction/dissatisfaction levels. Response categories for the job satisfaction scale ranged from ‘strongly agree’ to ‘strongly disagree’ with a 5 (strongly agree) to a 1 (strongly disagree) point value assigned for each positive items response and with a 5 (strongly disagree) to a 1 (strongly agree) point value assigned for each negative items. Each raw score converted into percentile values for assessing high, moderate and low levels of job-satisfaction/dissatisfaction.

Data Collection

The study is based on primary data. The data were collected from executives on two different questionnaire-cum-scales from different organizations in Uttarakhand state. The researcher visited so many places and personally requested the executives to fill the questionnaires as early as possible. Uttarakhand is a new developing state, due to that it was a difficult task to get the forms filled from women executives, as the number of women executives is very less in almost all the organizations whether in public or in private sector. So, we matched our sample on males only.

Data Analysis

The statistical analysis, we conducted descriptive statistic (Mean, SDs and 't' values) for assessing difference between occupational stress and comparing job-satisfaction of private and public sector executives. We then conducted χ^2 (non-parametric statistic) for knowing the relationship between occupational stress and job-satisfaction of executives. The data also presented in pictorial form with the help of bar graphs.

Results :

Hypothesis were analyzed in three phases. The first set of analyses examined the measurement of occupational stress in its 12 sub-scales; role over-load, role ambiguity, role conflict, unreasonable group and political pressures, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions and unprofitability of private and public sector executives.

In the second phase of analysis examined whether any difference between job-satisfaction of executives working in private and public sectors' would exist.

The final phase of analysis identified the relationship in the 3 categories (high, moderate and low) of each sub-scales of occupational stress and the levels of job satisfaction (high, average and low) of private and public sectors executives.

The 't' test were conducted for continuous data and χ^2 (3x3) test were used for categorical data.

Table 1 shows significant decreases in the mean occupational stress scores of public sector executives. It could be seen from executives of private sector to public sector. The 't' values on the sub-scales of role overload ($t=4.54$; $p<0.01$), unreasonable group and political pressures ($t=3.10$; $p<0.01$), intrinsic impoverishment ($t=1.99$; $p<0.05$), unprofitability ($t=3.43$; $p<0.01$) and on total occupational stress ($t=2.74$; $p<0.01$) indicate significant difference between public and private sector executives. Mean scores on the above sub-scales confirmed that the executives of private sector found to have experienced more occupational stress than the executives of public sectors. Results clearly indicate that executives of private sectors were experiencing more stress due to role overload, unreasonable group and political pressures, intrinsic impoverishment and total stress as compared to executives of public sector. Stress of unprofitability only found more in public sector executives than the private.

The participants of both sectors represents significant difference on the variable of job satisfaction ($t=3.19$; $p<0.01$). Executives of public sector reported more job-satisfaction than the executives of private sector (see table 1).

In order to examine relationship between two variables (occupational stress and job satisfaction), χ^2 (3x3) was computed (see table 2). The χ^2 (4, $n=100$)=32.55, $P<0.01$ between the occupational stress and job satisfaction of executives was found to be significant. Frequencies of the subjects described high job-satisfaction is the result of low occupational stress and average job satisfaction correlated with moderate occupational stress of executives.

The similar analysis was carried out on the 12 sub-scales of occupational stress and job satisfaction (3x3) of private and public sector executives (Table 3). The results obtained in table 3 show the significant relationship between role conflict and job satisfaction of private (4, $n=50$, $\chi^2= 13.54$, $P<0.01$) and on the same sub-scale of public sector executives (4, $n=50$, $\chi^2= 10.87$, $P<0.05$).

Frequencies explain executives of both sectors were experiencing average level of job satisfaction because of moderate role conflict and high job satisfaction due to low role conflict.

On the under participation sub-scale of occupational stress, the executives of both sectors showed the significant relationship with job satisfaction. Regarding private sector, χ^2 (4, $n=50$) = 15.25, $p<0.01$ indicates high level of job satisfaction experiencing by executives with low, and average level of satisfaction with moderate level of under participation stress. Whereas, significant χ^2 value (4, $n=50$) =14.75, $p<0.01$ of public sector executives reported that high stress of under participation generates average level of job satisfaction (more than private) and low stress generates high job satisfaction (less than private). Moderate stress also shows average job satisfaction of both sectors executives. However, private sector executives possess frequency higher than the public sector.

The stress regarding powerlessness indicates significant relationship with job satisfaction on both sectors executives. χ^2 values (4, $n=50$) =10.77, $p<0.05$ of private and (4, $n=50$) =10.18, $p<0.05$ of public sector executives found significant in relation to stress of low powerlessness, low powerlessness stress possess high job satisfaction and moderate stress possess average satisfaction. It clarified that the executives of both sectors enjoy their job with

high level of satisfaction if their interest and opinion are duly considered in terms of power of position. In terms of poor peer relations ($\chi^2=12.09$; $p<0.05$), and intrinsic impoverishment stress ($\chi^2=11.32$; $p<0.05$), public sector executives showed significant relationship in the high and average level of job satisfaction with low and moderate stress. However, executives of private sector did not show any significant relationship in order to above, but frequencies showed the same trend as shown by public sector executives.

The job satisfaction regarding to low status, both sectors executives depicted significant χ^2 values (4, n=50)=16.61, $p<0.01$ and $\chi^2=20.57$, $p<0.01$ respectively. Frequencies indicated again the same trend, low stress concerning status of executives of both sectors experiencing high job satisfaction and moderate stress experiencing average satisfaction by them. It is noticeable that private sector executive possessed high frequency on average level of job satisfaction in relation to the same level of stress of low status than the executives of public sector and executives of public sectors showed higher frequency on high job satisfaction with low stress of low status as compare to executives of private sectors. It denoted that if higher authorities give due regard according to post of work of executives, they experience high satisfaction in their job. On the relationship between stress of strenuous working condition and job satisfaction, private sector executives showed significant χ^2 value (4, n=50)=9.54, $P<0.05$ and possess more frequency on average job satisfaction with moderate level of stress and high satisfaction with low stress.

Overall relationship denoted highly significant relation in the job satisfaction and occupational stress of both sectors executives. The value of χ^2 (4, n=50)= 20.07, $P<0.01$ (Private) and $\chi^2= 12.98$; $P<0.01$ (Public) indicated that total occupational stress on moderate level generates average level of job satisfaction and low stress gives high job satisfaction. It is noticeable that private sector executives possess high number of frequency on average job satisfaction and lesser on high satisfaction in relation to moderate and low occupational stress. Whereas, equal frequency on high and average level of job satisfaction with low and moderate stress showed by public sector executives. Distribution of frequencies indicated that job satisfaction of public sectors executives have less concern in relation to occupational stress as compare to executives of private sector.

Discussion

We assessed the occupational stress and job satisfaction of executives and identified the relationship between occupational stress and job satisfaction of private and public sector executives. There are three major findings of the current study was that; First, executives of private sector reported high occupational stress than the public sector. Second, public sector executives experience more job-satisfaction as compare to private. The third, executives of both sectors show significant relationship between occupational stress and job satisfaction.

Regarding first finding occupational stress found more in private sector on the sub-scales of role overload, unreasonable group and political pressures, intrinsic impoverishment, unprofitability and on total occupational stress as compare to public sector (table 1). This suggests that executives in private sector organization have a lot of work duties and responsibilities to perform and on the other hand there prevails departmental politics at the time of promotion. The jobs in private sector, although highly paid, are generally overloaded, and demand longer working hours as compare to public sector. A finding consisted with our study on the occupational stress of role overload. The stress of role overload in private sector may be defined separated into qualitative and quantitative role overload. If executives feel that they lack the necessary skill to complete an assigned work task, they are considered to experience qualitative role overload. Quantitative role overload occurs when an executive finds it difficult to complete an assigned task within an allotted period of time. (Kahn, 1978, Pines and Maslach, 1978; Maslach and Jackson, 1984). Manshor, Fontaine and Chong Siong Choy (2003) in their study examined the sources of occupational stress among Malaysian managers working in multi-national companies (MNCs). It was found that workloads, working conditions, and relationship at work were the main concern of the managers that lead to stress at work place.

Khoury and FarhadAnaloui (2010) also consistent of our result, they conducted a research to identify the primary and crucial stressors that Palestinian employees encounter. For this purpose a multi-stage disproportionate stratified random sampling method was employed. Results concluded that the employees in the private sector experience more stress than those in public or NGO sectors. Linda Lee Larson (2004) supported this study regarding job stress.

He found in his study that organizational job stressors in the work environment were more a source of stress than the so-called individual job factors.

Regarding job-satisfaction, as hypothesized, the results of this study revealed that the high mean score of executives of public sector on job satisfaction explain that the executives in public sector feel more comfortable with their jobs. The scores of private sectors are not appreciable on this variable. The difference that were found can be assumed for by the variable of occupational stress. It may be noted that executives of private sector's experiences more trouble with their boss, or when they are denoted, in that situation their job satisfaction is deteriorated. Whereas, executives working in public sector find that management has confidence in them, salary packages are satisfactory, job is secured and welfare facilities are sufficient in the organizations. Our findings is also consistent with Kohan and O' Connor (2002) they examined job satisfaction, job stress and thoughts of quitting in relation to positive affect (PA) and negative affect (NA). A high PA means a zest for life, excitement, and pleasurable engagement. Contrastly, a high NA is associated with feeling upset, nervous, and tense. They recommended a high positive affect (PA) is highly associated with job satisfaction of executives.

One such follow-up study showed that realization of expectation, company support, attitude, relation with fellow workers and pay were determinants of job satisfaction (De Vaney and Chen, 2003). Sloman (2007) found contradictive result from our study. He reported that private sector professionals to be more satisfied than their counterparts in the public sector.

In respect of relationship between occupational stress and job satisfaction of executives, finding shows low level of occupational stress increases job satisfaction level of the executives and moderate level of stress experiencing average job satisfaction (table 2).

The proper analysis of both variables on 12 sub-scales of occupational stress, and the job satisfaction experienced by private and public sector executives (table 3) clarifies that the stress of role conflict, under participation, powerlessness and low status have significant effect on job-satisfaction of both sectors executives. However stress of poor peer relations influence significantly only on job satisfaction of public sector executives and job-satisfaction of private sector executives affected significantly from the stress of strenuous working conditions. When executives experience low occupational stress of both the sectors on above significant results they show high level of job satisfaction and from moderate occupational stress they experience moderate satisfaction level. Moreover, results follow up the same trend, whereas, executives of public sector showed more job satisfaction and low stress than their counterparts executives of private sectors.

A study by North Western National Life Insurance Co. concluded that job stress is generally a consequence of two ingredients: A high level of job demands and little control over one's work. Many of today's workers are finding their jobs more stressful than were simply because their working too many hours.

Several studies have determined to support our results.

The study of Landsbergis (1988) and Terry et al. (1993) showed that high levels of work stress are associated with low levels of job satisfaction.

Ahsan et al. (2009) also conducted a research to evaluate the relationship between job stress and job satisfaction. He found a significant relationship between job stress and job satisfaction. A research was conducted by Tang and Chen-Hua Chang (2010) to examine how role stress and various performances of individuals are related. The study analyzed how role ambiguity and role conflict (via self-efficacy and job satisfaction) affect employee creativity directly and indirectly. The results showed that there is not only a direct and negative link between role ambiguity and creativity, but also a direct and positive link between role conflict and creativity. Yousef (2002) conducted a research to analyze the mediating role of job satisfaction between role stressors, namely role conflict and role ambiguity as sources of stress. Results showed that both role conflict and role ambiguity directly and negatively influence job satisfaction. It was also found that job satisfaction mediates the influence of role conflict and role ambiguity on various facets of organizational commitment.

Ahsan, N. et.al. (2009) investigated the relationship between job stress and job satisfaction among university staff in Malaysia. The determinants of job stress that had been examined under this study include, management role, relationship with others, workload pressure, homework interface, role ambiguity, and performance pressure. The results showed that there is negative relationship between job stress and job satisfaction.

Graphical representation of data further confirms the same results. The position can be clearly seen at a glance and a comparison can be quickly made with the help of following graphs.

Conclusion

Individuals under excessive stress tend to find their jobs less satisfying. Some of their intrinsic or extrinsic needs may be thwarted or not met sufficiently. Corroborating many studies in the literature (Hollingworth et. al. 1988; Keller, 1975), the findings of the present study also reveal the same. The subjects with lower job satisfaction were found to experience more stress in the form of role conflict, under participation, powerlessness, poor peer relations and low status compared to those with higher job satisfaction.

Sector (Private and Public) was found to be of importance in this study. The results of the study indicates executives of private sector are experiencing more stress and less job-satisfaction than the executives of public sector.

Further research has potential to provide relevant knowledge to guide administrators in the generation of robust frameworks that integrate the consequences and implications of the findings of the study.

Implications

In terms of practical contributions, the findings of this study can be used as a guideline by the management to overcome occupational stress problems in organizations. The objective may be achieved if management considers the following suggestions: firstly, update the content and training method. For example, the content of training programs need to emphasize more on soft skills, especially emotional intelligence. Secondly, promote work-life balance initiatives. For example, to reduce the executive occupational stress, such as organize company trips for them to relax their minds and bodies, as well as initiate physical fitness and sport games. Finally, encourage executives assistance program through professional consultants or internal counseling and guidance unit. For example, executives development programs should be well arranged in the interest of all levels of executives. Conducting one or two days seminars for creating awareness about the variables under study viz., organizational stress and job satisfaction, will also work favorably.

Scope for further research

The result of the present study indicate that there are so many related areas, open to further research. The study can be conducted with large sample again after some gap to find the positive or negative affect on job satisfaction of private and public sectors executives. The researchers have ample scope of research to study some psychological problems, that too by comparing public and private sector executives. Some separate studies can also be conducted for women executives because these days they are gaining more importance in cooperate sector. Now women in India have equal opportunity to get proper education and equal chances for getting good jobs. So, their problems should be analyzed and solved separately.

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TABLE 1: OCCUPATIONAL STRESS AND JOB SATISFACTION OF EXECUTIVES (MEAN, SD, AND 't')

Independent Variable	Public (N=50)		Private (N=50)		't' values	Level of Significance
	Mean	S.D.	Mean	S.D.		
Occupational Stress						
Role Overload	18.3	3.59	20.98	4.09	4.54**	p<.01
Role Ambiguity	10.38	3.31	10.44	2.64	0.153	-
Role Conflict	13.68	2.86	13.08	3.09	1.08	-
Unreasonable group and political pressure	11.06	2.71	12.92	3.28	3.10**	p<.01

Responsibility for persons	9.54	2.10	10.02	2.35	1.07	-
Under participation	11.42	2.91	10.68	2.69	1.32	-
Powerlessness	8.64	2.34	8.92	3.01	.52	-
Poor Peer relations	10.26	2.55	10.82	3.08	.99	-
Intrinsic Impoverishment	9.50	2.79	11.00	3.25	1.98*	p<.05
Low Status	7.14	1.95	7.46	2.00	.81	-
Strenuous working condition	10.64	2.61	10.50	2.87	.25	-
Unprofitability	5.76	1.47	7.14	2.44	3.43**	p<.01
Total Occupational Stress	126.7	19.96	134.9	22.41	2.74**	p<.01
<u>Dependent Variable</u>						
Job Satisfaction	131.78	15.77	125.04	14.01	3.19**	p<.01

Table 2: χ^2 VALUE FOR RELATIONSHIP BETWEEN OCCUPATIONAL STRESS AND JOB SATISFACTION OF EXECUTIVES.

Occupational Stress	Job Satisfaction			
	High	Average	Low	Total
High	3	6	2	11
Moderate	10	28	4	52
Low	28	6	3	37
Total	41	50	9	100
χ^2	32.55**		df=4	

Table 3. χ^2 VALUES FOR RELATIONSHIP BETWEEN OCCUPATIONAL STRESS AND JOB SATISFACTION OF PRIVATE AND PUBLIC SECTOR EXECUTIVES

Occupational Stress		Job Satisfaction							
		Private Sector				Public Sector			
		H	A	L	χ^2	H	A	L	χ^2
Role Overload	High	3	10	1		1	4	1	
	Moderate	11	19	1	3.339	17	21	1	6.118
	Low	2	2	1		3	1	1	
Role Ambiguity	High	2	5	1		3	8	1	
	Moderate	7	15	1	2.422	7	5	1	2.316
	Low	9	9	1		11	12	2	
Role Conflict	High	2	1	1		1	3	2	
	Moderate	3	18	1	13.54**	6	13	2	10.874*
	Low	14	9	1		15	7	1	
Unreasonable pol. pressure	High	4	8	1		4	3	1	
	Moderate	9	20	1	6.74	12	16	2	0.734
	Low	5	1	1		5	6	1	
Responsibility for persons	High	7	5	1		4	3	1	
	Moderate	10	19	1	3.414	17	20	1	4.386
	Low	2	4	1		1	2	1	
Underparticipation	High	1	10	1		3	13	1	
	Moderate	3	13	1	15.247**	6	10	2	14.749**
	Low	14	6	1		12	2	1	
Powerlessness	High	2	7	1		2	6	1	
	Moderate	4	15	1	10.77*	8	14	2	10.177*
	Low	13	6	1		13	2	1	
Poor peer relations	High	2	8	1		1	4	1	
	Moderate	6	14	2	8.122	10	19	1	12.086*
	Low	11	5	1		12	1	1	
Intrinsic impoverishment	High	2	7	4		1	4	1	
	Moderate	4	9	1	6.681	4	12	1	11.319*
	Low	13	9	1		18	7	2	
Low Status	High	1	1	1		1	1	1	
	Moderate	6	24	1	16.613**	4	20	1	20.572**
	Low	10	4	2		17	4	1	
Strenuous working conditions	High	3	5	1		1	7	2	
	Moderate	5	17	2	9.536*	11	10	3	7.39
	Low	11	4	2		10	4	2	
Unprofitability	High	5	18	2		2	5	1	
	Moderate	7	9	2	8.131	14	16	1	2.753
	Low	5	1	1		6	4	1	
Total	High	2	4	1		1	2	1	
	Moderate	3	22	2	20.07**	7	16	2	12.98*
	Low	12	2	2		16	4	1	

Graphical representation of data:

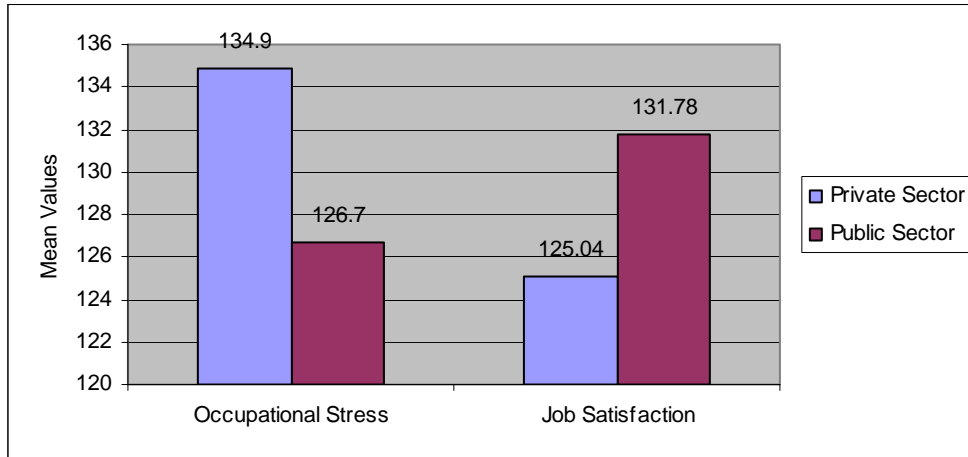


FIG. 1: ACOMPARISON OF MEAN VALUES OF OCCUPATIONAL STRESS AND JOB SATISFACTION OF PRIVATE AND PUBLIC SECTOR EXECUTIVES

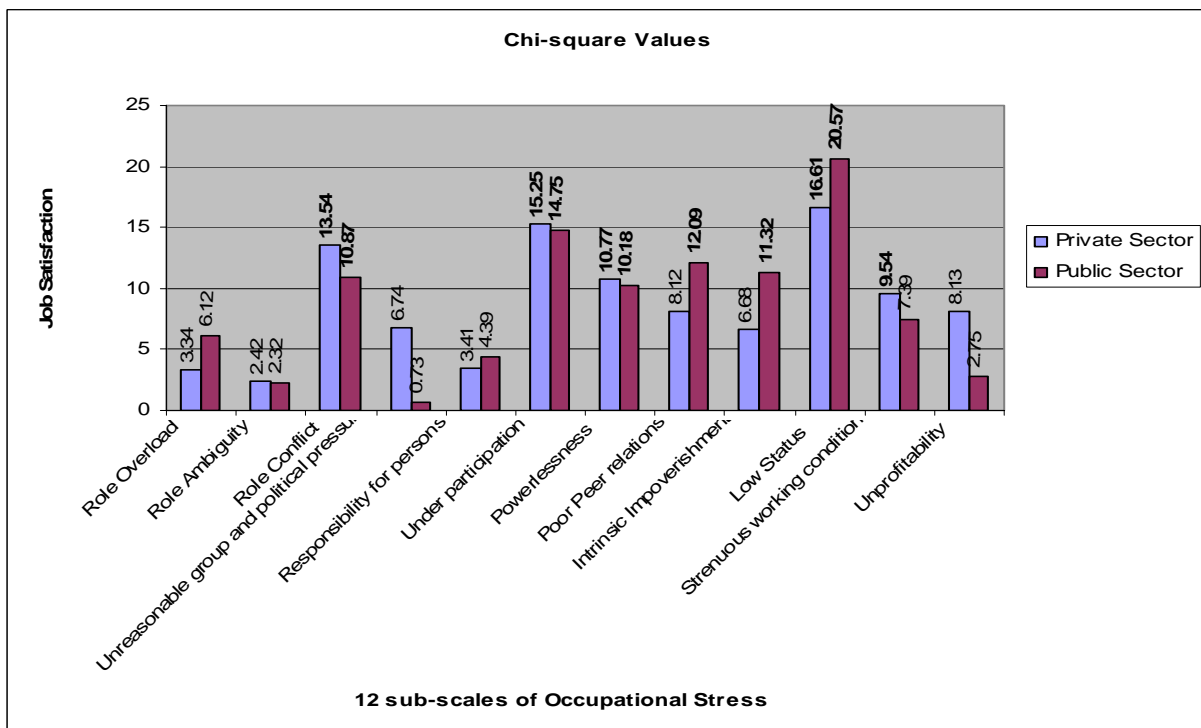


FIG. 2: SHOWING χ^2 ON RELATIONSHIP BETWEEN OCCUPATIONAL STRESS AND JOB SATISFACTION OF PRIVATE AND PUBLIC SECTOR EXECUTIVES

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Strategic Management Using Evaluative Process Methods

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Abstract

It is evident that little systematic research has been applied following new public sector governance theory and Resource Based Theory (RBT) in the strategic management context. This paper examines data using ‘the evaluative process method’ and uses both primary and secondary data sources. Environmental variables and governance issues of housing bodies in two countries, New Zealand and Australia are analysed. We use a mixed approach of analytical tools to explore the cause and effect relationships. To uncover causes and effects more effectively we have adopted both qualitative and quantitative methods of using ‘percentage of satisfaction’ from published data in the two organisations, HNZN and DH. This study provides a contingency plan for minimising risk of loss making during economic downturn. A better understanding of the new strategic management plan and development in the public sector context as a result of this paper will probably generate further research from both academic scholars and practitioners.

Introduction

With economic downturn and periodical earth quakes in Christchurch, there is uncertainty in New Zealand housing market. The current natural disasters such as earthquakes, floods, global uncertainties, rising unemployment and complexities, calls for the development of Social Sustainability Advantage (SSA) measure using Governance theory and resource based view (RBV) for government housing departments. SSA measure is needed during these times of rising unemployment and poor housing affordability. For this purpose the study integrates corporate governance stakeholder theory of Benn, Dunphy and Griffiths (2006), Freeman and McVea (2001), and Johnson, Scholes and Whittington (2008), along with strategy perspectives of the RBV of firm (Penrose,1959; Peteraf and Barney, 2003) for public organisation. Hansen’s (2007) research work on public organizations – ‘Strategic Management when Profit isn’t the End: Differences between Public Organizations’ used Porter’s strategic positioning (1985) and Barney’s (1991) RBV to examine corporate effectiveness.

This research examines Housing New Zealand Corporation (HNZN), and Department of Housing and Works (DHW) in Western Australia with regard to their planning and implementation methods used to minimise the risk of both customer discontentment (housing affordability issues) and Social Sustainability Advantage (SSA) of HNZN and DH.

The evaluative process method of the state housing market involves studying housing policy matters that are based on not only an understanding of the wants and needs of the community but also upon some idea of what those future wants and needs are likely to be. In this context housing policy evaluation is dependent upon good research methods used to evaluate past, current and forecast the future state of the housing market by examining the factors which determine housing demand and supply.

One of the purposes of the research is to present a balanced view of the existing housing governance and resource based systems in New Zealand and Western Australia. That is to examine the sustainability of housing stock in the short and long term. Our intention is to develop a Social Sustainability Advantage measure using data analysis of the housing market from 1980 through to 2010, a period of rapid change.

Development of the housing sector is a major driver for social and economic benefits. Housing New Zealand publishes short term and medium term forecasts of housing demand based on affordability, consumer

confidence and other variables. These projections are based on evaluative process method of leading indicators of the economy.

It is evident that little systematic research has been applied following new public sector governance theory and Resource Based Theory (RBT) in the strategic management context. This study provides an extensive examination of data using this method called 'the evaluative process method' and uses both primary and secondary data sources.

Environmental variables and governance issues of housing bodies in two countries, New Zealand and Australia are analysed. We use this evaluative process method, a mixed approach of analytical tools to explore the cause and effect relationships. To uncover causes and effects more effectively we have adopted both qualitative method, content analysis, and quantitative method of using 'percentage of satisfaction' from published data in the two organisations, HNZA and DH. Time series data from Australian Bureau of Statistics, ABS and Statistics New Zealand, SNZ are also employed.

Content analysis uncovers causes while secondary time series data, published outputs from HNZA, SNZ, ABS and DH are used to uncover effects. This study provides a contingency plan for minimising risk of loss making during economic downturn. A better understanding of the new strategic management plan and development in the public sector context as a result of this paper will probably generate further research from both academic scholars and practitioners.

The major expected outcome is the development of a model for the state housing market which provides policy makers with three key benefits:

1. A thorough investigation may reveal what factors are important in determining SSA outcomes and what the magnitude of their effects are.
2. The quantitative effects of such a study would necessarily carry over in the following areas:
 - The methodology used would provide a blueprint for research
 - The identification of key variables for sustainability measure would be of value to trans-Tasman researchers.
3. A-priori it is quite likely that our work would lead to the identification of two sets of influencing variables on SSA. Those factors driving long run trends in the market (obvious candidates are tax and benefit scheme trend, housing affordability trend, population, employment trends and income trends) and those which affect the market in the short run and are responsible for cyclical effects (interest rates, property prices, and HNZA, DH specific policy variable).

Theoretical frame work

The extant strategic management literature by Dean and Snell (1991), Ketokivi and Schroeder, (2004) in the strategic management field advocates the attainment of fit between the firm's strategy, structures and processes in order to attain competitive advantage. Old school of thought and conventional writers Penrose, 1959; Porter, 1985, 1991, 1996; Benn, Freeman and McVea, 2001; Peteraf and Barney, 2003; Phillipon, 2005; Dunphy and Griffiths, 2006; Hansen, 2007; Johnson, Scholes and Whittington, 2008 and others use the term 'Competitive Advantage'.

We will use the term Social Sustainability Advantage (SSA) for public sector instead of Competitive Advantage (CA) since there is no rivalry and competition similar to private sector. Policy makers in the field of public housing are interested in strategy, structures and processes in order to attain SSA. SSA here refers not only to maintaining efficiency but also long-term sustainability (that is creating efficiency using RBT framework) and meeting the needs of society through public organisations. The study integrates perspectives from governance issues – risk management and resource-based models by using both the internal and external factors in environmental analysis.

SSA is relatively a new field for public organisations since there is a lack of clear strategy for maximising public sector performance through optimal utilisation of state organisation's resources using environmental analysis and corporate governance literature. Traditional public organizations are highly regulated with fixed budget and not

working on market-like conditions and therefore a strategic management theory like Porter's strategic theory cannot be applied directly. Nevertheless for such organisations RBV is more suitable and can be directly applied. Hansen (2007) states that if the organization is more like a New Public Management organization with a high degree of autonomy, performance-based budgets and market-like conditions then both the strategic perspectives—Porter's and RBV—are applicable.

Though the main intention of New Zealand housing strategy aimed for the period 2006-2015 is to provide "access to quality, affordable homes for all New Zealanders" is relevant at all times, yet there are few adaptations that are necessary during economic downturn of 2009 and beyond. As the title indicates, the emphasis is on how public good is actually managed by the two government housing organisations. Strategic analysis is concerned with how these two housing organisations (and people within organisations) plan, manage and implement their strategic direction so that the risk of losses are minimised, Porter (1991), Hitt, et al. (2001) and Ketokivi and Schroeder (2004). The focus is on strategy and governance with regard to minimising risk of loss making during economic downturn.

The environmental model of resource management is dependent upon the strategically relevant resources they control and the strategies they pursue (Penrose,1959; Prahalad and Hamel,1990; Ray, Barney and Muhanna, 2004). The model assumes that resources in a firm are heterogeneous (Oliver, 1997) because the resources (for example, skilled staff) that organizations use to implement strategies are highly mobile in the market. The relevant resources they control are limited and therefore public organisations are urged to do a better job in minimising risks and better provision of public goods and services. Several strategic management writers posit that it is easier for the senior managers to convince their important external stakeholders that they deserve more resources to meet the growing public needs based on good partnerships with key stakeholders (Freeman and McVea, 2001; Benn, Dunphy and Griffiths, 2006).

Governance structure and SSA

Mabin, et al., 2001; Hitt, et al., 2001; Phillipon, 2005 discuss the importance of good stakeholder relationship for developing a sustainability management framework. This need for SSA is becoming increasingly important for public organisations. Government housing bodies are governed by the Housing Public Act of the country or the state.

Several experts in the field of strategy literature have focused on corporate governance as an important factor in the determinant of organisational performance outcome (Filatotchev, Toms and Wright, 2006; Nankervis, Compton and McCarthy, 1996). Conventional wisdom dictates that size and scope, managing agency conflict, and CEO strength are alone responsible for governance structures and performance. See Figure 1, which deals with resource selection including both internal and external environmental analysis leading to sustainable advantage. The following framework shows a feedback loop that connects strategic environmental analysis with risk management and managing change with the analysis of implementation. We have proposed a cumulative approach for corporate governance that shows how each stage feeds into the next during economic downturn. See figure 1: SSA framework.

Governance structures are also driven by the following factors:

- shareholders' desire to curtail management opportunism;
- the firms' efforts to appease major resource providers; and
- managers' attempts to manage environmental change.

Researchers such as Boone et al. (2007) point out that they have reached few definitive conclusions about the forces that drive board size and composition in governance process and outcome. This is termed as efficient board hypothesis. They state that their "results indicate that board size and composition vary across firms and change over time to accommodate the specific growth, monitoring, and managerial characteristics of the firm." According to efficient board hypothesis theory board compositions for specific categories of firms exist because

firms with specific categories have been observed to survive; which suggests that if the compositions were inefficient the firms would have failed.

Figure 1: Social Sustainability Advantage (SSA) Framework



Others such as Papania (2008) argue that ensuring the alignment between board members and the strategic roles they play in managing external relationships (Freeman and McVea, 2001) and developing internal capabilities (Pralalad and Hamel, 1990) are more important factors for the firm's sustainability than board size and composition. Their stakeholder model proposed that firm's survival is dependent upon proper strategic view of governance that is well executed through board composition and not just the standard board structures.

In the context of Business cycle, it is envisaged that greater the strategic resilience of the public sector's corporate level governance (Phillipon, 2005) during economic downturn higher is its sustainable advantage in servicing marginal households. This is found to be a function of social, human, natural and financial indicators of Sustainable social advantage (SSA) measure proposed.

The present study synthesizes corporate governance literature and theories such as RBT and others for public organizations. One of the main functions of the board and corporate governance processes is stewardship over resources at the same time promoting sustainability measure. SSA is consistent with resource based perspective of strategic management of gaining access to resources that will benefit the organisation through its ability to create sustainability. SSA approach synthesizes RBT (Barney, 1991, 2001; Barney and Arian, 2001; Oliver, 1997), with public governance literature (Carmeli and Cohen, 2001; Freeman and McVea, 2001), which stems from an understanding of social organisation and the resources the organisation controls.

3.0 Methodology: Evaluative Process Methods

Methodology is based on the Evaluative Process Method (EPM) used by researchers such as Patton (1980), Yin (1994), Denzin and Lincoln (2005), Malhotra (2008), Zikmund (2010). EPM combines both the qualitative and quantitative sources of programme evaluation. It integrates the theoretical with the practical evaluation of the programme. A combination of different methods is required to solve managerial issues in complex housing programmes. Further, the task of defining Social Sustainable Advantage for the programmes called for an EPM, a mixed methodology approach.

It was control tested using ABS Data, for Western Australia and SNZ Data for New Zealand. Although the model was quite flexible in its capacity to assimilate a diverse range of variables and data formats, the model's further development, the testing process and the results, is enhanced by the combination of the model's need for very high quality data (across a broad range of demographic, housing, and financial parameters) and the ability of existing data sources to meet this need. EPMs is used for generating valid, useful and credible data analysis using both qualitative and quantitative data. The primary aim is to develop an EPM model for assessing sustainability measure. The key variables and the interrelationships between the key variables were identified using semi-structured interviews with officials of DHW and HNZA. Secondary data, was drawn from the reports and published sources of these departments, the ABS and SNZ.

Qualitative research employing content analysis is used for identifying causes (e.g. resources) while final evaluation, secondary published sources is used to determine effect (e.g. satisfaction level). Annual report containing satisfaction surveys of employees, clients and management are used to compare two countries social housing bodies, New Zealand and Western Australia. Published research outputs, annual reports and statistical data from Australian Bureau of Statistics and Statistics New Zealand are used for this purpose.

We use causes and effects, both content analysis and published data in these case studies for the following reasons:

- content analysis uncovers causes
- published outputs from HNZA and DHW (secondary data) uncovers effects.

Evaluation process method used in this study has six main steps, which are listed below:

- Selecting published sources for analysis
- Determining the units of content
- Discussion with policy makers for preparing the content
- Coding the content based on resourced based theory
- Counting and weighting (percentage measure) which is discussed in the analysis section
- Drawing conclusions

A mixed methodology of both secondary data from published sources is used to check with primary sources for reliability purposes.

- A thorough content analysis along with few email discussion from policy officers of these two social bodies enhances the mixed methodology employed in this paper.
- Public and community-owned social bodies have usually several purposes, sometimes conflicting - but each individual program tends to have one main purpose, maximising societal satisfaction and minimising economic wastes.

The scale used to measure the resource capabilities for both these organisations is given below:

- moderate level measures a less than equal resource capability than its counterpart and between 50% to 65% of efficiency for that particular indicator.
- highly moderate level ranking measures a better resource capability than its counterpart (HNZA) and more than 65% of efficiency for that particular indicator.

As well as facilitating the modelling process, the exercise also served to demonstrate some of the flexibility and the pitfalls encountered in working with 'real' data. As noted by Straka (2000) most modellers have experienced a learning curve regarding data analysis of sustainability measure. For example, it became apparent that even with the relatively high quality ABS and SNZ data, there were a series of sampling and data attribute/quality issues that would need to be overcome before there could be any claims of accuracy or reliability. The model's capacity to identify the strength of relationship with SSA measure will be demonstrated to a point where it may limit further application. In other words, the model was developed to a point where it was registering the strength of the relationship between the variable and the dependant SSA measure, as reflected in each of the data sets analysed. Given the limitations with the data, however, these results should be understood to be indicative of in-progress development.

With better quality data the model would have the capacity to be calibrated to become much more sensitive to the relative impact of each sustainability factor. A series of interviews with program staff and family/financial counsellors sought reflections on the influence of the key variables as well as insights towards refining the programs and the associated SSA measure.

4.0 Environmental Analysis and Discussions

4.1 Creating a focus

When you set out to do resource based analysis, the first thing to acknowledge is that it is difficult to be comprehensive. One may understand that it is difficult to analyse all resources and its contents in all possible ways. What we have done here is to use the primary resources such as selected human, social and financial capital and analyse them for the two organisations, Department of Housing and Works (DHW) and Housing New Zealand Corporation (HNZC) separately. The authors argue that resource contingent perspective is paramount for senior managers responding to social housing pressure for improved housing during economic downturn. Housing policy makers seeking to understand the context where organisations are likely to be motivated to improve their SSA and social performance in the future is listed in the next sub-section for the two organisations.

The two selected organisations' major purpose includes engaging in public good by providing housing products and services. Their purpose incorporates not only services to social housing to low income individuals but also providing housing consent for private real estate businesses. The comparative study highlights the paradox that many public-sector organizations face in simultaneously pursuing public good and SSA. Here we incorporate resource dependency theory to address the paradox of maximising social gains with the limited supply of land.

Both the Department of Housing and Works (DHW) and the Housing New Zealand Corporation (HNZC) have organisational development (governance group) and communications group, which work with the Chief Executive and the leadership team, satisfactorily. The purpose of these groups is to build and maintain a culture to deliver the mission, demonstrate the values, and achieve the strategic objectives by aligning structure, systems, processes, staffing and people management, Boone et al. (2007). The governance group also provides communications support satisfactorily.

HNZC and DHW have increased their accountability to wider stakeholder interests. Managers are accountable not only to their CEO and ministers in the stakeholder chain but also to the wider community including lower income households by maintaining good partnerships (Benn, Dunphy and Griffiths, 2006; Freeman and McVea, 2001; Papania, 2008). There is decentralisation of resources including autonomy, some degree of performance-based long term planning in a business like behaviour (Hansen, 2007). The governance details of these two housing bodies are further discussed in the next sub-section, separately.

The three most important action areas that envisage the vision of HNZC strategy are supply of sustainable housing, improved housing assistance and affordability, and improved access to home ownership. According to HNZC (2008) "All New Zealanders should have access to affordable, sustainable, good quality housing appropriate to their needs". The outcome of state housing market both in Australia and New Zealand also depends upon the business cycle and the ability of individuals to pay their mortgage commitments or their rents. Nearly 50% of home

buyers are mortgagees. During economic downturn housing market faces difficulties since households frequently default on their mortgage payments during this period. Defaults may eventually lead to foreclosure, Peter and Peter, (2006). The governance issue here concerns itself with the interdependence between the public housing bodies (Kong, 2007) and their strategic thinking process (Cavana, Davies, Robson, and Wilson, 1999) and the final outcome of minimising losses.

Housing New Zealand Corporation: HNZN is expected to collaborate with related agencies that deal with public and their well being. This includes the Ministry of Social Development, Ministry for the Environment and the Department of Building and Housing. The Department of Housing, Government of Western Australia also collaborates with its related Departments. There could be improvement in collaboration by DHW and HNZN with other government departments by reducing red tape and bureaucracy involved through maintaining effective governance systems and stakeholder management (Jacoby, 2005; Papania, 2008).

Each year the Minister of Housing has outlined his expectations for the HNZN and DHW and placed the Statement of Intent in their respective Parliaments. Their annual reports have provided the deviation from the expected outcomes. There are a number of financial and non-financial ways that can be used to overcome these discrepancies. One of the discrepancies arise from public tenants complaints of poor quality public housing and overexploitation of existing depleted property resources.

A new CEO was appointed in 2006, whose focus was to build on the Corporation's capability to demonstrate excellence in its performance (managing change, Kanter, Stein, and Jick, 1992). Along with the recruitment of a new CEO was the development of an operating model to deliver on strategic priorities and provide a better service to customers. The Executive Team comprised of six general managers and the Chief Executive. The Operations group was led by the Chief Operating Officer, who has the overall responsibility for the delivery of services to Corporation customers, HNZN (2006). These changes are consistent with the views of Bartlett and Ghoshal (1994) where they examine changing the role of top management.

One of HNZNs corporate governance activities is the successful holding of board meetings, where the Board comprised of six non-executive members. The minutes are expected to be followed through in 2010 and beyond. During early 2008 all the Board charters were reviewed. The purpose of the review was to make the Maori Capability Committee more flexible and efficient. The amended Board charter provided the opportunity to appoint a new member, Bartlett and Ghoshal, (1994). This new member is appointed from outside with Maori capability expertise, not a Corporation Board member. This is a step in the right direction since capability expertise is expected to be improved, Papania (2008). It is not the size of the board that matters but the managerial capabilities as outlined by governance experts such as Hitt, et al. (2001), Benn, Dunphy and Griffiths, (2006) and Papania (2008).

The General Manager of Strategy, Policy and Research provide support to all the groups: policy and research; strategy development and implementation to the Minister, Board, Executive Team and the different organisational groups (HNZN,2009; Benn, Dunphy and Griffiths, 2006; Carmeli and Cohen, 2001; Freeman and McVea,2001). The governance issues of HNZN are stated as follows:

“(a) To give effect to the Crown's social recommendations by providing housing, and services related to housing, in a business-like manner, and to that end to be an organisation that exhibits a sense of social responsibility by having regard to the interests of the community in which it operates. Also exhibits a sense of environmental responsibility by having regard to the environmental implications of its operations and operates with good financial oversight and stewardship, and efficiently and effectively manages its assets and liabilities and the Crown's investment. (b) To ensure that the Minister of Housing receives appropriate policy advice and information on housing and services related to housing” HNZN (2006).

Similar systems and practices govern the Department of Housing and Works. Both HNZN and DHW exhibit a great deal of environmental responsibility and promote alternative source energy along with conventional source of energy to minimise social and ecological cost. This may increase the social benefit. Both organisations are aware of the Kyoto protocol and follow good environment friendly practices.

4.2 Development of Strategic Management in the New Public Sector Context^{iv}

The similarities and distinction between the strategic competencies of the Western Australian Department of Housing and Works and the Housing New Zealand Corporation housing programs are discussed in this section. In Table 1, performance with regard to selected competencies and how to improve HNZC (managing change) is discussed.

For the purpose of measuring the resource capabilities three kinds of capital: Social and human capital, Natural capital and Financial capital are considered. Annual reports of DHW from 2003 to 2008, Perth and Annual reports of HNZC from 2003 to 2008, Wellington are used for this purpose.

Recent program results indicate very low rates of mortgage possessions. Financial and Family counsellors also report relatively low incidence of mortgage possessions among Keystart recipients (Western Australia), which had been highly successful for more than 15 years. New Starter is NZ Welcome Home Loan programme — based on the mortgage insurance scheme piloted through Kiwibank — was introduced in 2005. Eligibility was widened and new home loan providers invited to take part in the programme in order to offer home ownership assistance to 5,000 first home buyers a year by 2010.

TABLE 1: ANALYSIS FOR HNZC

<p><i>Sustainable Advantage:</i> The public housing sustainable advantage depends on effectively managing public homes. The ways to overcome the overexploitation of government housing is to either renovate existing property or increase the supply of new building that is affordable, durable and easy to build. For example homes in Eastern Porirua, makeover programme, response to emergency housing needs in South Auckland and the development of a 90-day action plan can lead to more successful outcomes. An indication of the level of competency achieved is moderate with regard to environmentally friendly affordable homes supplied by HNZC.</p>
<p><i>Stakeholder Management:</i> As at 30 June 2008, the Corporation managed 68,644 properties that serve as homes for over 200,000 people. It is evident that a tenant satisfaction survey to gauge their service yielded the result of 71% level of satisfaction with regard to housing management of clients. This can be termed as slightly above moderate level of satisfaction. Besides partnership with local authorities, community providers and iwi to provide and finance social and affordable housing for New Zealanders can be termed as moderate.</p>
<p><i>Governance and Housing:</i> Policy advice should be translated into action through better servicing of clients. HNZC need to deliver on its commitments in future years. This would include periodical review of land development processes and structure for building affordable housing and managing risks of poor governance. An indication of the level of competency achieved is moderate with regard to governance and translating policy into action.</p>
<p><i>Strategic Asset Management:</i> Tangible asset management such as financial capital, natural capital, human and social capital are considered. At present HNZC can be ranked moderate in meeting the tangible asset criteria, while it can be ranked highly moderate in meeting the intangible asset criteria (human and social capital). Data from annual reports are used for this assessment.</p>

Following is the scale used to measure the resource capabilities of DHW:

- highly moderate level ranking measures a better resource capability than its counterpart (HNZC) and more than 65% of efficiency for that particular indicator.
- moderate level measures a less than equal resource capability than its counterpart and between 50% to 65% of efficiency for that particular indicator.

Table 2 is used to measure performance with regard to selected competencies and how to improve DHW (managing change). The four competencies are discussed below.

TABLE 2: ANALYSIS FOR DH(W)

<p><i>Sustainable Advantage:</i> DH(W) has highly moderate capabilities with regard to Renewal projects and the energy efficiency programme. DH(W) completed several renewal projects since 2001 and its competency in achieving long-term housing sustainability is above moderate.</p>
<p><i>Stakeholder Management:</i> DH(W) has demonstrated how policy advice is translated into action through the successful launch of Keystart Program, Aborigines shared equity scheme and others. It is necessary to improve the housing facilities of aborigines (ethnic minorities) in Western Australia because the percentage of homeless is higher compared to other ethnic groups. However, the overall level of housing need satisfaction of low-income household is higher in Western Australia compared with New Zealand and can be ranked as highly moderate outcome.</p>
<p><i>Governance and Housing:</i> A major focus of the policy work is stakeholder relationship with other agencies to provide housing options to its clients. DH(W) also has a tenant satisfaction survey to gauge their service yielded with regard to housing management of clients. This service can be termed as moderate since the level of satisfaction is above 50%. Besides partnership with local authorities, community providers and other government bodies to provide and finance social and affordable housing for West Australians can be termed as above moderate.</p>
<p><i>Strategic Asset Management:</i> An important achievement under is the completion of a review of financial governance. Tangible asset management such as financial capital, natural capital, human and social capital are considered here. At present DH(W) can be ranked as highly moderate in meeting the tangible asset criteria, while it can be ranked moderate in meeting the intangible asset criteria (human and social capital). Data from annual reports are used for this assessment.</p>

Figure 2 shows the strategic capabilities of DHW and HNZN separately. The above ranking (scaling) method is used to measure the resource capabilities of social, human, natural and financial capital.

Figure 2: Measuring the strategic capabilities, DHW and HNZN



- Social and Human Capital of *HNZN* (Highly moderate ranking)
- Social and Human Capital of *DHW* (Moderate ranking)

- Natural Capital of *HNZN* (Moderate ranking)
- Natural Capital of *DHW* (Highly moderate ranking)

- Financial Capital of *HNZN* - access to its own capital and access to others (for e.g. kiwisaver scheme for others) (Moderate ranking)
- Financial Capital of *DHW* (Highly moderate ranking)

4.3 Integration of Strategic Management into New Public Sector Management

The current and the above sections have explored the strategic resources and positioning of Housing New Zealand Corporation (HNZN) and Department of Housing and Works (DHW) for the purpose of providing an integrative model. The study has assessed the existing strategic management theories and suggests implementation strategy which may further lead to innovative changes in the value chain of these social organisations. The influences of environmental factors, financial factors, human resource capabilities and business cycle (macroeconomic) factors on the governance of public organisation calls for an implementation strategy based on contingency framework.

5.0 Implementing Strategy

For the purpose of implementing strategy, three strategies of DHW and HNZN using SSA is proposed for these public sector organisations. SSA develops the organizations resources with the goal of value creation and efficiency. Revenues earned and social objectives fulfilled by HNZN are highly dependent on the successful development and implementation of a cohesive corporate-level strategy.

Past experience could also create opportunities for the various generic organisation-level strategies, organizational resource management and strategic groups for DH. Some of the departments in these public sector organisations behave in a business-like condition while others do not do so and therefore the strategic management theories of RBT can be successfully employed compared with Porter's competitive advantage. Good corporate governance is dependent not only on the internal resource capabilities but also managing the external shocks by top leaders such as business cycle and property shocks and its impact on business for both these organisations. The arguments of the paper could be summed up in the following statements:

Strategy 1: Sound financial capital with regard to resource based evidence is DH's strength and this capability can be an effective tool for promoting SSA especially during economic downturn and in the future.

Strategy 2: Good social and human resource capabilities are HNZN's strength. HNZN can use and manage these resources effectively for its sustained social performance.

Strategy 3: The usefulness of managing change depends on the type of public organizations. For example, SSA inspired organizations such as DHW are more robust in managing change in a chaotic environment (external shocks) due to its additional natural capital (large land and built area) than its counterpart.

It has been shown in this paper that good resource management of product or service results in better corporate governance. This is true even during boom (and bust) for public sector. New public sector management is found to be a function of social, human, institutional, natural and financial capital, the construct of SSA. The usefulness of this study on corporate governance and stakeholder management promotes strategy for minimising risks and maximising performance (promoting SSA). Following the discussion on environment analysis, resource capabilities, Carmeli and Cohen (2001) Barney (1991, 2001), macroeconomic (external business cycle factors, Grimes 2004), and governance for public sector (Benn, Dunphy and Griffiths, 2006) a contingency framework is produced for the new public sector management.

6.0 Future Research

This study introduced framework by which scholars and practitioners may investigate a public corporation's profile of resources. The framework, labelled as SSA, is an endeavor to better understand the public housing corporation's core resources (i.e., most valuable, rare, inimitable and non-substitutable) that generate to superior performance. The resource profile of growing public housing department in Western Australia was examined and compared with slow-growing housing department in New Zealand. The results of this examination shed light on one of the most difficult challenges that resource-based strategists face — understanding the drivers of sustainability. By adapting the theoretical background and conducting the environmental analysis of housing bodies from the resource constraints perspective of social housing and by applying the corporate governance model of organisation during economic downturn, we have been able to identify the implementation strategy that is necessary.

It is evident that little systematic research has been applied following new public strategic management concepts and development of RBT in the public sector context. This paper examined the above concepts in the light of DHW and HNZN, the public sector organizations in the Trans-Tasman region. A better understanding of the new strategic management development in the public sector context as a result of this paper will probably generate further research from both academic scholars and practitioners.

7.0 Policy Implications

The research adds value to current policy discussions on housing affordability on the one hand, and the real possibility of the real estate ‘bubble’ from the bust behaviour. It highlights the tension between the need for property values to depreciate for New Zealanders so that they may not have an asset that accumulates wealth, contrasted with the need for home prices to be affordable for people with low-moderate incomes. This is also the case for Western Australian low-moderate income dwellers.

Both the countries income eligible homeownership assistance programs have had a successful track record over the past few years. Recent program results indicate very low rates of mortgage possessions. Financial and Family counsellors also report relatively low incidence of mortgage possessions among Keystart recipients (WA), while NZ Welcome Home Loan programme — based on the mortgage insurance scheme piloted recently through Kiwibank can learn from effective management of home loans (low incidence of mortgage possessions) through WA Keystart programme. Most directly these findings suggest both the need for, and the potential effectiveness of, homeownership assistance schemes that target low-to-moderate income earners in New Zealand.

There is a strong argument for expanding the Trans-Tasman coverage of such programmes. This need to expand government housing programmes is to be qualified by the recognition that the success is dependent upon the direction of property values and the ability of government and monetary system to stabilise the market. Moreover, the experience in the past suggests that it would be at this point that the sustainability model’s potential to identify enhanced resource provisions and other mechanisms would be most beneficial.

In this respect, the implications of land release mechanisms and other government decisions that impact upon property values need to be considered within a broader ‘whole of government’ and public good framework. Though the issues are complex there is a strong argument for promoting Social Sustainability Advantage in public housing management.

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End notes

ⁱⁱ Satisfactory level is defined as a performance indicator with the measurement of not less than 50%.

ⁱⁱⁱ DHW has become DH, effective since December 2008.

- ^{iv} highly moderate level ranking (measures a better resource capability than its counterpart and more than 65% of effectiveness for that particular indicator)
- moderate level (measures a less than equal resource capability than its counterpart and value between 50% to 65% of effectiveness for that particular indicator)

Wage Determination and Discrimination According to Gender Using Different Preferences of Men and Women¹

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Abstract

The paper has arisen as a part of the project dealing with the questions of measuring of wage determinants and wage discrimination on the basis of different subjective requirements of women and men on their wages. Using the ordered-response model (Ordered Probit), it analysed wage determination on the basis of Mincer's Wage Regression including dummies for role in a family. The analysis was carried out with the total sample of respondents and subsequently separately for men and women as well as for the respondents subjectively feeling and not feeling discriminated. The data were gained from questionnaire survey carried out in Ostrava city, Czech Republic. In general, the analysis did not prove previous conclusions of theories or empirical studies about prevailing influence of personal characteristics on the wage rate. The influence of family characteristics, especially family roles on the wage rate failed to be proved. Nevertheless, the analysis proved statistically significant differences in the wage determination between above mentioned groups of respondents.

Introduction

Wages are an important indicator in expressing human capital value. The standard Neo-classical theory of the labour market states that wages (the marginal costs of labour) should correspond with income from the marginal product of labour under the conditions of ideal competition. This principle is the basis for standard human capital theory which assumes that the amount of wages is influenced by the personality characteristics affecting labour productivity. Mincer (1974) expressed the relation of human capital to the amount of wages through a wage equation which has become the methodology basis for simulating wage determinants up to the present.

More sophisticated theories have been developed (such as those by Dickens and Katz, 1987 or Krueger and Summers, 1988), modifying Mincer's wage regression by adding a labour status description (the position in one's employment, working hours, type of employment contract, and qualification requirements), corporate factors (how large a company is, commercial and non-commercial sectors, and industries), institutional factors (legislation protection of employment and the minimum wage) and regional factors, which are now collectively referred to as wage determinants; any differences in wages are due to these determinants.

If the wage differentiation is not explained by objective wage determinant characteristics, it is referred to as wage discrimination. Nevertheless, no economic studies have worked with the sociological aspect of different requirements of men and women for the wage rate. According to sociological studies (Dudová, 2007; Hašková, 2003; Křížková, 2006; Moe, 2003 etc.¹¹) the unexplained differences in wages do not have to be caused by discrimination but different preferences of men and women, namely in relation to family existence. 'General' (gender) stereotype places an emphasis on the 'caring person type' and the 'family breadwinner type', with these types prevalently matching the 'simple' division by sex. A shift in this perception is seen in single-parent families. Men tend to put an emphasis on the caring type (part-time jobs and lower wages) while women on the income for the family (full-time jobs and higher wages). Where there are no children, the differences become blurred. The role of an individual in the family can then be seen as one of the wage determinants. This can be set in the preference theory which, as a part of the neoclassical economy, presents standard economic explanation of the decision-making process of individuals. Since Gary Becker (Theory of preferences, 1997) this theory has gained its relevance for all aspects of life decisions.

The aim of this paper is to connect a contemporary economic quantitative research of wage determinants with a sociological qualitative research of the impact of family roles and preferences on wage and to bring a new approach to the analysis of wage determinants and discrimination according to gender on the basis of modified Mincer wage regression where the vector of explanatory variables will include three types of factors: personal, firm and family characteristics.

Ordered probit model of wage determinants: data, methodology and variables

In the project called ‘Measuring Wage Determinants and Wage Discrimination’ questionnaire survey was carried out, the aim of which was to acquire data relating to wage determinants of individual respondents according to Mincer’s theory, their subjective requirements for wage rate and status in the family. The basic set researched was ‘prime-age’ working population of the city of Ostrava, Czech Republic. As the features of the basic set are known from Population and Housing Census carried out in 2001 the method chosen was quota selection which ensures consistent structure of the basic and the selective set. Quotasⁱⁱⁱ were provided for sex, age and field,^{iv} which individual respondents work in.

Survey was carried out in the city of Ostrava from 26 May 2010 to 1 July 2010. 399 questionnaires were distributed in total, out of which 391 were completed properly. Subsequently, the selection of 300 questionnaires was made in order to meet established quotas. For further validation of consistency between the basic and selective set structures with respect to defined quotas, a hypothesis of relative frequencies equality was tested for each quota. Results of statistic tests confirmed relative frequencies equality on the significant level of 5% and the selection can be considered as representative.

The wage determinant analysis was based on a standard model stemming from Mincer’s wage regression which was besides personal characteristics extended by traditional institutional and corporate characteristics. However, the aim of the research was especially following other influences on the wage rate which were based on sociological studies emphasising the influence of roles in the family on the wage rates. If the analysis confirmed the influence of family status and roles in the family on the wage rates, it would change the view of gender-based discrimination.

Questions related to the care of children and household were also a part of the questionnaire. Therefore, the distribution of selection set frequencies is shown in the following two charts with respect to the care of children and household (hereinafter “care”) according to the sex, education and wage rate before the econometric analysis. The question about prevailing care offered respondents three types of responses: I take care mostly; my partner takes care mostly and we both take care equally. Only respondents having children and with the marital status married or single living in common household were included in the charts.

The first chart shows that responses of common care prevail for both sexes and education, the second position is prevailing care of the particular respondent and least respondents granted prevailing care to the partner. The responses of university educated men are interesting, they grant prevailing care for themselves in 29%, only 7% of them responded the partner and the rest, i.e. 64% responded equal care. Whereas, in case of university educated women, 12% of respondents stated the partner as the prevailing caretaker, 24% granted the care for themselves and 65% stated equal care with the partner. The distribution of responses of skilled men is interesting as well, 22% of them granted the prevailing care to their partners, 19% to themselves and 59% equal care.

From this data distribution it is obvious that in case of subjective characteristics of role perception in the household it would be proper to specify and choose questions more precisely, so as not to be psychologically marked. Besides the question about the care of children, there could have been written the question about the risk losing the employment in the questionnaire. Here, an individual prefers job security with usually lower wage or prefers the employment with the higher prestige and higher wage but with a larger degree of responsibility and competition in the field or profession and thus higher risk. The question about the care of children and household could have been specified to average number of hours spent with children daily, not the vague formulated question about prevailing care. Moreover, there might have been written so called check questions which could have helped to eliminate too subjective views of the question. For instance the question about the number of hours spent with

children could be supported by the question about the average working hours a day, etc. This should be taken into consideration for the future research.

TABLE 1: CHILDREN CARE ACCORDING TO SEX AND EDUCATION

		Children care						
Sex	Education	Me	% of total	Partner	% of total	Equally	% of total	Total
Male	Primary	2	33			4	67	6
	Training	5	19	6	22	16	59	27
	High	1	7	1	7	12	86	14
	University	4	29	1	7	9	64	14
	Total of Male		12	20	8	13	41	67
Female	Primary		0	2	100		0	2
	Training	6	25		0	18	75	24
	High	12	30	2	5	26	65	40
	College		0		0	2	100	2
	University	4	24	2	12	11	65	17
Total of Female		22	26	6	7	57	67	85
Total		34	23	14	10	98	67	146

Note: figures in the table state absolute numbers of respondents. Only % of total columns represent the percentage of a particular category to the total number of respondents in the particular row.

The distribution of responses to the question about the care of children and household shows slightly rising proportion of responses granting prevailing care to the partner with the wage rise. Though, it is not possible to assume any more significant ties between wage and care of children and household from such data distribution.

TABLE 2: CHILDREN CARE ACCORDING TO NET WAGE^v

		Children care						
Net wage		Me	% of total	Partner	% of total	Equally	% of total	Total
To 10 000 CZK		4	27	2	13	9	60	15
10 001 - 16 000 CZK		11	20	5	9	38	70	54
16 001 - 22 000 CZK		9	20	2	4	34	76	45
22 001 - 28 000 CZK		6	30	3	15	11	55	20
28 001 - 34 000 CZK		1	17	2	33	3	50	6
34 001 - 40 000 CZK		1	33		0	2	67	3
40 001 - 46 000 CZK		1	100		0		0	1
52 001 CZK and more		1	50		0	1	50	2
Total		34	23	14	10	98	67	146

Note: figures in the table state absolute numbers of respondents. Only % of total columns represent the percentage of a particular category to the total number of respondents in the particular row.

Traditional model of wage determinants is simply expressed by the following equation:

$$\ln W_{it} = X_{it}\beta + \varepsilon_{it}, \quad (1)$$

where i represents an individual and t time period. Dependent variable (wage) is expressed in a logarithmic form and X represents independent variables vector, in this case wage determinants. Theoretical foundation of this specification is the theory of human capital and coefficients are interpreted as earnings from investments into the human capital. ε represents an error term.

However, in this analysis it was not possible to express wage in the logarithmic form and to use the method of least squares as the wage was created in categories. Ordinal logit or probit models are usually used for categorically explained variables. Eviews Software uses the ordered-response model (Ordered Probit) with analytic second derivative methods to obtain parameter and variance matrix of the estimated coefficient estimates (Quadratic hill climbing) for the particular variable type.

Hence, the model has the following form:

$$W_i = X_i\beta + \varepsilon_i, \quad (2)$$

where t index is missing as data only for one observation period are used. Explanatory variables have the character of dummy variables. In total, 10 variables were used for wage determinant definition, out of which 3 represented personal characteristics stemming out of Mincer's wage regression (sex, age, education), 4 characterized institutional and corporate factors (ISCO^{vi}, NACE^{vii}, ownership, company size). For our purposes of observation of the influence of family status on wage rate there were used 3 other variables in the analysis, 2 of which were objective (number of children, marital status) and one variable represented subjective view of the role in the family in the question who was involved more in care-taking of children and household.

The analysis was carried out with the total sample of respondents and subsequently separately for men and women. First, all above mentioned variables were included, then separately personal characteristics, institutional and corporate characteristics and family characteristics to verify economic significance including variables into the analysis.

Results of the total respondent sample (see Table 4 in the Appendix) showed that the model was statistically significant as a whole, as LR statistics came out statistically significant. There had to be made slight adjustments in explanatory variables as for the integration of some categories which were marked for great variability in observation and software could not process calculation of coefficients with such unbalanced data. This category adjustment was used for all following analysis. Category integration was made in the cases of education (1 primary + 2 vocational education; 3 secondary with "maturita" exam + 4 college), ISCO (ISCO 1 + 2; ISCO 6 + 7; ISCO 8 + 9), number of children (category 4+5+6, which equals 3 and more children) and also the explained variable (highest categories of real wage, i.e. cat. 5 – 9). The analysis was carried out for original and new categories separately but the results did not differentiate much, which was the reason why the original wage categorization was stated below and used for the result interpretation.

Analysis and results

Mincerian presumptions about wage determinants were confirmed from the point of view of variables, i.e. the influence of personal characteristics. Sex and age variables were statistically significant. From corporate statistics only company size variable proved to be slightly statistically significant, namely with categories 4 and 5 (250 to 5000 employees). From family statistics only the number of children variable was slightly statistically significant, namely in the category 3 and more children only.

However, coefficient interpretation is more complex in cases of models with qualitatively (categorically) explained variable given than in the case of the OLS method. Here coefficient shows the probability to change the category of the explained variable with the change of particular explanatory variable (result is calculated for extreme, or end categories), whereas it is not possible to determine which category of explained variable is referred to. The result only shows whether the category is going to increase in case of coefficient plus sign (in our case it will be higher wage), or in case of coefficient minus sign to decrease, i.e. the explained variable drops to lower wage. In our case it is essential to take into account the fact that other (explanatory) variables are expressed in the categories as dummy variables as well, i.e. result need to be interpreted in comparison to reference category which represents first dummy variable (category) to be clear. Thus, for instance the variable coefficient SEX_2 (women) shows that women have higher probability that their wage will be in the low-wage category than men; or for instance the variable coefficient EDU_5 (university education) says that university educated people have higher probability that their wage is in the high-wage category in comparison to people with primary education and vocational education. This analysis does not include variables related to the subjective view of the care of children as it would mean to exclude childless households from the analysis, thus the loss of the particular sample of individuals.

Furthermore, only analysis (see ask authors for full results) of personal characteristics on the basis of Mincerian wage equation was carried out. Here the statistical significance and the value of coefficients with particular variables did not differ from the previous equation which points to the fact that personal characteristics play a significant role for wage rate determination, as the theory of human capital suggests. The only exception in comparison to the previous equation was explicit, though very weak statistical significance of age, namely with the category AGE_2 (30 – 39 years). The coefficient showed that people in this age category had higher probability that their wage would range within the higher categories than in case of the reference age category, which was 20 – 29 years.

When following institutional and corporate characteristics all categories except for ISCO_3 - Technicians and associate professionals proved (ask authors for full results) to be statistically significant. According to the presumptions there was a coefficient minus sign with all followed ISCO categories pointing at the probability of lower wage in comparison to the reference category, which was ISCO 1 and 2 (Managers and Professionals). The property variable was also statistically significant when employees in the private sector had greater probability of higher wages compared to the public sector. The company size indicator did not influence wages significantly, only categories 4 and 5 (250 – 4999 employees) marked weak statistical significance with plus coefficient values which represented the probability of higher wage in comparison to reference category (up to 10 employees).

When only subjective and family characteristic were included into the equation, the model as a whole was statistically insignificant (ask authors for full results) for the reason that except for family status, no category out of those statistically significant variables had a significant impact on wage category. STATUS_2 category coefficient showed that married couples or people living in partnership had higher probability that their wage was in higher categories.

Analysis for men and women separately

The analysis carried out separately for men and women showed differences in statistical significance for wage determinants. When including all variables the model came out statistically relevant for both men and women (ask authors for full results). With men statistical relevance appeared in case of personal characteristics with the age category 4 (40 – 49 years), with minus, then with both educational categories with the presumed plus coefficient sign.

Furthermore it was necessary to aggregate ISCO categories into larger units (ISCO 1,2,3; ISCO 4,5,6; ISCO 7,8,9) for the calculation than in the case of analysis of the total sample. This aggregation was used for the rest of the component analysis. From corporate characteristics category ISCO 4,5,6 with plus sign was slightly statistically significant; company ownership (employments in private sector had higher probability of higher wage category than employments in public sector); company size categories 4 and 5 again with plus sign. From family characteristics the number of children variable proved to be statistically significant, namely in categories 3 and more children, they had also 1,5 times higher probability of higher wage category.

With women the situation was different. Only the age variable in the category 30 – 39 years with coefficient plus sign proved to be statistically significant from personal characteristics. The education variable did not prove to be statistically significant with women. Moreover, the university education category had to be excluded due to little number of observations. Corporate characteristics played a more significant role with women for wage rate determination. Basically, all observed variables and their categories were marked for statistic significance. The most impact proved to be in ISCO variable and in two other company size categories (4 and 5). Family characteristics did not play a significant role with women for wage rate determination; none of the variables was statistically significant.

When including personal characteristics stemming from Mincer's equation the model came out statistically significant, but only the education variable was statistically significant, namely in the university education category with the suggested plus sign showing the probability of higher wage categories. With women the model with personal characteristics came out only slightly statistically significant, whereas the age category 30 – 39 years with plus sign was slightly statistically significant only (ask authors for full results).

When analysing institutional and corporate characteristics separately (ask authors for full results) the model did not come out statistically significant for men as the only statistically significant variable from the observed characteristics was category ISCO 7, 8, 9 with the suggested minus sign. The other variables and their categories did not play a significant role with men for wage rate determination. With women the situation was opposite. When analysing corporate characteristics the model came out statistically significant as all observed variables in all their categories were statistically significant. High statistic relevance was especially in variable ISCO with coefficient minus sign. As though the ISCO variable compensated the importance of education. Company ownership and company size variables except for categories 3 and 6 were also significant. Nevertheless, the significance in other categories proved that categories according to company size were relevant for wage rate determination.

The analysis of family characteristics did not prove statistical significance with both men or women (ask authors for full results). With women none of the observed variable proved to be statistically significant, with men the family status variable and number of children variable in the category 3 and more children were slightly significant. Plus sign in the category STATUS_2 said that married men or men living in partnership had higher probability for higher wage category than single living men.

Analysis for respondents subjectively feeling and not feeling discriminated separately

Further analysis was carried out for individuals who feel discriminated against, ie according to their opinion they are payed less than they would expect, regardless of sex. From a total of 300 people questioned, 175 felt they were discriminated against in terms of salary (83 men, 92 women). In the table, the total number of men and women who consider themselves discriminated against in terms of wages is given divided according to education and marital status, as well as their share of the total number in the given category.

TABLE 3: SUBJECTIVELY DISCRIMINATED AGAINST ACCORDING TO SEX, EDUCATION AND MARITAL STATUS

Sex	Status	Education											
		Primary school		Training college		High school		College		University		All categories	
			% of total		% of total		% of total		% of total		% of total		% of total
Male	single			14	44	15	56			11	58	40	51
	m/p	3	50	21	70	11	69			8	50	43	63
Total male		3	50	35	56	26	60			19	54	83	57
Female	single			16	80	7	33	1	50	4	44	28	53
	m/p	2	67	23	85	23	51	2	100	14	58	64	63
Total female		2	50	39	83	30	45	3	75	18	55	92	60
Total		5		74		56		3		37		175	58

Note: m/p = married or partnership

In total, 57 % of men and 60 % of women considered themselves to be discriminated against in terms of wages. With both sexes there was a distinctly higher number of those considering themselves not paid according to their worth among spouses and common-law spouses (men and women 63 % of the total number in each category) than single people (men 51 %, women 53 %). The only exception was single men with a degree (58 %) compared to 50 % if they were married or living with someone. This might have something to do with age – young male graduates are often ambitious and expect high remuneration.

The highest proportion of people considering themselves discriminated against was women with apprenticeships (83 %), the lowest proportion was also found amongst women, this time with high school education (45 %). Among men the proportion of subjective discrimination across the respective categories was more even. The highest was among high school educated men (60 %), the lowest among those with a university education (54 %).

For the econometric analysis of people who consider themselves unfairly paid (see Table 5 in the Appendix) the model is statistically significant for all variables and men and women together. Gender and education, thus personal variables, belong again among important variables determining wages. Negative coefficient for the category SEX_2 expresses that women suffer from higher probability that their wages will be in lower wage

categories. Coefficients for educational categories showed that a higher level of education corresponds to higher wages. Regarding firm characteristics, the size of a company (with positive coefficients) was the only statistically significant variable. Family statistics did not prove to have statistical significance for wage determination.

Next step was the regression, according to the previous structure of analysis, for the personal, firm and family characteristics separately (ask authors for full results). Analysis of the Mincer equation, which only takes into account personal characteristics, was statistically significant as a whole, again with the statistically significant variables of gender and education, as in the previous analysis. Analysis of institutional and firm characteristics was statistically significant for subjectively feeling discriminated, too. Statistically significant variables were the firm size and ISCO. Family characteristics did not prove to be statistically significant, even though they were analyzed separately.

The model of wage determinants for subjectively not feeling discriminated (see Table 6 in the Appendix) was statistically significant as a whole, too. Gender played an important role again, in the sense that women have a higher probability that their wages will be in lower wage categories. From the personal characteristics of Mincer equation, tertiary education was the only statistically significant variable. Among firm statistics ownership and ISCO 7,8,9 were statistically significant. Among family characteristics, a variable of number of children in the category of 3 or more children was the only one statistically significant.

Further, personal, firm and family characteristics were analyzed separately (ask authors for full results). As far as personal characteristics are concerned, gender and university education played the most important roles. However, the variable of age also proved statistically significant in the category of 30-39 years with the positive coefficient showing the effect of working experience on wages in the sense that greater work experience correlates to a greater probability of higher wages in a given category. The model for the firm characteristics proved statistically significant in the variable of ISCO and ownership, firm size did not play any role here. The equation for the family characteristics was not statistically significant, the only statistically significant variable was the variable of family status.

Conclusions

The analysis was carried out with the total sample of respondents and subsequently separately for men and women and also separately for those who were subjectively feeling discriminated and those who were not. First, all variables mentioned above were included, then separately personal characteristics, institutional and corporate characteristics and family characteristics to verify economic significance of including variables into the analysis.

The results of the total respondent sample showed that the model was statistically significant as a whole. From the variables point of view, especially Mincerian presumptions about wage determinants proved to be right, i.e. the influence of personal characteristics. When analysing personal, corporate and family statistics separately, the models were statistically significant with statistically significant variables in case of personal and corporate characteristics. The model for family characteristics was not significant as the only statistically significant variable was the family status in this case. The other two family characteristics did not prove their significance.

The analysis carried out for men and women separately showed differences in statistical significance of wage determinants. When including all variables the model came out statistically significant for both men and women. With men, personal characteristics such as education and age played an important role. The analysis carried out separately for personal, corporate and family characteristics family status and the number of children, namely in the category 3 and more children, variables came out slightly statistically significant with men.

Statistical significance of education did not prove with women. Generally, the model with personal characteristics came out slightly statistically significant. On the contrary, corporate characteristics played an important role with women for wage rate determination, especially in ISCO variable (job classification). The model for family characteristics did not prove statistical significance; none of the variables was statistically significant.

Even in the case of analysis carried out separately for the respondents subjectively feeling and not feeling discriminated without the respect to gender the results showed differences in the statistical significance of wage determinants. In the case of subjectively feeling discriminated respondents more important were the variables of

education and firm size. Family characteristics were not statistically significant even though analyzed separately. On the contrary in the case of not feeling discriminated respondents variables ISCO, ownership and number of children in the category of 3 and more children played more important role. In both cases variable of gender was statistically significant with the negative sign. Because of the family characteristics not playing statistically significant role in this part of analysis, it is not possible to suppose that wage differences between men and women could be explained by these characteristics.

In general, the analysis did not prove previous conclusions of theories or empirical studies about prevailing influence of personal characteristics on the wage rate. The influence of family characteristics, especially family roles on the wage rate failed to be proved. The problem can be seen especially in asking questions about delicate topic of family roles which can bring rather psychologically marked and little objective responses. It should be advisable to take into account this aspect in the future research. Furthermore, check questions which could help to eliminate too subjective viewpoints of the question. For instance the question about number of hours spent with children could be supported by the question about the average working hours a day, etc.

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Appendix

TABLE 4: REGRESSION FOR FULL SAMPLE

	Coefficient	Std. Error	z-Statistic	Prob.
SEX_2	-0.848307	0.162519	-5.219733	0.0000
AGE_2	0.187437	0.205926	0.910219	0.3627
AGE_3	-0.071725	0.234277	-0.306156	0.7595
AGE_4	-0.244319	0.240104	-1.017555	0.3089
EDU_3_4	0.746601	0.181814	4.106390	0.0000
EDU_5	1.490093	0.252873	5.892652	0.0000
STATUS_2	0.018132	0.151529	0.119662	0.9048
ISCO_3	-0.156457	0.236169	-0.662478	0.5077
ISCO_4	-0.276071	0.259500	-1.063858	0.2874
ISCO_5	-0.192397	0.298913	-0.643655	0.5198
ISCO_6_7	-0.254058	0.286624	-0.886380	0.3754
ISCO_8_9	-0.398214	0.286991	-1.387549	0.1653
OWNER_2	0.275483	0.160247	1.719112	0.0856
FIRM_SIZE_2	0.200496	0.237612	0.843797	0.3988
FIRM_SIZE_3	0.097574	0.222725	0.438091	0.6613
FIRM_SIZE_4	0.690253	0.244900	2.818511	0.0048
FIRM_SIZE_5	0.668688	0.260625	2.565705	0.0103
FIRM_SIZE_6	0.392722	0.260997	1.504699	0.1324
CHILDREN_2	0.100712	0.220422	0.456904	0.6477
CHILDREN_3	0.237133	0.218062	1.087458	0.2768
CHILDREN_4_5_6	0.741318	0.292991	2.530179	0.0114

Limit Points				
LIMIT_2:C(22)	-0.931091	0.396977	-2.345453	0.0190
LIMIT_3:C(23)	0.588157	0.396409	1.483713	0.1379
LIMIT_4:C(24)	1.716988	0.403456	4.255699	0.0000
LIMIT_5:C(25)	2.581186	0.415752	6.208467	0.0000
LIMIT_6:C(26)	3.083134	0.432680	7.125671	0.0000
LIMIT_7:C(27)	3.524463	0.464297	7.590967	0.0000
LIMIT_9:C(28)	3.658612	0.478055	7.653120	0.0000

Pseudo R-squared	0.150241	Akaike info criterion	2.736209
Schwarz criterion	3.081895	Log likelihood	-382.4313
Hannan-Quinn criter.	2.874553	Restr. log likelihood	-450.0471
LR statistic	135.2315	Avg. log likelihood	-1.274771
Prob(LR statistic)	0.000000		

TABLE 5: REGRESSION FOR SUBJECTIVELY DISCRIMINATED

	Coefficient	Std. Error	z-Statistic	Prob.
SEX_2	-1.006888	0.212752	-4.732674	0.0000
AGE_2	-0.049164	0.309651	-0.158772	0.8738
AGE_3	-0.005718	0.343993	-0.016621	0.9867
AGE_4	-0.149396	0.342611	-0.436053	0.6628
EDU_3_4	1.267496	0.250628	5.057283	0.0000
EDU_5	2.129586	0.338191	6.296989	0.0000
STATUS_2	0.087706	0.209969	0.417711	0.6762
ISCO_4_5_6	0.318442	0.267729	1.189417	0.2343
ISCO_7_8_9	0.293039	0.289619	1.011808	0.3116
OWNER_2	0.074641	0.227110	0.328655	0.7424
FIRM_SIZE_2	0.743701	0.339705	2.189258	0.0286
FIRM_SIZE_3	0.310346	0.319974	0.969912	0.3321
FIRM_SIZE_4	1.021606	0.351604	2.905559	0.0037
FIRM_SIZE_5	1.015816	0.369299	2.750657	0.0059
FIRM_SIZE_6	1.105558	0.350753	3.151958	0.0016
CHILDREN_2	-0.002499	0.320176	-0.007805	0.9938
CHILDREN_3	0.202335	0.313194	0.646038	0.5183
CHILDREN_4_5_6	0.725998	0.421671	1.721718	0.0851

Limit Points				
LIMIT_2:C(19)	-0.131038	0.487970	-0.268538	0.7883
LIMIT_3:C(20)	1.688721	0.504507	3.347268	0.0008
LIMIT_4:C(21)	3.119055	0.532357	5.858950	0.0000
LIMIT_5:C(22)	3.961940	0.562785	7.039885	0.0000
LIMIT_6:C(23)	4.339486	0.590000	7.355058	0.0000
LIMIT_7:C(24)	4.883586	0.687935	7.098910	0.0000

Pseudo R-squared	0.211762	Akaike info criterion	2.410970
Schwarz criterion	2.844998	Log likelihood	-186.9599
Hannan-Quinn criter.	2.587024	Restr. log likelihood	-237.1870
LR statistic	100.4542	Avg. log likelihood	-1.068342
Prob(LR statistic)	0.000000		

TABLE 6: REGRESSION FOR SUBJECTIVELY NOT DISCRIMINATED

Variable	Coefficient	Std. Error	z-Statistic	Prob.
SEX_2	-0.803820	0.254822	-3.154436	0.0016
AGE_2	0.395837	0.289708	1.366330	0.1718
AGE_3	-0.156673	0.361521	-0.433373	0.6647
AGE_4	-0.143785	0.399279	-0.360111	0.7188
EDU_3_4	0.221811	0.275774	0.804321	0.4212
EDU_5	0.979792	0.387983	2.525348	0.0116
STATUS_2	-0.034994	0.235675	-0.148485	0.8820
ISCO_4_5_6	-0.561782	0.288718	-1.945780	0.0517
ISCO_7_8_9	-0.848001	0.378473	-2.240587	0.0251
OWNER_2	0.696278	0.264996	2.627503	0.0086
FIRM_SIZE_2	-0.281435	0.363558	-0.774113	0.4389
FIRM_SIZE_3	-0.243343	0.340763	-0.714111	0.4752
FIRM_SIZE_4	0.327982	0.352232	0.931154	0.3518
FIRM_SIZE_5	0.438183	0.401934	1.090187	0.2756
FIRM_SIZE_6	-0.400236	0.475539	-0.841646	0.4000
CHILDREN_2	0.205947	0.348946	0.590198	0.5551
CHILDREN_3	0.425545	0.331498	1.283704	0.1992
CHILDREN_4_5_6	0.969905	0.437167	2.218613	0.0265
Limit Points				
LIMIT_2:C(19)	-1.528425	0.532090	-2.872496	0.0041
LIMIT_3:C(20)	-0.170757	0.506387	-0.337206	0.7360
LIMIT_4:C(21)	0.880542	0.514038	1.712990	0.0867
LIMIT_5:C(22)	1.918880	0.541448	3.543979	0.0004
LIMIT_6:C(23)	2.533770	0.572241	4.427804	0.0000
LIMIT_9:C(24)	2.936822	0.604009	4.862212	0.0000
Pseudo R-squared	0.155422	Akaike info criterion		3.096697
Schwarz criterion	3.639733	Log likelihood		-169.5435
Hannan-Quinn criter.	3.317304	Restr. log likelihood		-200.7434
LR statistic	62.39974	Avg. log likelihood		-1.356348
Prob(LR statistic)	0.000001			

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ⁱⁱ Ask authors for more literature.

ⁱⁱⁱ With respect to the fact that survey respondents were only working people, it was not possible to set quotas for education as Czech Statistical Office provides only Population and Housing Census results for the whole population and it can be assumed that the educational structure does not correspond with the educational structure of working population, in other words there are more people with low education among unemployed people.

^{iv} See Population and Housing Census 2001 (ČSÚ, 2005).

^v Net wage means disposable for respondents.

^{vi} International Standard Classification of Occupations.

^{vii} Nomenclature générale des Activités économiques dans les Communautés Européennes (classification of economic studies).

Manufacturing Dissent: Domestic and International Ramifications of China's Summer of Labor Unrest

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Abstract

The instances of labor unrest in the summer of 2010 are a clear indication that China has reached a critical developmental juncture. Rising social inequity and redistributive injustice reflect strains of economic growth that have proved as inevitable as they are consequential. Against the backdrop of an impending leadership transition and a global economy emerging from recessionary throes, China's changing labor market conditions will shape the future path of economic development and growth in substantive ways. In its effort to mitigate regional disparities, China is finding itself locked into a precarious socio-economic balancing act with far-reaching consequences for domestic stability and international competitiveness. What are the short- to medium-term implications for China's economy? Is China likely to experience its own version of a flying-geese pattern of economic development? What is the likely effect on China's global labor cost arbitrage and international competitiveness?

Keywords: China, labor unrest, social stability, economic development, competitiveness

Introduction

As it enters the second decade of the 21st century, China is displaying all the signs of transitioning into a new stage of economic development. The economic opening up of China in the early 1980s had sowed the seeds for "the most successful joint venture in world history" – the combination of Western capital and purchasing power and Chinese low-cost labor (Seigart, 2008). Throughout the initial reform period, policymakers focused most of their time and energy on crafting policies aimed at sustaining economic growth and development at all costs. On the surface, China's economic transformation is nothing short of an economic miracle. However, on closer analysis, the sustainability of its newfound status as a powerful engine for economic growth in Asia and the world critically depends on the government's ability to mitigate potentially destabilizing side-effects of rapid economic growth (Wolf, 2008). Moreover, the breadth and depth of the expanding fault lines in China's economic terrain serve as powerful reminders of the precarious nature of China's political economy and an economic development trajectory punctuated by social, institutional or political pressures and challenges (Shrink, 2007). As a newly-recognized lower-middle-income country (World Bank, 2009), the economic policies that suited China's take-off stage of development and helped to dispel the image of a low-income country need to be recalibrated to effectively ensure the realization of a well-off society (*xiaokangshehui*, 小康社会) and harmonious society (*hexieshehui*, 和谐社会). In recent years, the Chinese government has begun to openly acknowledge the urgency of charting a new economic course in order to address rising levels of social stratification and the emerging middle class dynamics (Li, 2010).

From a macro-economic perspective, the Chinese economy is also beginning to display noticeable strains. In an uncharacteristically blunt assessment indicative of Beijing's heightened sensitivity to economic conditions, Premier Wen Jiabao described the prevailing macro-economic conditions as "unstable, unbalanced, uncoordinated, and unsustainable." Amid rising concerns about the sustainability of an export-oriented development paradigm in light of the recent global economic downturn, ramping up

domestic consumption is rapidly emerging as a first-order priority of 21st century economic reform. Commenting on the country's contemporary "consumption conundrum" Michael Pettis, a professor at Peking University's Guanghua School of Management, states that "China has come to depend on exports, especially to the United States, to absorb that excess capacity -- something U.S. consumers were happy to do especially over the past decade. But the effect of jitters over the strength of that U.S. consumption shows that one of the most important reforms China needs now is to reduce its vulnerability to U.S. consumers by boosting consumption at home (Pettis, 2010)." Indeed, the need to rebalance economic growth is assuming a new level of urgency ahead of the 2012 leadership transition.

In 1986, Deng Xiaoping was quoted in an interview as saying that, "[T]o get rich is no sin. However, what we mean by getting rich is different from what you mean. Wealth in a socialist society belongs to the people. To get rich in a socialist society means prosperity for the entire people. The principles of socialism are: first, development of production and second, common prosperity. We permit some people and some regions to become prosperous first, for the purpose of achieving common prosperity faster..." The resulting capital and wealth accumulation not only created vibrant growth poles and agglomeration economies in China's coastal provinces but it also defied Deng Xiaoping's hope that "our policy will not lead to polarization, to a situation where the rich get richer while the poor get poorer. (Xiaoping, 1986)" Consequently, and in spite of the fact that China's economic reform efforts have transformed the lives of hundreds of millions of people, perceptions of relative deprivation continue to pervade China's contemporary socio-economic terrain.

By all accounts, the Chinese economy has reached a critical development juncture. A dramatic increase in labor disputes since the mid-1990s is a clear indication that the strains of economic growth are as inevitable as they are consequential. The wave of labor unrest in the summer of 2010 has renewed speculation about the eventual emergence of an 'independent' labor movement. And with society on track to growing old before becoming rich, expanding labor dissatisfaction remains a distinct possibility.

The central focus of this article is to evaluate the domestic political and social ramifications of an arguably 'newly-empowered' working class as well as the economic and competitive implications for China's position in global production networks. In other words, is the emergence of an 'organized' and 'independent' labor movement with the potential for large-scale socio-political transformation a possibility in the future? Does the fact that the Chinese economy has arrived at a critical juncture herald a "flying-geese" moment in terms of its developmental trajectory? In that context, we will also briefly discuss whether and how China might be able to address an already precarious socio-economic reality.

China's Economic Transformation: The Good, the Bad (and the Ugly?)

The adoption of an "Open Door" policy in 1978 put the Chinese economy on a path of fundamental transformation and vitality, eventually surpassing Japan as the world's second-largest economy in late 2010. Over the course of four decades of economic reform and restructuring, China's GDP has risen from Rmb362.4 billion in 1978 to Rmb33.5 trillion in 2009. The incidence of extreme poverty has also been in noticeable, albeit uneven, decline throughout the reform period. According to a study conducted by World Bank economist, the rural poverty rate declined from 76 percent in 1980 to less than 13% in 2001. Meanwhile, urban poverty rates dropped from 6 percent in 1981 to 0.5 percent in 2002 (Chen and Ravallion, 2007). Finally, the 'middle class' phenomenon is rapidly taking hold in China as well. McKinsey & Co. estimates that the share of urban households falling into the lower and upper middle class segments, at 22 percent in 2005, could reach 71 percent by 2015 and 79 percent by 2025 (Farrel, Gersch and Stephenson, 2006)

Overshadowing the obvious success of economic reform, however, is the fact that break-neck growth in the post-Mao era has also contributed to a widening of social inequalities (see figure 1). As Mancur Olson aptly noted, "...rapid economic growth means rapid economic change, and that economic change entails social dislocation". As a result it is conceivable that "*both the gainers and the losers from economic growth can be destabilizing forces*", which in due course may lead to political instability.¹ In short, China's post-Mao economic reform and restructuring efforts may well have sown the seeds for eventual social mobilization and pressurization of the political sphere.

China's gradual discrediting of the communist moral order in favor of a more market-conforming economic and social order was an early litmus test of Beijing's general commitment to economic reform and restructuring. Against the backdrop of the ideological *end-of-history* perspective, efforts towards deepening economic and social development – which Deng Xiaoping reaffirmed in his 1992 *Nanxun* (Southern Inspection) tour, urging renewed efforts at opening up (*kaifang*, 开放) assumed a heightened degree of urgency by the early 1990s (Wong and Zheng, 2001)

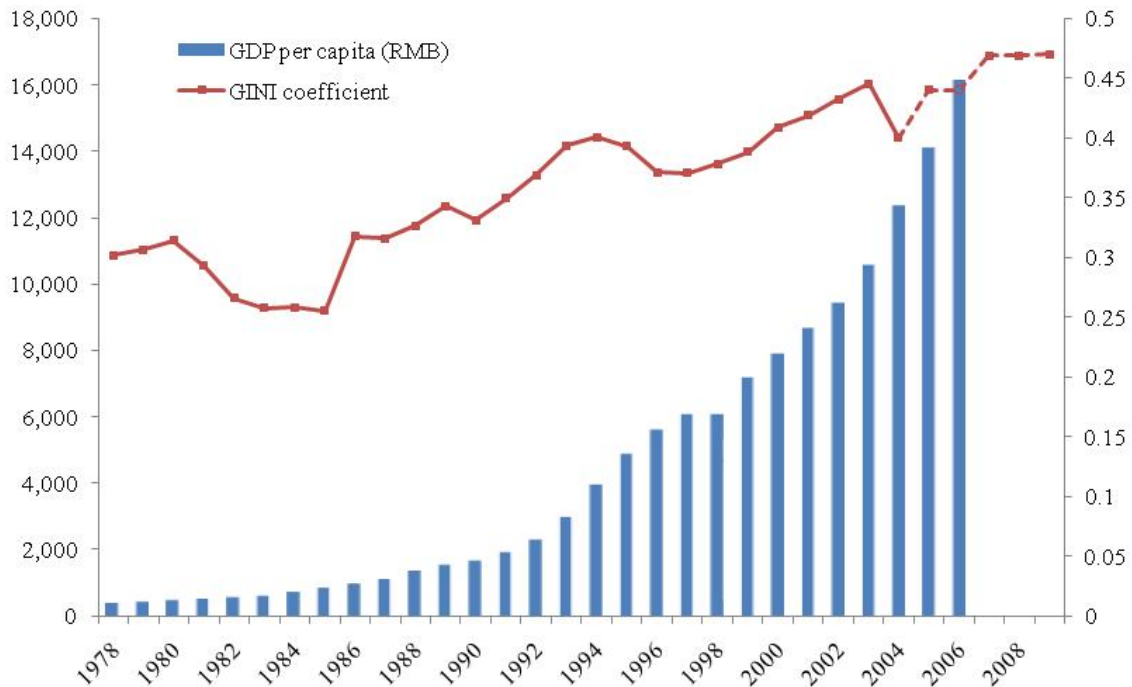


FIGURE 1: RAPID GROWTH & RISING INEQUALITY (1979-2009)

Source: National Bureau of Statistics, China Statistical Yearbooks; Jiandong Chen and Wenxuan Hou, “New Approach to Estimate the Chinese GINI Coefficients from 1978 to 2003” (paper presented at the 2008 conference of the Chinese Economic Association (UK).

Seen from the perspective of the Chinese leadership, it was seen as instrumental in helping to address institutional uncertainties and weaknesses as well as build a new foundation of political legitimacy (Zheng, 2004). Committing to sustaining economic growth, deepening economic development and improving people's overall livelihood came to be seen as the only remaining option for consolidating political legitimacy, while at the same time minimizing pressurization of the political sphere. From a societal perspective, meanwhile, the emergence of a “post communist personality”, defined by its “ethos” of consumerism and unprecedented opportunities for individual wealth and pleasure” provided an additional imperative for deep reform (*shenhuagaige*, 深化改革) (Wang, 2002).

The socio-political and socio-economic ideologies adopted by Beijing since 2000, including Jiang Zemin's ‘Three Represents’ (*san gedaibiao*, 三个代表) and Hu Jintao's ‘Scientific Development Concept’ (*kexuefazhan guan*, 科学发展观) underline the government's keen appreciation of the latent dangers of rising income inequality. In light of the very real possibility of “growing old before growing rich”, popular support for deepening marketization is progressively coming under strain (Fang and Wang, 2009). Seen in conjunction with obvious growth and income disparities between coastal and rural regions, it is hardly surprising that perceptions of distributive injustice are on the rise.

Sweeping state-owned enterprise (SOE) reform efforts, begun in earnest under Premier Zhu Rongji in 1998 accentuated feelings of relative deprivation in Chinese society. The resulting privatization drive largely coincided with the gradual phasing out of the ‘iron rice bowl’ (*tie fan wan*, 铁饭碗) – essentially a cradle-to-grave social contract that amplified the declining profitability woes of many SOEs (Yusuf, 2002). Apart from this economic policy shift, other contributing factors behind China’s strains of economic growth include changing social attitudes as reflected by an emerging middle class, rising expectations of a new generation of (migrant) workers, structural challenges of China’s pension system, mounting employment pressures and the specter of rising inflation (Gold, 2006).

In recent years, the social challenges related to SOE layoffs have been exacerbated by placement problems for college graduates. Beginning in 1999, the government embarked committed to an expansion of higher education, partly to offset temporary employment pressures for high school graduates competing with laid-off SOE workers (Cao, 2006). As a result of aggressive commercialization, the number of college graduates increased from 850,000 in 1999 to just over 6 million in 2009. The Ministry of Education estimates that roughly 25 percent, or 1.5 million of the 6.3 million students who graduated in 2010 have failed to secure a job (Roberts, 2010).

From a short-term perspective, the socio-economic pressures of graduate unemployment will present the Chinese government with a serious challenge as it aims to create a ‘harmonious’ and ‘well-off’ society by 2020. Without immediate prospects of a job, many college graduates of rural families decide to remain in China’s larger cities – where they have become known as the ‘ant tribe’ (*yizu*, 蚁族) – in the hope of eventually landing a job. Against the backdrop of thirty years of reform and economic development, people in the lower social strata are no longer content with resigning themselves to ‘let some people get rich first’ (*rang yibu fen ren xianfu qi lai*, 让一部分人先富起来). Rather, in the contemporary setting, Deng Xiaoping’s ‘to get rich is glorious’ (*zhifuguangrong*, 致富光荣) dictum appears to instill a sense of entitlement in China’s working class. Not content with delaying gratification in the face of perceptions of relative deprivation, and considering changes in social attitudes, demands and expectations among China’s new generation of migrant workers and masses of unemployed graduates, a scenario whereby these (and other) ‘social underdogs’, driven by a sense of entitlement to at least partake in a comfortable lower-middle class lifestyle, are channeling their general social discontent into an “angry youth” (*fenqing*, 愤青) consciousness, thus posing a clear and present danger to social stability and challenging the political legitimacy of the Chinese Communist Party, is becoming an increasingly distinct possibility. “Once this consciousness takes root,” notes Yu Jianrong, director of the Social Problem Research Center, Rural Development Institute of the Chinese Academy of Social Sciences, “it will cause more social unrest at the grass-roots level. We can see this budding mentality at Internet forums where views opposing mainstream values are expressed with regard to political proposals or controversial social issues. These defiant opinions reflect the social underdogs’ dissatisfaction and protest, and if not checked, will aggravate hatred against the bureaucracy (Jianrong, 2010).”

Rather than gradually ushering in political liberalization and higher levels of accountability, if not strengthening the prospects for democratization, China’s sustained economic reform has reinforced a perception of socio-economic entrapment among China’s less-fortunate social groups. A perception that is further aggravated by the government’s failure “to create employment conditions and expand employment through promotion of economic and social development,” as stated in Article 10 of the 1994 Labor Law (Labor, 1994). Viewed against the backdrop of a “decentralized predatory state (Pei, 2008)” and endemic institutionalization of corruption (Wederman, 2004), the intensifying assertiveness of China’s working classes is as much an indication of civil society stirrings and democratization ambitions as it is a manifestation of frustration over unfulfilled or delayed economic gratification.

Deliberate yet cautious pragmatism – famously captured by Deng Xiaoping’s observation that “it doesn’t matter if the cat is black or white; as long as it catches mice, it’s a good cat” (*baimao, heimao, nengdaihaozijiushihaomao*, 白猫, 黑猫, 能逮耗子就是好猫) and “Crossing the river by feeling for stones (*mozheshitouguohe*, 摸着石头过河) – has become a hallmark of the Chinese Communist Party (CCP) over the course of three decades of economic reform and restructuring.

In light of a rising incidence of labor unrest, public order disturbances (扰乱公共秩序犯罪) and other so-called ‘mass incidents’ (群体性事件), reliance on such pragmatism alone, while necessary, may

not be sufficient to deal with the broader consequences of China's remarkable economic transformation, global economic integration, and disruptive changes in social attitudes (Guthrie, 2007). Labor unrest, disputes and strikes are no longer just limited to regions that experienced widespread economic and social dislocation as a result of SOE reform efforts, nor are the grievances limited to layoffs or social welfare and insurance concerns. A significant number of mass incidents, which have risen roughly ten-fold since 1993 to reach 87,000 in 2005, meanwhile, are fueled by frustration and anger against corrupt and heavy-handed practices of local and/or regional government officials (Fewsmith, 2008)

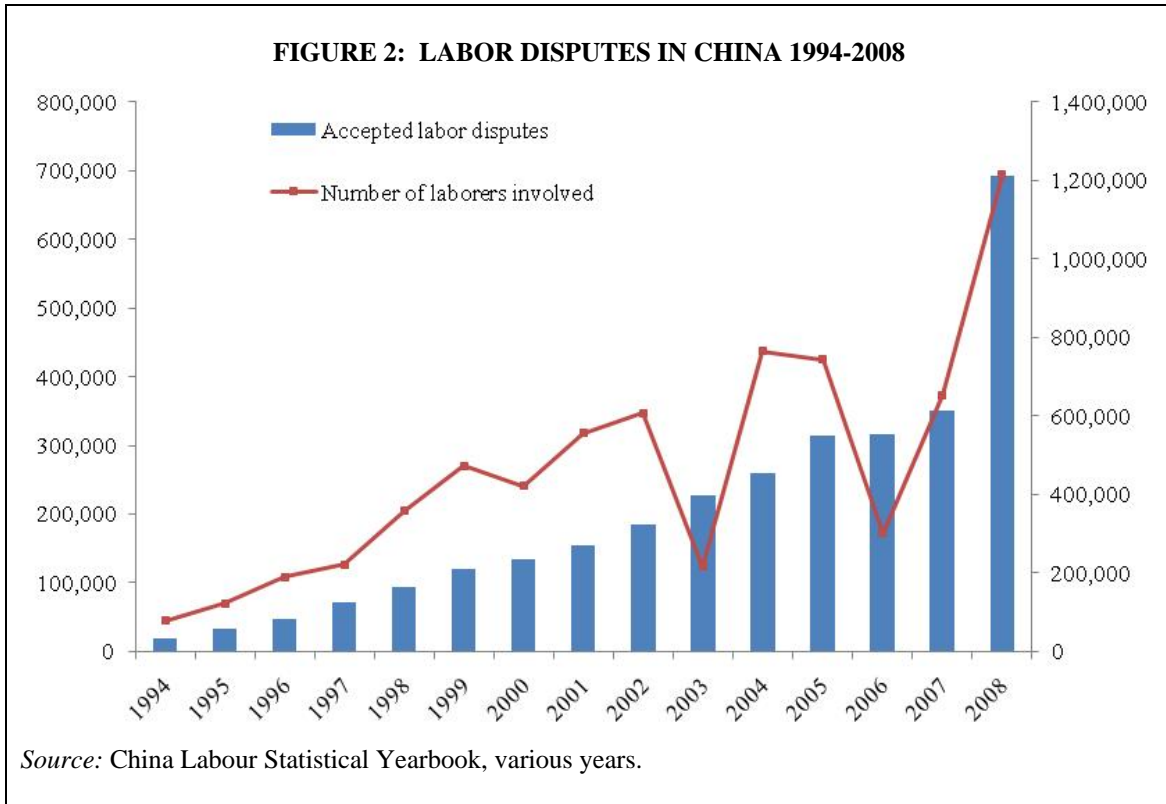
The accumulating challenges and pressures in China's social sphere carry highly consequential levels of cumulative and systemic risk. Failure to embrace and implement more sweeping, pro-active and broad-based policy initiatives would inevitably increase the pressure on the political sphere to a level not seen since the events that led up to the Tiananmen Square Incident in 1989. At present, the documented incidents of social unrest have been geographically dispersed, without any real evidence of broader coordination between or feelings of unity among the people involved. This does not, however, detract from the possibility of such incidents triggering large-scale mobilization and potentially coalescing into a broad-based and coordinated movement (Murray Scott, 2004). In short, on the eve of a leadership transition in 2012, China has arrived at a critical juncture in its developmental path, with far-reaching consequences for political, economic and social stability.

China's New Labor Regime: Good Intention, Bad Timing?

Aware of simmering tensions among the working class over the cumbersome and time-consuming labor arbitration and redress process, and wanting to pre-empt disruptive waves of labor activism, China's National People's Congress promulgated the Labor Dispute Mediation and Arbitration Law (*Zhonghuarenmingongheguolaodongzhengyitiaojiezhongcaifa*, 中华人民共和国劳动争议调解仲裁法) on 29 December 2007 (effective 1 May 2008). This followed the earlier adoption of a new Labor Contract Law (*Zhonghuarenmingongheguolaodonghetongfa*, 中华人民共和国劳动合同法) on 29 June 2007 (and effective 1 January 2008), designed to "improve the labor contract system, specify the rights and obligations of both parties to the labor contracts, protect the legitimate rights and interests of the workers and construct and develop a harmonious and steady employment relationship."² Finally, the government published its first-ever white paper on human resources development on 10 September 2010, outlining policy measures to deal with employment pressures, appeared intended to convey the institutional commitment to creating an effective and efficient human resources development legal system (China Daily, 2010).

In what would appear to be an ironic turn of events, these new laws – adopted in the hopes of reducing rapidly expanding fissures in China's socio-economic firmament and streamlining labor mediation and arbitration processes – have also proved instrumental in lifting the lid of a cauldron of long-simmering discontent, amid renewed concerns about the *real* redistributive capacity of the country's developmental model (Ravallion, 2010).

China's labor regime has entered a new phase. Although the new regime is not without lingering flaws and while concerns over "effective protection of workers' rights" in light of much-needed improvements with regard to "respect for the rule of law and commitment to fundamental rights in general" will persist, it nevertheless presents a marked improvement over the previous regime (Lu, 2008). For their part, and judging by dramatic uptake of labor disputes in 2008 ("Fig 2") – possibly influenced to some degree by the onset of the 2008 global economic crisis and its fallout in China's manufacturing sector – workers have signaled a new sense of empowerment to put demands on a system that for far too long had been overly dismissive of their concerns.

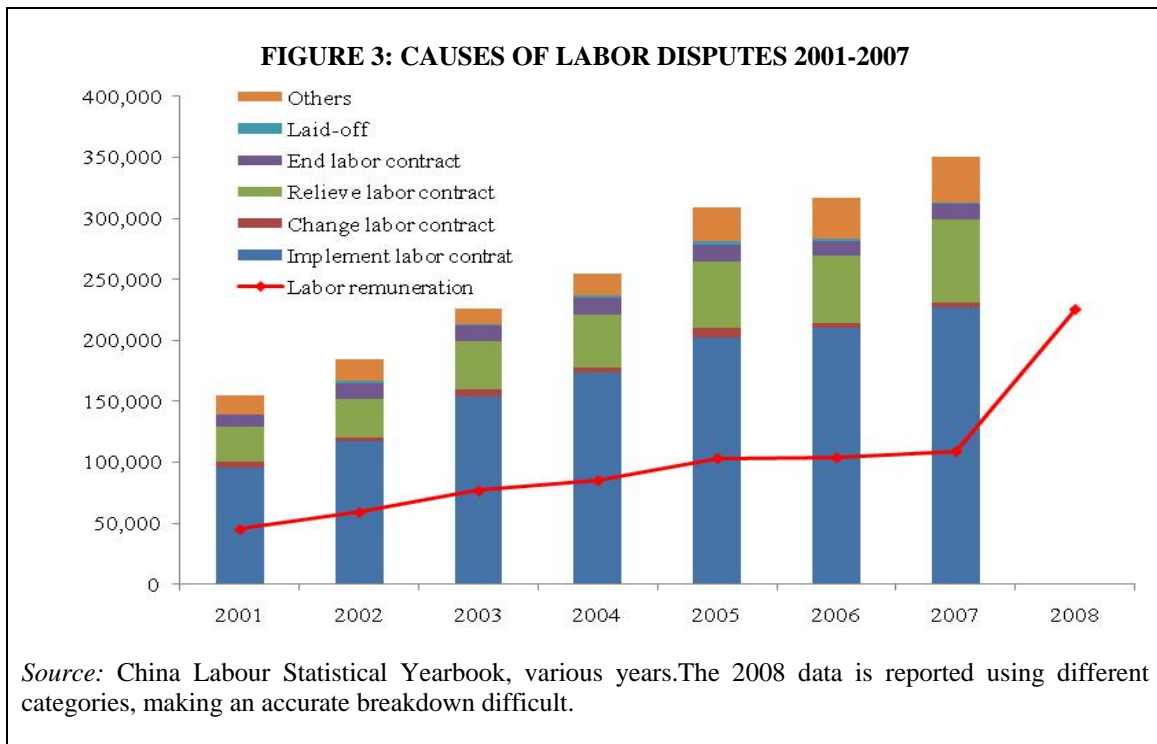


Labor strife in the mid- to late 1990s was primarily a response to the government’s gradual privatization efforts as well as a reflection of concerns of economic and social dislocation experiences by laid-off SOE workers. This ‘first wave’ of unrest was largely centered on the Northeastern (*Dongbei*, 東北) region – Loaning, Jilin, and Heilongjiang provinces, also commonly identified as China’s rustbelt. The dramatic jump in labor disputes in 2008, culminating in the dramatic labor mobilization in the summer of 2010, however, reflects the ever-increasing scope of social dissatisfaction. No longer geographically limited to the rust belt, labor discontent has been manifesting itself throughout the country, including most notably in the summer of 2010 in China’s ‘sunbelt’ (i.e. Guangdong province) (Lee, 2007). By 2008, ‘accepted’ labor disputes in Guangdong province accounted for 22% of the national total, up from 13% in 2001. Over that same time period, Guangdong registered a staggering 650% increase in the number of disputes, compared to a national average growth of 348% (Table 1). Concerns over the implementation of labor contracts, meanwhile, have consistently taken primacy of place among the various causes of labor disputes (“Fig. 3”).

TABLE 1: LABOR REMUNERATION AS A CASUAL FACOTOR 2001-2008

	National Level		Guangdong Province	
	Number of LaborDisputes	Labor Remuneration	Number of LaborDisputes	Labor Remuneration
2001	154,621	45,172 (29%)	20,348	8,102 (40%)
2002	184,116	59,144 (32%)	24,061	9,811 (41%)
2003	226,391	76,774 (34%)	42,228	20,335 (48%)
2004	260,471	85,132 (33%)	41,732	20,167 (48%)
2005	313,773	103,183 (33%)	61,247	28,768 (47%)
2006	317,162	103,887 (33%)	54,855	24,628 (45%)
2007	350,182	108,953 (31%)	55,473	22,185 (40%)
2008	693,465	225,061 (32%)	150,023	65,027 (43%)

Source: China Labour Statistical Yearbook, various years.



From the national level perspective, wage remuneration has only marginally increased as a causal factor in relative terms. However, the unusually sharp uptake in remuneration-related disputes Guangdong province in 2007-2008, resembles a heretofore unprecedented rejection of the *compliant labor* myth. Nowhere would this be more disconcerting than in Guangdong province, which has long been described as the world's factory floor. Moreover, the very notion of *cheap labor*, and by extension China's primacy of place for global low-cost manufacturing is likely to be affected by the trends emanating from the summer of labor unrest. As such, the ripple effects of China's summer of labor unrest extend beyond the domestic sphere and could conceivably constitute a credible challenge to the sustainability of China's rising primacy of place and ambitions in the global economy.

From Domestic Concerns to International Ramifications

From a policy perspective, China is facing a consequential 'two-level game' political economy dilemma (Putnam, 1988). The most immediately viable options to defuse the rapidly accumulating domestic pressures invariably limit Chinese policy flexibility on important trade and currency issues on the international stage. After years of unquestionably reaping the benefits of global economic integration, the "globalization straightjacket" has caught up with China. The solution to the policy conundrum is anything but clear-cut: how to mitigate labor unrest and wage pressures without weakening China's global labor arbitrage? How to simultaneously address domestic concerns while also deflecting the growing chorus of international criticism and policy pressures directed against a rising China? Judging from contemporary reality, the Chinese government, keenly aware of its precarious political legitimacy, is trying to balance developmental/foreign investment pragmatism with economic mercantilism.

Whither Chinese Labor Arbitrage?

True convergence of wages will be a long time in coming, and yet the rising assertiveness of Chinese workers is beginning to prompt fears of an impending cheap labor shortage, with consequential implications for foreign businesses. In a recent 2010 report, the U.S.-China Business Council identified cost increases – including wage hikes and tax increases – as major operating concerns (USCBC, 2011). With the growth in number of labor disputes fueled by demands for wage hikes between 2011 and 2008

exceeding the national average growth by nearly 180%, China's global labor arbitrage is likely to be strained. The very notions of an abundance of cheap labor and the 'China price' will be in need of reappraisal (Harney, 2010). In recent years, a gradual but consistent hollowing-out has befallen China's low-end manufacturing activity, with neighboring economies, including Vietnam, India and Thailand being lower-cost competitive beneficiaries.(Yang, 2010)

In the near- to medium-term, China will still be in a position to defend its global labor arbitrage position through an internal "flying geese" developmental approach (Fang, Wang and Yue, 2009)The Chinese government's 10 April 2010 publication of "Opinions of the State Council Concerning Further Improving the Work of Utilizing Foreign Investment" is an attempt to moving up the value-adding chain – partly by encouraging investment flows into "high-end manufacturing, high-tech, modern services, renewable energy, energy conservation and environmental protection industries" – while also retaining a

TABLE 2: WAGES AND WELFARE OVERHEADS IN CHINESE CITIES

City, Province	Avg. Salary (RMB)	Total Minimum Employer Contribution
<i>First-Tier Cities</i>		
Beijing	4,037	44.30%
Guangzhou, Guangdong	4,101	33.45%
dShanghai	3,566	44.00%
<i>Second-Tier Cities</i>		
Chengdu, Sichuan	2,273	36.70%
Dalian, Liaoning	2,859	38.50%
Dongguan, Guangdong	3,549	25.03%
Nanjing, Jiangsu	3,008	39.60%
Qingdao, Shandong	2,116	36.00%
Suzhou, Jiangsu	2,986	40.50%
Tianjin	2,793	44.30%
Zhongshan, Guangdong	3,014	19.60%

<u>Third-Tier Cities</u>		
Changshu, Jiangsu	3,355	38.50%
Dandong, Liaoning	1,653	30.20%
Datong, Shanxi	1,742	39.10%
Foshan, Guangdong	2,842	22.45%
Jiangmen, Guangdong	2,759	23.65%
Jinzhou, Liaoning	1,505	35.70%
Shantou, Guangdong	1,154	16.95%
Wuxi, Jiangsu	3,552	37.70%
Yantai, Shandong	2,068	34.70%
Yichang, Hubei	1,610	34.40%

Source: “2011 China Investment, Demographics and Development Trends”, Dezan Shira and Associates

competitive low-cost manufacturing advantage by encouraging foreign companies to locate labor-intensive, low-end manufacturing activities to its second- and third-tier cities that still enjoy a comparative labor-cost advantage (Table 2) (Ding and Neuman, 2010).The ability to sustain that advantage, however, is intricately linked to a highly controversial issue at the international level – China’s position on currency revaluation.

The Labor-Yuan Nexus

The leadership in Beijing is fully cognizant that key to mitigating labor unrest is constant job creation and keep incomes rising. And, at the heart of this strategy is ratcheting up exports. The oft-mentioned phrase that China is the “world’s factory” is both a blessing and a curse. China is not only the world’s largest exporter of manufactured products, but also a major exporter of agricultural commodities and other raw materials. This means that the Chinese economy is structurally dependent on exports. China’s share of merchandise exports increased from about \$10 billion in the late 1970s to \$326 billion in 2002. More precisely, China’s total share in world trade expanded from 1 percent in 1980 to about 6 percent in 2004 (Sharma, 2009) In 2004, China’s merchandise trade with the world totaled around \$1.3 trillion – the result of annual growth rates above 30 percent in some years. By end-2004, China had become the third-largest trading nation in dollar terms, behind the United States and Germany and just ahead of Japan (OECD, 2011). By 2008, net exports (or the trade-balance surplus) were about 12 percent of GDP (up from 2 percent earlier in the decade), and exports represent about 40 percent of China’s GDP. Overall, with the

sum of exports and investment representing about 80 percent of GDP, China's aggregate demand depends on its ability to sustain an export-based economic growth.

Thus, Beijing not only has an enormous stake in its export-led strategy, it is willing to engage in mercantilist economic policies – much to the chagrin of the United States and other countries -- to further advance it. As is well known, to the United States, the origins and persistence of its massive trade deficit with China is due to Beijing's mercantilist economic policies (Tables 3 and 4). The U.S. contention regarding China's mercantile behavior is rather straightforward: Beijing engages in gratuitously unfair trade practices via outright protectionism, and most perniciously, by deliberately manipulating its currency. Specifically, in maintaining an undervalued exchange rate, Beijing has been able to dramatically increase its export growth and pile-up large current account surpluses – the latter by aggressively intervening in foreign exchange markets to keep its currency from appreciating. This in turn has resulted in a massive build-up of foreign exchange reserves (Goldstein and Lardy, 2005). On the other hand, if Beijing allowed market-forces to determine the value of its currency, its current account surpluses would be much lower and American trade balances much healthier (Morrison and Labonte, 2009)

TABLE 3: U.S. MERCHANDISE TRADE WITH CHINA 1980-2007

Year	U.S. Exports	U.S. Imports	U.S. Trade Balance
1980	3.8	1.1	2.7
1985	3.9	3.9	0.0
1990	4.8	15.2	-10.4
1995	11.7	45.6	-33.8
2000	16.3	100.1	-83.8
2001	19.2	102.3	-83.1
2002	22.1	125.2	-103.1
2003	28.4	152.4	-124.0
2004	34.7	196.7	-162.0
2005	41.8	243.5	-201.6
2006	55.2	287.8	-232.5
2007	65.2	321.5	-256.3

Source: US Congressional Research Service (2008, 2) (Morrison, 2008)

TABLE 4: U.S. MERCHANDISE TRADE BALANCES WITH MAJOR TRADE BALANCES WITH MAJOR TRADING PARTNERS, 2007 (USD BILLION)

Country/Trading Group	U.S. Trade Balance
World	-791.0
China	-256.3
European Union (EU 27)	-107.4
Organization of Petroleum Exporting Countries (OPEC)	-127.4
Japan	-82.8
Canada	-64.7
Mexico	-74.3
Association of Southeast Asian Nations (ASEAN)	-50.6

Source: US Congressional Research Service (2008, 2)

Not surprisingly, American manufacturers with the backing of lawmakers in Congress have long argued that the artificially low yuan has placed American companies at a huge competitive disadvantage *inter alia* contributing to the bankruptcy of U.S. companies and the loss of tens of thousands of American jobs (Hufbauer and Wong, 2004). The contention is that the yuan is so undervalued (by some accounts as much as 40 percent) that it amounts to an unfair trade subsidy. This unfair advantage permits a flood of cheap Chinese-made goods into the United States, but makes American products expensive in China (Lardy, 2005). Thus, it is claimed that if the yuan was traded at its true market worth the bilateral imbalance between the two countries would be substantially reduced, if not altogether eliminated. This is because China's exports to the United States would become more expensive in dollars and would therefore decrease, while China's imports from the U.S. would become less expensive in yuan and therefore increase.

To make matters worse, China's unwillingness to allow the yuan to appreciate has, in turn, made other Asian Pacific Rim countries reluctant to allow their currencies to appreciate because of their fear of losing further export sales to China. As the U.S. trade deficit with China soared to record levels, the Bush administration and now the Obama administration, have come under intense pressure to take unilateral action to address the problems associated with the artificial undervaluation of the yuan. If earlier, U.S. lawmakers called for an immediate Chinese exchange rate adjustment, now many are increasingly calling

for punitive tariffs on cheaply priced Chinese imports unless China sharply revalues its currency. Yet, we claim that the imperatives of creating jobs and mitigating potentially destabilizing labor unrest is so strong that Beijing is not going to abandon its mercantilist economic policies anytime soon.

Conclusion

Current disagreements as to whether or not its developmental model has reached the Lewisian turning point (Fang, 2009).notwithstanding, China has reached a critical juncture, with obvious and far-reaching implications for the country's labor market equilibrium and sustained global economic competitiveness. The Chinese government may delay but cannot prevent further emancipation of a labor force harboring rising expectations and an unwillingness to accept social dislocation and relative economic deprivation in the name of national economic growth (Chang, 2008). In the long-term, the expectations of this new generation of workers and the changing labor regime will prove a highly complicating combination for the competitive sustainability of China's global low-cost labor arbitrage, and consequently, low-value added manufacturing. Thus China's political elite is facing a truly consequential policy conundrum, given that resorting to mere symptomatic treatment of social dissatisfaction cannot and will not negate the need for carefully recalibrated economic and social policies.

It would be equally ill-advised to eschew broader contextualization of the implications of current socio-economic dynamics for global economic competitiveness in the medium- to long-term. While it may be a near-term comfort that the rate of labor productivity growth – estimated at 13 percent per annum over the 2003-2010 period in apparel manufacturing – “comfortably outstrips that of Brazil, Vietnam, Indonesia, and Turkey (Jacob and Waldmeir, 2011),” the government can ill-afford policy complacency at this stage. And while it may be contextually unwarranted to draw comparisons between the recent developments in Egypt and the broader Arab world and the potential for stepped-up democratization pressures in China (Pei, 2011), it is nonetheless pertinent to reflect on the distinct possibility of recent socio-economic stirrings in China potentially reshaping the country's political economy space in fundamental ways. The path ahead is irreversibly and intricately linked to the policy choices and abilities of the Chinese leadership to come to terms with the demands and expectations of a new generation of workers in a changing China. Anything short of that carries the distinct possibility of jeopardizing the twin goals of achieving a well-off society (*xiaokangshehui*, 小康社会) and harmonious society (*hexieshehui*, 和谐社会).The challenge for China's incoming fifth generation of leaders will lie in their willingness to embrace a whole new degree of pragmatism, as the country embarks on a new chapter in its developmental path in the aftermath of the summer of discontent of 2010.

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Ethical Leadership and Effective Leadership: An Analysis Based on the Results of the GLOBE Student Research in Slovakia

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Abstract

In the first part of the paper, selected influential theoretical considerations of the issue of ethical leadership are being discussed. Next, authors describe briefly the methods used in the empirical research based on the GLOBE Student research project (Global Leadership and Organizational Behavior Effectiveness) which was conducted among Slovak university students of managerial and engineering study programs. Paper deals with the analysis of ethical leadership from Slovak students' point of view. Using the factor analysis method, implicit variables are identified and dimensions of ethical leadership in regard to Slovak cultural environment are characterized. Level of effectiveness of ethical leadership styles are examined, too. Finally, statistically significant differences between various groups of students in regard to ethical leadership attributes are analyzed. The results indicate that what is ethical is also effective in leadership.

Key words: GLOBE Student research project, Slovak leadership styles, ethical leadership, managerial ethics.

Introduction

Ethical leadership is still relatively new concept in managerial and leadership studies. Although in the framework of the western leadership theory it was researched by some scientists (Trevino, L. K., Brown, M., & Hartman, L. P., 2003; Resick, Ch., J., Hanges, P. J., Dickson, M. W., & Mitchelson, J. K. A, 2006; De Hoogh & Den Hartog, 2008; Bellingham, R., 2003), gaining knowledge about leadership in CEE countries is still stagnant. There is just limited understanding of what exactly the ethical leadership is and the body of empirical research on ethical leadership is only slowly beginning to build up. Ethical leadership is important for successful implementation of corporate social responsibility (CSR) principles and is vital for overall employees' ethical conduct because of the impact of leaders, and especially of senior executives (Trevino, L. K., Brown, M., & Hartman, L. P., 2003, p. 7), which they have on the behavior of their employees. As Schein noted (Schein, E. H., 2009), through decision-making on how to solve problems of internal integration and external adaptation of organization leaders apply their own assumptions, values and traits of own character. If leader's solutions work, followers of the leader have tendency to accept values and assumptions which lie behind the solutions.

Bellingham in his work *Ethical Leadership. Rebuilding Trust in Organizations* (Bellingham, R., 2003) identified some of the best practices ethical leaders are proficient in, which are striving for consistency and congruence, long-term thinking, holistic outlook, power sharing, ensuring diversity of voices, developing employees' commitment and capacity to learn, create a human workplace, build relationships, foster community, accept ownership and accountability, resist self-interests, put people and creativity in the centre, be authentic, be collaborative and constructive, develop stories of integrity and create a culture of trust (Bellingham, 2003, p. 6).

In one of the most influential work in regard to ethical leadership, Trevino and colleagues assume that ethical leadership is a construct of five basic dimensions of leader's behavior and personal traits: people-oriented behavior, visible ethical actions and traits, standard setting and accountability, broad ethical awareness and decision-making processes (Trevino, L. K., Brown, M., & Hartman, L. P., 2003, p. 15 - 17). Although this research was based only on perceptions of ethical leadership and dealt with no more than 40 US participants, some important conclusions were drawn. The study identified differences among two groups studied in the research and hence drew attention on the importance of social context from which respondents in ethical-based research come from.

Another important study on the ethical leadership was done by Resick and colleagues in 2006. In this article (Resick, Ch., J., Hanges, P. J., Dickson, M. W., & Mitchelson, J. K. A, 2006) ethical leadership scales were developed from the GLOBE project quantitative questionnaire which assessed effective leadership based on Likert-

type seven-point scale, where 1 meant that this behavior or characteristics greatly inhibits a person from being an outstanding leader and 7 meant that this behavior or characteristics contributes greatly to a person being an outstanding leader. The GLOBE leadership model is based on the assumption, that “leadership is a social label given to individuals if either a) their personality, attributes, and behaviors sufficiently match the observer’s beliefs about leader or b) the observer attributes group success or failure to the activities of perceived leaders” (Lord&Mahler, 1991 according to Dorfman, P. W., Hanges, P. J., Brodbeck. F. C., 2004, p. 670). This assumption derives from in leadership theory known as the *Implicit Leadership Theory*, which the GLOBE conceptual model extended to so-called *Culturally Endorsed Leadership Theory*. The GLOBE conceptual model works on the assumption, that culture plays an important role in influencing perceptions of the members of a given culture about what leadership attributes and behaviors are desirable and effective (Dorfman, P. W., Hanges, P. J., Brodbeck. F. C., 2004, p. 671). The GLOBE project questionnaire does not originally measure ethical leadership; the authors executed q-sort analysis, exploratory factor analysis and confirmatory factor analysis to develop dimensions of ethical leadership behavior and personal traits. Their research supported four-factor model of ethical leadership, namely Character and Integrity dimension, Altruism dimension, Collective Motivation dimension and Collective Encouragement dimension (Resick, Ch., J., Hanges, P. J., Dickson, M. W., & Mitchelson, J. K. A, p. 350).

In contrast to the Trevino et al research (Trevino, L. K., Brown. M., & Hartman, L. P., 2003), Resick and his team did not work with perceptions of ethical leadership but with the value level of how should a leader be and behave like; leadership scales assessed in the GLOBE questionnaire represent preferred, or better to say, desired end-states (Javidan, M., House, R. J., Dorfman, P. W., 2004, p. 45). That is perhaps why two dimension, Ethical Awareness and Ethical Accountability, which were identified in the Trevino et al research were not supported in the Resick’s empirical research. To summarize it, Resick and his team assume that four ethical leadership dimensions, Character and Integrity, Altruism, Collective Motivation and Collective Encouragement, proofed to be universally endorsed as important for effective leadership, but 62 cultures involved in this research differed according to the level of endorsement for each of ethical leadership dimensions (Resick, Ch., J., Hanges, P. J., Dickson, M. W., & Mitchelson, J. K. A, p. 354).

Another influential study of ethical leadership by De Hoogh and Den Hartog (2008) was a multi-method study where authors examined relationships of leader’s social responsibility with three different aspect of ethical leadership and with the despotic leadership style. Their results showed that ethical leadership was positively related to perceived top management effectiveness as well as to optimism of subordinates regarding the future, both the future of organization and their own future within it (De Hoogh, A. H. B. & Den Hartog, D. N., 2008, p. 297). The three ethical leadership dimensions, namely Morality and Fairness, Role Clarification, and Power Sharing were measured using three scales adapted from the *Multi-Culture Leader Behavior Questionnaire* (MCLQ; by Hanges and Dickson, 2004 according to De Hoogh, A. H. B. & Den Hartog, D. N., 2008, p. 303) and measured respondents’ perceptions of behavior of leaders respondents were familiar with.

In our introduction to the topic of the ethical leadership we referred to four influential concepts of ethical leadership, all of them verified in empirical research. Although authors used various approaches as well as methods for their research, and results are not fully comparable due to various methodologies, some common characteristics of ethical leaders could be outlined. However, all four concepts of ethical leadership presented here are linked to western conception of leadership. CEE countries are just seldom an object for leadership research in international context. Empirical research dealing with the ethical leadership style and its building elements from Slovaks’ point of view was, to one exception, out of researchers’ interests. The only one research dealing with this issue compactly is a survey, which was conducted among students of the University of Economics in Bratislava in the end of the 20th century (see Remišová, A., 2011). The main research outcome was a model of the leader’s profile of moral virtues. Three dimensions of that model were drawn: 1. relationship of leader towards him/herself (items like self-knowledge, self-esteem, self-confidence, self-control, etc.), 2. leader’s interpersonal relationships (items like tolerance, zero of others, honesty, fairness, justice, empathy, tactfulness, etc.), and 3. ethical characteristics regarding leader’s professional performance (items like responsibility, flexibility, creativity, maintain high morale,

punctionality, objectiveness, strong-mindedness, steadiness, consistency, etc.). This model included moral virtues that outlined the ideal (preferred) portrayal of an ethical leader from the point of view Slovak students studying economic study programs.

Our paper aims at delineating traits and behaviors of ethical leaders in regard to their effectiveness from the viewpoint of Slovak respondents. From the methodological point of view, the Resick et al study (Resick, Ch., J., Hanges, P. J., Dickson, M. W., & Mitchelson, J. K. A., 2006) stays closest to our approach. We derived our empirical study from the GLOBE Student project which started consecutively with the GLOBE project itself. The international comparative research GLOBE Student project is being conducted in cooperation of international team of researchers. Members of this team are: Rainhart Lang (Germany), Doina Catana a Gheorghe Alexandru Catana (Romania), Renata Krzykala-Schaefer (Poland), Danijel Pučko a Tomaž Čater (Slovenia), Kurt Rudolph (Tatarstan), Petra Skálová a Zdeňka Konečná (Czech republic), Danijela Bogdanic (Bosnia and Herzegovina) and Anna Remišová a Anna Lašáková (Slovak republic). In the GLOBE Student project the former GLOBE project methodology, only with slight differences, is being applied. Whereas in GLOBE project societal culture, organizational culture and leadership attributes are studied, the GLOBE Student project is focused on the research of societal culture, leadership attributes, and preferences of students in the field of managerial decision-making. Factors influencing value preferences of students are also a part of the GLOBE Student questionnaire. Questions dealing with societal culture and leadership attributes are the same in both research projects. In this paper our research questions are:

- 1) What are the characteristics of ethical leadership from Slovak students' point of view?
- 2) Is there any latent structure caused by implicit variables within the identified ethical leadership behaviors and traits? If yes, of what character are these hidden variables?
- 3) What is the level of effectiveness of ethical leadership styles from Slovak students' point of view?
- 4) How different groups of students differ in their assessment of effectiveness level in regard to ethical leadership behaviors and traits – in other words, are there any statistically significant differences between various groups of students in regard to this issue?

Method

Overview of sample demographical data from the one-way frequencies analysis. The GLOBE Student research was conducted on the pool of 339 respondents. Our respondents were students from Slovak University of Technology and Comenius University in Bratislava. Almost 97,1 % of respondents belong to the age category 18 – 25 years. From demographical evidence following data were selected: women: 48,1 % of respondents; only Slovak language spoken at home during childhood: 87,9 % of respondents; interested in a manager career after graduation: 79,6 %; interested in founding a business venture: 66,4 % of respondents. Furthermore, students studying at the Comenius University in Bratislava: 45, 4%, and at the Slovak university of Technology: 54, 6%. Graduate students in our sample: 55, 2%, and the undergraduate students were represented in 44, 8%.

Questionnaire method. In the GLOBE Student project the effectiveness of leadership styles was assessed within 21 leadership dimensions which were consecutively grouped to six second-ordered leadership dimensions. These dimensions were composed by 112 single leadership items representing concrete behaviors and trait of a leader. Respondents had to assess their level of effectiveness on the seven-point Likert-type scale, where one stands for very low level of effectiveness and seven represents very high level of effectiveness of a leader (for methodology of the GLOBE project see House, R. J., Hanges, P. J., Javidan, M., Dorfman, & P. W., Gupta, V. (eds.), 2004). We

assumed that the GLOBE Student leadership questionnaire contains moral virtues of a leader within the 112 leadership items. However, it has to be underlined that the GLOBE Student questionnaire focused on the effectiveness of leaders primarily. Hence, results presented in this paper consider the effective ethical leadership behavior, which means ethical behaviors and leadership traits which are assessed by Slovak respondents in regard to effectiveness of a leader.

Further methods used in this study. Our next step was asking 60 students of Management and International Management at the Faculty of Management, Comenius University to perform a q-sort data analysis aimed at identifying all ethical leadership items in the GLOBE Student questionnaire. Students were to consider the written descriptions of single 112 items and to decide which of these items belong under the category of ethical leadership. For further analysis, only those items were ranked as ethical, which at least fifty times were indicated by students. The q-sort data analysis ended at 33 items of ethical leadership.

In the next phase we performed exploratory factor analysis using the maximum like-hood analysis as a factoring method. For rotation the Orthogonal Varimax with Kaiser's normalization was used. The eigenvalue was set up to the value of 1. After conducting the Scree test, a four factor solution was selected to be the best fitting the data (for methodology in regard to factor analysis see Costello, A. B. & Osborne, J. W., 2005). Next, to be able to assess differences between various groups of people in our sample, we conducted independent samples t-test analysis.

Results

1. Factor analysis. After exploratory factor analysis four-factor solution was chosen. Our four factors consisted of 26 items out of former 33 leadership behaviors and traits. The average communalities for four factors were between 0,45 lowest to 0,55 highest. These communalities are not considered high, however, according to Costello and Osborne "common magnitudes in the social sciences are low to moderate communalities of .40 to .70" (Costello, A. B. & Osborne, J. W., 2005, p. 4). Four factors – four dimensions of ethical leadership regarding the leadership effectiveness within the Slovak culture were identified as follows: 1. The Integrative Harmonizer, 2. The Decisive Persistent Influencer, 3. The Supportive Cooperator, and 4. The Helping Friend. First two dimensions consist of nine items and second two dimensions consist of four items. The Integrative Harmonizer dimension encompasses leadership behaviors like being diplomatic, inspirational to others, trustworthy and just. Also calmness, communicativeness, justice, intra-group face-saving activities and positive attitude are important part of this dimension of ethical leadership behavior. The second dimension, Decisive Persistent Influencer, is composed by attributes like being mediator of conflicts, substantially decisive and motivational activating others in the group, building confidence in the group, as well as showing patience, honest thoughts together with being a dynamic and team-building person from the viewpoint of followers. The third dimension is called the Supportive Cooperator and consists of attributes like collaborativeness, encouragement, dependableness and increasing the morale of followers by offering encouragement and praise. And finally, the fourth dimension is labeled as Helping Friend. It covers items loyalty, being empathetic for others, generous and fraternal toward followers.

2. The level of effectiveness of ethical leadership. One of our research goals was to investigate the levels of effectiveness of ethical leadership behaviors from the viewpoint of our respondents. To be able to rate the overall effectiveness of ethical leadership dimensions, mean values were calculated for all four dimensions. Two most effective dimensions are the Integrative Harmonizer and the Supportive Cooperator, both with mean value of effectiveness 5,82. The style of the Decisive Persistent Influencer follows with the mean value 5,66. The least effective is the style labeled as the Helping Friend with mean values of effectiveness of 4,63. However, also this ethical leadership style is considered as effective. According to our research no identified ethical leadership style was found ineffective.

Table 1 shows results of descriptive statistical analysis for the single 26 ethical leadership items.

TABLE 1: DESCRIPTIVE STATISTICS FOR ETHICAL LEADERSHIP ITEMS WITH MEAN VALUES OF THEIR EFFECTIVENESS FROM THE VIEWPOINT OF SLOVAK STUDENTS (ON THE SCALE WHERE 1 = LEAST EFFECTIVE AND 7 = MOST EFFECTIVE).

Questionnaire item	Mean value of effectiveness	Std. Deviation	Ethical leadership dimension concerned
Inspirational	6,24	1,26	Integrative Harmonizer
Trustworthy	6,13	1,34	Integrative Harmonizer
Diplomatic	6,10	1,33	Integrative Harmonizer
Communicative	6,07	1,27	Integrative Harmonizer
Encouraging	5,96	1,26	Supportive Cooperator
Motive arouser	5,94	1,29	Decisive Persistent Influencer
Dependable	5,90	1,40	Supportive Cooperator
Team-builder	5,90	1,34	Decisive Persistent Influencer
Just	5,88	1,32	Integrative Harmonizer
Dynamic	5,86	1,29	Decisive Persistent Influencer
Collaborative	5,83	1,23	Supportive Cooperator
Decisive	5,77	1,42	Decisive Persistent Influencer
Positive	5,61	1,35	Integrative Harmonizer
Confidence builder	5,59	1,28	Decisive Persistent Influencer
Morale booster	5,59	1,29	Supportive Cooperator
Mediator	5,59	1,34	Decisive Persistent Influencer
Honest	5,53	1,42	Decisive Persistent Influencer
Calm	5,51	1,45	Integrative Harmonizer
Patient	5,45	1,28	Decisive Persistent Influencer
Integrator	5,45	1,54	Integrative Harmonizer
Intra-group face-saver	5,34	1,25	Integrative Harmonizer
Group-oriented	5,34	1,27	Decisive Persistent Influencer
Loyal	5,22	1,42	Helping Friend
Generous	4,82	1,38	Helping Friend
Fraternal	4,74	1,51	Helping Friend
Compassionate	3,71	1,43	Helping Friend

According to the values of mean effectiveness of assessed behaviors or personal traits, as the most effective behaviors are being rated the inspirational, trustworthy, diplomatic and communicative behavior of a leader. On the other hand, items which are just moderately effective are being fraternal and generous. These three attributes are rated by Slovak students as just somewhat effective in leadership behavior. And at last, being compassionate is by young Slovaks assessed as not so effective as other ethical behaviors.

3. Sample differences in regard to the ethical leadership styles. Our next research question was how different groups of students differ in their opinion on effectiveness of ethical leadership. Tables 2, 3, and 4 show only statistically significant differences. We used independent samples t-tests for measuring ($p < 0,05$). We

compared students according to their gender (table 2), level of study (table 3), the university they attend and their interests in founding a business venture and developing own management career after graduation (table 4).

TABLE 2: DIFFERENCES BETWEEN FEMALE AND MALE RESPONDENTS IN THE SLOVAK SAMPLE.

Questionnaire item	Gender	N	Mean value of effectiveness	Std. Deviation	t-test	Sig. (2-tailed)
Diplomatic	Female	163	6,27	1,18	2,23	0,03
	Male	176	5,95	1,45		
Mediator	Female	163	5,77	1,34	2,39	0,02
	Male	176	5,42	1,33		
Inspirational	Female	163	6,47	1,14	3,24	0,00
	Male	176	6,03	1,33		
Trustworthy	Female	163	6,31	1,30	2,39	0,02
	Male	176	5,96	1,36		
Just	Female	163	6,04	1,30	2,21	0,03
	Male	176	5,73	1,32		
Collaborative	Female	163	6,17	1,14	3,06	0,00
	Male	176	5,77	1,33		
Encouraging	Female	163	6,17	1,14	2,95	0,00
	Male	176	5,77	1,33		
Morale booster	Female	163	5,75	1,20	2,28	0,02
	Male	176	5,44	1,36		
Motive arouser	Female	163	6,19	1,20	3,44	0,00
	Male	176	5,72	1,33		
Communicative	Female	163	6,28	1,15	2,86	0,00
	Male	176	5,89	1,34		
Confidence builder	Female	163	5,78	1,24	2,64	0,01
	Male	176	5,41	1,30		
Team-builder	Female	163	6,07	1,20	2,28	0,02
	Male	176	5,74	1,45		

According to results shown in the table 2, female respondents rate effectiveness of ethical behavior of leaders significantly higher than men in our sample in 12 out of 26 ethical leadership items. Apparently, activities like, for example, team-building, confidence building, communicativeness, encouragement, justice, mediating conflicts, being diplomatic and trustworthy are assessed by women as more effective than by men in our sample.

TABLE 3: DIFFERENCES BETWEEN UNDERGRADUATE AND GRADUATE RESPONDENTS IN THE SLOVAK SAMPLE.

Questionnaire item	Level of study	N	Mean value of effectiveness	Std. Deviation	t-test	Sig. (2-tailed)
Diplomatic	Undergrad	152	5,87	1,66	-2,80	0,01
	Grad	187	6,29	0,95		
Mediator	Undergrad	152	5,40	1,49	-2,26	0,02
	Grad	187	5,74	1,19		
Inspirational	Undergrad	152	6,07	1,50	-2,20	0,03
	Grad	187	6,39	1,01		
Integrator	Undergrad	152	5,25	1,74	-2,10	0,04
	Grad	187	5,61	1,33		
Decisive	Undergrad	152	5,51	1,66	-2,97	0,00
	Grad	187	5,98	1,14		
Motive arouser	Undergrad	152	5,72	1,52	-2,76	0,01
	Grad	187	6,12	1,04		
Communicative	Undergrad	152	5,86	1,53	-2,69	0,01
	Grad	187	6,25	0,97		
Confidence builder	Undergrad	152	5,27	1,52	-4,07	0,00
	Grad	187	5,85	0,97		
Group-oriented	Undergrad	152	5,14	1,42	-2,61	0,01
	Grad	187	5,50	1,12		
Dynamic	Undergrad	152	5,65	1,55	-2,65	0,01
	Grad	187	6,04	1,01		

In line with the results included in the table 3, there are 10 significant differences out of 26 measured ethical leadership items between undergraduate and graduate students in our sample. In all 10 cases undergraduate students rated ethical leadership items as being less effective than graduate students did. Although our sample is not representative of all Slovak student population, this result seems to be interesting. Graduate students, compared to undergraduate students, prefer significantly more leader's behavior which is diplomatic, conflict solving, inspirational, integrating others, decisive, motivational, communicative, confidence-building, group-oriented and dynamic.

As already mentioned, we compared students in our sample also in regard to the university which they attended. Results showed that in only 4 out of 26 items there were not found any statistically significant differences. This result clearly indicates that there are substantial differences between students at Comenius University (CU) and students at the Slovak University of Technology (SUT) regarding their assessment of effectiveness of ethical leadership traits and behaviors. Students at Slovak University of Technology scored considerably lower than students from the Comenius University.

Finally, differences between students in the Slovak sample according to their interests in management career after graduation and in founding a business venture were investigated. In the questionnaire, students were asked, if they would like to develop their own management career after graduation as well as if they were interested

in founding a business venture after graduation from university. Table 4 illustrates statistically significant differences between groups which stated “yes” and “no” to these two separate questions.

TABLE 4: DIFFERENCES BETWEEN RESPONDENTS IN THE SLOVAK SAMPLE ACCORDING TO THEIR INTERESTS IN MANAGEMENT CAREER AFTER GRADUATION AND IN FOUNDING A BUSINESS VENTURE.

Questionnaire item	MNG Career	N	Mean value of effectiveness	Std. Deviation	t-test	Sig. (2-tailed)
Morale booster	Yes	270	5,67	1,27	2,38	0,02
	No	69	5,26	1,34		
Generous	Yes	270	4,73	1,39	-2,38	0,02
	No	69	5,17	1,28		
Dynamic	Yes	270	5,96	1,19	2,19	0,03
	No	69	5,51	1,59		
Items	Business venture	N	Mean	Std. Deviation	t-test	Sig. (2-tailed)
Loyal	Yes	225	5,36	1,38	2,55	0,01
	No	114	4,95	1,47		

In relation to our findings illustrated in the table 4, students who tend to build their own management career after graduation rated as being effective significantly more the moral booster and dynamic traits of a leader than students, who answered “no” to the question, did. Traits like being energetic, highly involved and motivational as well as confident and encouraging are preferred more by those, who think of career advancement in management. On the other hand, being generous, this means being helpful to other, willing to give resources to others, etc. is considerably less preferred by students who want to build a management career for themselves. And as for the second question regarding founding a business venture after graduation, students who stated “yes” to this question regard loyalty as effective significantly more than students, who do not want to found a venture.

Discussion

The ethical leadership dimensions within Slovak cultural environment according to Slovak students of managerial and technical study programs at two of the most influential Slovak universities were examined in this paper. In this perspective our results show preferences of future managers, because students who participated in our study are supposed to be on managerial positions in the future after graduation from university. We derived our study from the theory of culturally endorsed leadership theory, methodologically based on the GLOBE Student research project. We assume that leadership preferences are determined by the cultural background. Hence, results presented in this paper relate to Slovak cultural environment. The relevancy of our study is determined by number of participants, and although our paper does not map ethical leadership in its complexity, it could be considered as an useful starting point for further examination of the concept of ethical leadership in CEE countries. Additionally, as noted already, this study points to preferences of future managers, thus indicating a trend for the future regarding patterns of effective ethical leadership behaviors and personal traits.

Methodological approach used in this paper was inspired by the study of Resick, Ch., J., Hanges, P. J., Dickson, M. W., & Mitchelson, J. K. A (2006). However, we arrived at different outcomes and used more in-depth analysis of the Slovak results. Our results are indicative of four distinct effective ethical leadership dimensions, which were identified on the sample of Slovak university students. First, 33 ethical leadership items from the GLOBE Student questionnaire were identified using the q-sort data analysis. Next, the exploratory factor analysis

was conducted, revealing four dimensions of ethical as well as effective behavior of a leader, using 26 out of former 33 items. Four underlying variables, namely the Integrative Harmonizer, Decisive Persistent Influencer, Supportive Cooperator and Helping Friend were identified. Next, mean values of effectiveness of 26 ethical items as well as four dimensions of ethical leadership were calculated. To have more detailed results, statistically significant differences in our sample were examined, too.

According to our results, it is assumed in general that what is ethical is also effective in leadership from the viewpoint of our respondents. All ethical items assessed in the questionnaire, except one, were rated as effective. The only one exemption was the “compassionate” attribute, scoring 3,71 on the seven-point scale (1 stands for the least effective and 7 is the most effective leadership behavior). Being helpful, empathetic and showing mercy is in the Slovak cultural context not straightforwardly preferred as an effective behavior. However, all four detected ethical leadership dimensions, the Integrative Harmonizer, the Decisive Persistent Influencer, the Supportive Cooperator and the Helping Friend, were proofed to be effective from the students’ point of view. The most effective ethical leadership styles are the Integrative Harmonizer and Supportive Cooperator.

After conducting the independent samples t-test procedure regarding selected demographic data in our sample, some interesting conclusions were attained. First, women in our sample tend to put greater emphasis on the ethical leadership, rating effectiveness of ethical behavior of leaders significantly higher than men in our sample in 12 out of 26 ethical leadership items. Second, graduate students in our sample are more humane-oriented than undergraduate students. In 10 cases there were statistically significant differences between these two groups. Undergraduate students rated ethical leadership items as being less effective than graduate students did. Third, we found enormous differences between students at Comenius University and students at Slovak University of Technology and their assessment of ethical leadership behavior. In 22 out of 26 ethical leadership behaviors examined, students at CU rated these behaviors as being more effective than students at SUT. Technically oriented students in our sample assessed ethical leadership items as with considerably lower effectiveness than students of management at the CU. We assume that the difference lies primarily in the composition of study programs. Students at SUT are oriented toward more technical subjects, whereas students at CU attend more humane-oriented studies with focus on HRM, organizational behavior as well as business ethics. Finally, there were found also some significant differences between students who want to have a management career after graduation from university and students who do not. Students, who tend to build their own management career after graduation, rated as being effective significantly more the moral booster and dynamic traits of a leader than students, who answered “no” to the question, did. Students, who would like to found a business on their own after graduation, regard loyalty as effective significantly more than students, who do not want to found a venture. Being loyal in this research context means to be willing to help others and stay with them if they have hard times to overcome. Respondents in our research, who want to build something on their own, a business organization, tend to put greater value and emphasis on being able to help others, if they need support.

To summarize it, Slovak ethical leadership styles include leader’s behavior and personal traits like being inspirational, trustworthy, diplomatic, communicative, encouraging, motive arouser, dependable, team-builder, just, dynamic, collaborative, decisive, positive, confidence builder, morale booster, mediator, honest, calm, patient, integrator, intra-group face-saver, group-oriented, loyal, generous, and fraternal. Under the “label” ethical leader young Slovaks comprise four distinct styles, which are the Integrative Harmonizer, Decisive Persistent Influencer, Supportive Cooperator and Helping Friend. All four ethical styles are assessed as being effective.

As for the practical usability of this study, it should be noted, that our results point primarily toward preferences in regard to ethical leadership styles within the Slovak culture. First, selection as well as training and development on the managerial level should be taken into account in regard to the results of this study. If the implicit leadership theory is considered (see for instance Den Hartog, D. N., House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A. & Dorfman, P. W., 1999), the level of acceptance of a leader by his or her followers is higher, if

the leader behaves according to followers' beliefs and preferences of how should the leader be and behave like. Selection of leaders in Slovak business organizations, and subsequently training and development of leaders should take into account preferred ethical personal traits and behaviors. Second, expatriate managers on international assignments should take information delivered by this study into consideration when working with Slovak employees, too. Furthermore, to be perceived by followers as a trustworthy leader, leader's behavior should be in concordance with certain moral obligations defined within the ethical leadership styles. Finally, we believe that this research could be a basis for intercultural comparisons at the level of ethical leadership. It may possibly serve also as a new insight to ethical leadership styles, which are culturally endorsed and rooted in the Slovak culture.

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Handling Cultural Diversity - Cultural Intelligence and its Importance

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Abstract:

Globalization process has opened new possibilities for numerous managers to become active in multinational organizations at their domestic as well as foreign work environments. Typical feature of these organizations is the multicultural work environment. Therein, interpersonal interaction differs from the interaction in the monoculture organization by different attitudes, perception, values or communication styles of employees. These variances stems from different nationalities with the different cultural background within the organization. Managers in order to be more effective leaders thus have to possess specific competences. In this connection attention should be paid to enhancement of cultural intelligence of managers. To be cultural intelligent it includes not only ability to recognize and understand cultural differences but also to interact in an appropriate manner. Cultural intelligent manager is able to modify properly his own behavior not only according to his knowledge and experiences about foreign culture, but he/she is able to utilize knowledge and experiences of others as well.

Understanding the meaning what cultural intelligence is helps managers in the process of becoming successful global managers. It eliminates many problems expatriates are facing and moderates the intensity of the cultural shock.

Preparation of effective global managers can already begin in the education process. Useful in this field are specific oriented training programs such as sensitive training or self-development training.

Introduction

Globalization of the business is closely related to increasing frequency of international interaction of managers and employees, closer teamwork and need of new form of international collaboration. It increases demand for international management, for managers with international competences and effective leadership abilities in multicultural work condition.

Intercultural interaction of managers and teams is not always satisfying. Advantage of jointed organization and multicultural teams, possible synergy effect of the wide spectrum of people's knowledge, experiences and views is not exploited by the managers enough. The reason why managers are not able to take advantage of those synergies is due to their unreadiness to interact and to lead people from cultural diverse work environment. The appropriate leadings skills and personality traits are missing.

A solution for getting through this obstacles effectively and achieving that employees in multicultural work environment will perform above the standards lies in understanding how cultural specifics - believes, attitudes, way of perceptions, habits, thinking, preferences etc. influence interpersonal interactions. In order to achieve it, managers have to be willing to change own mental processes often characterized by high degree of rigidity and stereotyping. Managers have to be willing to self-development, to development of their high level cultural and emotional intelligence. So in the forefront is human factor – intensive preparation of managers for cross-cultural interaction, for effective leading in diverse work environment.

Preconditions for acquiring necessary cultural intelligence

Developing of cultural intelligence require some necessary preconditions. To the most important preconditions belong:

- Self development
- Ability to understand one's behavioral determinants
- Ability to understand behavior of others
- Ability to understand cultural influence on the behavior

- Ability to understand cultural influence on the interpersonal interaction process

Without objective self-understanding it is not possible to comprehend others. Without understanding of how our behaviors determine behavior of others it is not possible to understand why others behave in that particular way. It is necessary also to realize that the same situation or problem is possible to perceive differently without any perception being wrong - it might be, it is only different. It is crucial to realize that people may have different values and attitudes that determine their way of interacting. Such way of thinking requires open mind, openness to the new ideas, openness to the changes and differences as well as becoming more flexible. Development of mentioned characteristics opens opportunity for new ways of cross cultural interaction and collaboration.

Above mentioned new approaches to the multinational collaboration highlight the reason why it is necessary to enable mainly for young managers in the global organizations to gain not only theoretical knowledge in this area but also practical experiences from cultural diverse environment through rotating work programs. Mainly young people can obtain in this way such experiences that can later be better converged into their work. Added value of staying in foreign country, in a close relation with people with culturally different background, lies in higher level of self-knowledge, self-confidence and stronger self-belief these young managers will gain.

It is possible to hear many times: who is an effective global manager? What are the main characteristics of the global manager, how should he behave? How should his profile look like – what are his main traits, skills and abilities?

According to the many researches that are focused on the determinants of the effective interpersonal interaction of managers in the multicultural work environment, it is possible to say that there are some personal characteristics which allow some people to better adapt and which also help them to get through the difficulties in cross cultural interaction. Among such characteristics, worth to further development by managers, belong (S. Schneider, J. L. Barsoux, 2003):

- Interpersonal skills - ability to create positive relationships and working atmosphere
- Languages abilities
- Motivation
- Tolerance toward ambiguity
- Flexibility
- Patience and respect
- Cultural empathy
- Sense of humor

P. Caligiuri's (in CH. M. Solomon, M. S. Schell, 2009, p.291) research results suggest that foundation for effective global manager in global environment lies in these personal attributes:

- Goal oriented tenacity – to be able to achieve the goals also in the high stressed intercultural environment when difficulties occur.
- Managing complexity - effective global manager need the specific knowledge, skills, abilities to achieve their goals in global environment where responsibility is more complex, decision making is more challenging.
- Cultural sensitivity – open-minded approach is needed toward the attitudes and behavior of people from different culture. Such approach enables to form better social alliances and to manage cross-cultural conflicts. It is the most critical personality attribute related to the successful global manager.
- Emotional resilience - emotional stability is a universal adaptive mechanism that allows better adjustment and coping with stress.
- Ability to form relationship – high level of sociability has a positive correlation with success as a global manager. Leaders with high level of sociability are in global environment more satisfied, they create easier relationship with others, they learn better from social interaction and are much better positioned in comparison to their colleagues missing this crucial ability.

As we can see in presented overviews, above mentioned attributes are the components not only of emotional intelligence (EQ) but also components of a cultural intelligence (CQ). Level of EQ and CQ is not unchangeable. It is possible influence them and increase them through learning process, receiving feedback from

social environment, through social interactions and experiences from visited foreign countries or through gaining new knowledge in passive or active form (e.g. teaching by means of seminars, workshops).

Requirements for EQ

High level of EQ is nowadays a common criterion in selection process for managerial position in many, mainly international organizations. It includes such characteristics (D. Golleman, 1998) as:

- Knowledge about own emotion – it determines adequacy of self-understanding, self-evaluation, recognition of own strong and weak sides. Tools that might be helpful in achieving it are 360° feedback, self-reflection or self- observation.
- Emotion handling – self-control, self-regulation. This characteristic enables us to deal with aggression, stress, fear that hinder internal balance of individuals, mental activity and overcome obstacles.
- Self-motivation – an ability to integrate emotions into effort, an ability to take the initiative, to increase demands toward one-self.
- Sensitivity toward others/empathy - it is directly proportionally influenced by the level of self-perception. Empathy allows us to become comfortable with feelings of others, it allows us to see thing through others' point of view. Interpersonal sensitivity and empathy is necessary for interaction in diverse cultural environment.
- Savoir-faire

High level of EQ does not guarantee effective intercultural interaction and effective cross culture leadership. It is only one precondition. Another one is cultural intelligence - CQ. Its relevance might be shown on numerous examples when the best experts were sent to foreign countries but did not succeed there due to their low ability to adapt themselves in line with a new culture.

Various studies were conducted in order to find reasons, and later also the methods, how to overcome these difficulties. Among proclaimed explanations was unpreparedness of managers for intercultural interactions, the cultural shock or managers' inability to adapt in effective way on diverse cultural conditions.

Solution for changing it lies in increasing CQ of managers, mostly of those who work in multicultural work environments.

What to do to be culturally intelligent

CQ includes the capability to interact effectively across cultures. Cultural intelligence is ability to create effectively interactions with people with different cultural backgrounds. It enables us to understand cultural differences and to act appropriately across cultures.

Cultural intelligence is created by (D. C. Thomas, K. Inkson, 2003, p. 23):

1. Knowledge - culturally intelligent manager requires knowledge about culture and basic principles of cross - cultural interaction – what culture is, how culture varies and how it affects behavior.
2. Mindfulness - culturally intelligent manager practices mindfulness, ability to pay attention in a reflective and creative way to the stimulus that appears in intercultural situations.
3. Ability to choose appropriate behavior form that is correct for different intercultural situation.

Cognitive aspect (head) of CQ creates the ability to pick up factual elements about relevant behavior for particular situation. Physical aspect (body) of CQ shows ability to adopt behavior to the foreign habits. Emotional-motivational aspect (heart) of CQ includes motivation to make refinements (A. J. DuBrin, 2010).

All these components are in the relationship to each other and the process of becoming culturally intelligent is based on the knowledge and on the emotional intelligence. It is not sufficient only to know dimensions of cultural differences (for example created by Hofstede, 2006). It is necessary to understand in which way they influence the behavior, communication, negotiation, problems and conflicts solving, decision making etc.

Most well known examples of dimensions of cultural differences are:

- Power distance – people with high level of power distance accept autocratic approaches.
- Uncertainty avoidance - people with high level of uncertainty avoidance prefer strong, clear structure of task, situation, and certainty.
- Individualism vs. collectivism – the goal of people with high level of individualism is their self-development, they try to be the best, they prefer individual decision and follow their own interest. On the other hand, for collectivism it is typical a teamwork, team decision, discussions and collective interest.
- Accent to the present time vs. future – this orientation influences choice of the strategy, decision-making processes, preference of immediate profit versus long-term one.

Development stages of CQ

Culturally intelligent people see and understand connection between culture, they are aware that knowledge about cultural differences must be understood in context. There are certain personal characteristics that individuals possess, or should be developing in order to increase the level of CQ. These are (D. C. Thomas and K. Inkson, 2008, p.103):

- Integrity – well-developed sense of oneself, understanding how own belief system, attitudes and values influence own behavior and the well-developed sense how we interact with others.
- Openness, humility – important is to exhibit respect and willingness to learn from others, to admit that there is also other point of views. Active openness includes interest in other people, in other cultures. Without this inquisitiveness and interest, opportunity to develop CQ is declined.
- Hardiness – it is courage, resolution, and capability to cope with unfavorable conditions, to deal with stress and be able to learn from such situations. Interpersonal interaction with people from different culture involves also some tensions, emotions, ambiguity. It requires hardiness to go through these difficulties.

Awareness of oneself, of own characteristics is crucial for developing CQ. High level of CQ corresponds with the high level of the objectivity of self-understanding. Often our self-perception does not correspond with perception of others about our personality. People are not familiar with own characteristics or do not want to be familiar with them. People see themselves in more positive way than others do it, or than the reality is. Most important therefore is to have a correct picture of ourselves and to listen to the feedback from our surrounding.

We all know that basic feature of the *perception* is selectivity. Also this perception is culturally determined. Influenced is what we pay attention to, what we perceive as important and what not. Differences are in the frame of reference, in which way we interpret perceived stimulus. It might occur that the same situation is interpreted differently. One example might be when people from collectivistic culture prefer, or are more focused on, information connected to team/group rather than to individuals. Basic knowledge about culture can prevent or minimize misunderstandings caused by the diversity.

Another process that determines our behavior and that influences interpersonal interaction, is process of *categorization*. This process makes easier to put information together. Categorizing help us to mentally file people into various groups base on mutual specific features. Problem occurs when information are minimal or not objective. Then, categorization gives a place to stereotype. Negative aspect of stereotype is that all people are assessed in the same way, differences among them are not recognized and influence of cultural diversity on the behavior of categorized people is not taken into account. Many times space for the preconceived opinion is created.

Effective interpersonal interaction across culture are also disturbed by such personal characteristics as ethnocentrism, unsociability, egocentrism, lack of interest in other people, self-conceit, timidity, low equableness, disparagement etc. These features hinder acceptance of cultural differences and effective adaptation to given cultural conditions.

It is possible to state that necessary requirement for effective cross-cultural interaction is to change the way of the thinking and behaving towards the higher cultural sensitivity.

To be cultural intelligent does not occur instantly, it is relatively long process during which people only step by step develop their cultural sensitivity. According to D. C. Thomas and K. Inkson (2003, p.105) it occurs in several steps:

- Reactivity to external stimuli – in this stage people mostly do not see cultural difference, they show tendencies to parochialism. Attended is a mindless adherence to one's own cultural rules and norms.
- Recognition of others cultural rules and norms and motivation to learn more about them.
- Accommodation of different cultural rules and norms into own mind, into own way of thinking. It includes deeper understanding of differences, ability to recognize appropriate form of behavior in different cultural situations. Although people in this stage know what to say and in which way to interact in different cultural situations, it still requires their effort.
- Assimilation of diverse cultural norms into alternative behaviors. People in this stage are able to use appropriate form of behavior for specific cultural situations. They are no more stressed in culturally different conditions; they feel comfortable, other people accept them easily.
- Proactivity – in this stage people are able to perceive and recognize such changing signals in cultural context that others do not. They automatically adjust their behavior.

Developing of CQ requires basic knowledge about culture, about the role of different believes, values, attitudes for interpersonal interaction. It requires also motivation to learn from social experience and ability to transfer knowledge into the practice.

Activity that support the development of CQ:

- studying abroad
- working abroad
- tourism
- working in the multinational organization
- being a member of multicultural working team
- daily interaction with people of different cultural background (attendance of foreigner students during the studies etc.)
- passive way of receiving information – discussion clubs, films, books etc.

Closer cooperation of business, new communication technologies enable better connection among people. Since their interactions are more frequent and easier, it increases also probability of more conflicts and misunderstandings. Ground for it lies in differences among cultures. On the other hand, closer interaction of people creates also a possibility for learning and for changes in attitudes.

Cultural differences and training programs

Most effective way for improving our CQ is trough own experiences. Own experiences efficiently enable us to learn and to understand foreigner culture.

Many people already realize that communication style in different culture is different. They realize necessity to respect another style of communication, necessity to adapt the behavior for specific cultural context in everyday life. The situation is eminent in business area, particularly in management - in teambuilding, problem and conflict solving, leading, motivating, engaging employees etc. Therefore, it is crucial to address these problems already in the pedagogical process, in education of the future managers through development program.

When we try to enhance CQ through development program we should be aware that selection of the content and also of the methods is culturally determined - in some culture/nations are preferred active, participative style of learning with non-directive methods of work, in other cultures may prefer passive and directive style.

International teams and CQ

Nowadays, teamwork is typical setup in many organizations. Teamwork in monocultural organizations is usually not problematic. Collaboration is effective, group and teams are highly productive. However, more problems may occur when the organization is multicultural with members of the team coming from different nations with different cultural background. To create effective international team and to be able to utilize their knowledge and various

frames of references, managers have to be also at least partially psychologists. Managers should have deeper information not only about human nature, personality and specifics of groups/teams processes (their way of interactions, group functions, stages of development, sources of possible conflicts, possible negative expression of behavior) but also about influence of the culture on teamwork, on interaction and cooperation of team members.

Findings from many studies focused on the problem (Hofstede, G. 1996, Early, P.C., Gibson, C.B. 1998, Triandis, H.C. 1994, Susic, J.J., Jung, D.I. 2002 and others) of understanding the personalities of individual team members. Increasing mutual understanding of the team members is a fundamental task of the team manager in a global environment. But achieving so requires having competent managers. They should act as facilitators and also as the team members. They should be familiar with needs, preferences and other specific attributes of every team member. They should be familiar with cultural specifics and their impact on the behavior. They should know what behavior is appropriate under various conditions; they should recognize possible sources of conflicts.

In order to select the most appropriate managers able to lead the international teams/group, more attention should be given to their personal features and interpersonal skills as well as to their level of EQ and CQ. High level of EQ and CQ creates preconditions to better act in multicultural environment, to better adjust to the situation, respect another approaches and to lead people in global organization.

Cultural diversity is manageable if managers and team members choose the right strategy and their model of thinking avoid stereotypes, ethnocentrism and parochialism. Then, the creative and positive atmosphere full of trust and acceptance, with the openness to the innovative, creative and flexible way of thinking is created.

According to the various studies - for example J. Brett, K. Behfar, M. C. Kern (2006), most problems arise from:

- different style of communication - indirect vs. direct communication style – that may create problem in relationship or misunderstanding of problem
- accent and fluency – which may influence way of perception of status or competence or motivation
- different attitudes toward hierarchy and authority – culture influences the need for different design of the teams – some people prefer flat structure, other hierarchical one
- different norms for decision making - culture determinates the way how quickly decisions should be made, to which degree should they be supported by analysis, who should make those decisions, etc.

So, how to deal with problematic situations in the team? It is not possible to advice one generic best way for dealing with problems. It is obvious that the correct assessment of problem together with context of situation is crucial. Then, next step is to choose the appropriate strategy. As an advised approach from above mentioned study, authors counsel following most used strategies:

- Adaptation – the team members alone find the way how to interact, how to solve the problems. It presumes willingness to know the cultural differences, cultural gaps as well as willingness to participate on problems solving.
- Structural interventions – changing the shape of the team (for example when conflict stems from status differences).
- Managerial intervention – (manager behaves as an arbitrator) – early setting of team norms.
- Exit – leaving the team – as a last choice.

One of many examples in which cultural habits can influence behavior of group/team member may be shown on the orientation towards individualism/collectivism dimension:

Individualistic nations – nation where people have high level of self-interest and autonomy, focus is given on short perspective and highlighted are differences among group members. Preference is given to the individual evaluation and reward and on the individual responsibility. More attention is given to identifying differences and diverse skills among the members in comparison to collectivistic nations.

Collectivistic nations – people more emphasize shared values, collective work, collective decision and responsibility. More preferred is also evaluation of a group/team as a whole and collective reward. Group/team members are more cooperative and spend more time together. Initially they require more time to fulfill the task, as they are firstly focused on building social relation and on the establishment of mutual trust. Only after that managers

have a room for increasing their productivity. (Solomon, CH. M., Schell, M. S., 2009, Sosik, J. J., Jung, D. I. 2002 and others).

The group work or teamwork might be highly productive in every organization no matter the culture. But in intercultural environment it is necessary to know not only how each culture influences the human behavior but also how culture affects the behavior of the group as a whole. These circumstances require a high level of managers' CQ.

Leadership style and CQ

Effective leadership may be defined as an ability to influence people in a way they use maximum of their own potential to achieve goals of the organization. These goals should be at the same time at least partially reflected in their own goals.

There is no single most effective leadership style. Leadership styles have to reflect specifics of the culture and what might be appropriate in one society might not be necessary appropriate for other culture. Thus, leadership styles have to reflect the specifics of the context at certain situation – e.g. personalities of subordinates (their traits, beliefs, values, attitudes skills, needs etc.).

The notion about how should effective leader or leadership style look like is determined not only by the factors stemming from the national and organizational culture but is based on the individual idea of each subordinate as well. However, there exist some assumptions helping global leaders to become “masters” in their domain. These are:

- Having sense of the needs and expectancies of others
- Understanding and openness towards other way of perception and thinking
- Openness to the another system of values and attitudes
- Ability to communicate affectively and listen actively
- Applying individual approach
- Possessing developed observational skills
- Having ability to modify behavior with regard to the situation
- Being adaptable
- Being flexible
- Being open towards diversity
- Being open to the feedback

Global leaders have to be adaptable, flexible, willing to listen and to learn, be tolerant toward differences. They should have high level of cultural sensitivity (cultural sensitivity is a part of CQ and might be enhanced by listening, perceiving, observing and asking).

Leaders should be aware of problems of cultural misunderstanding in 5 main areas (A. J. DuBrin 2010):

- Language differences
- Differences in religion
- Work habits
- Women's role
- Personal appearance and behavior

Examples of different view about effective leaders:

In different cultures subordinates might perceive managers in very different way. While one subordinate may find manager effective when manager seek and support positive interpersonal relation and collegiality, subordinate from other culture might find it not convenient. Subordinate might regard manager as an effective when he/she pays attention to productivity and level of achievement of organizational goals is high. Interpersonal relation might not be so much significant.

Also required level of loyalty to the supervisor and organization is not in all culture same. Differences are also in acceptance of power, level of participation, style of communication etc.

Many organizations often use 360° feedback for performance evaluation. This method, in which each person interacting with evaluated person provides feedback on his/her performance, is quite favorably accepted. However, in hierarchically oriented culture it might be misunderstood. Evaluation of managers by subordinates in hierarchically oriented culture is not always possible, as it might be perceived as a sign of lack of respect and regarded irreverent.

Another well-known example in western-European-style cultures is expected participation of all employees. Expected is clear, open expression of own opinions and ideas, expression of satisfaction and dissatisfaction. Involvement in decision-making process is welcomed and constructive critique is positively received. Formal position does not necessary bring guarantee of respect.

On the other hand, in another culture direct expression of disagreement, expression of critique may be perceived as impolite. Formal position correlates with high level of formal respect among subordinates. Misunderstanding of the cultural habits many times results in a failure of managerial interaction. Managers with a high level of CQ understand particularities of the culture and are able to appropriately adjust their behavior to the situation.

Conclusion

The goal of this article is to show the importance of emotional and cultural intelligence for effective intercultural interaction, for effective leadership in multicultural work environment and to show necessity of develop young managers to be more able act effectively in global business environment – validity of this requirement is supported already by many researches. One possibility for achieving the goal of raising effective global managers lies in modification of educational processes at universities. Focus should be given at the development of emotional and cultural intelligence.

New ways of international collaboration bring new requirements on the profile of managers. Needed are such personal characteristics that were not until now considered to be important – cultural sensibility, adaptability, flexibility, creativity and ability to work in international teams. These are only few characteristics out of many to which attention should be paid.

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Is It the Same Old Story? It Is the Modern Business Management!

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Abstract

This study refers to a set of Romanian, Italian and Venetian proverbs, in line with precedent research work related to proverbs on business principles, management and entrepreneurship, which is a research premiere in this respect. Relatively new principles of the modern business management are met in generations-old proverbs. The research methodology involved three major steps: selecting the set of Romanian proverbs on business management and entrepreneurship; finding the appropriate corresponding Italian and Venetian proverbs; making comments on their similarities. The survey focused on Venetian proverbs as the Northeast of Italy has an interesting business story: Veneto had been rural for ages in the mainland and more than advanced in trading in the Serenissima Republic of Venice, and today the Region is highly developed in small businesses. The research results emphasize that many business principles are common in the proverbs and languages surveyed. The conclusions are further discussed by authors in more details. The implications are notable for both researchers and practitioners in the area of business management and entrepreneurship.

Introduction

The business and trade, while developing arts and crafts, have always offered wonderful opportunities for interaction – between different people, customs, and cultures. Doing business and trading, the people needed effective communication means in order to manage their businesses and administer the related institutions. The folk wisdom has treasured – from popular prospective – this language of business, over all natural, cultural, and language obstacles – in its extreme concentrated but self-explanatory form: proverbs or, as Lauhakangas (2007) has called it “proverb speech” – “a kind of speech where a proverb or a proverb-like saying is used (inner speech included)”. Surprisingly, the relatively new principles of business management and entrepreneurship have quite interesting correspondents in peoples’ proverbs. Certain proverbs distillate the people’s experience, from diverse business situations, management positions, and entrepreneurial standpoints – regardless their country of origin. Hence, their universal and global value.

Universal and global value of proverbs

Today, any serious discussion on business – either theoretical or practical – cannot avoid the global context. The original assumption that “global” means as well the “universal” applicability of the advanced (North-American) principles of business management has proved to be wrong (Adler 1991): “far from ignoring the common body of knowledge, international dimensions expand our understanding of people’s behaviour at work to include the diversity and complexity of today’s global economic environment”.

The global economy is the theatre for spectacular or discrete strategic alliances, mergers and acquisitions. Unfortunately – but healthy for business and just normal from statistic point of view – some of them fail. The blame for failures of international alliances is on cultural clash, on conflicting national and organisational cultures

(Cacciaguidi-Fahy and Cunningham 2007). On the other hand, successful alliances are based on cross-cultural mutual understanding. The typical intercultural conflicts are described between foreign managers and local staff. The origin of conflicts is not so much on account of the intercultural business communication process or linguistic issues but it arises mostly due to different cultural attitudes (Hofstede 2001). The five cultural dimensions¹ as identified and defined by Hofstede, were subject for a more recent research in Romania; they demonstrate – surprisingly or mostly not – similarities as far as high PDI, low IDV, high UAI, and short term orientation (low LTO). The country cultural profiles are significantly similar to other Balkan countries as well (Luca 2005, 134).

Gibson (2001) shows that the higher the PDI, the more likely teamwork metaphors will be used. Metaphors are means of communication as their purpose is “to convey a series of messages through a process of association and images” ... and they convey “the essence of the organisation’s strategic intent and its core values” (Cacciaguidi-Fahy and Cunningham 2007, 137) – which are essential messages to be communicated in multi-cultural working environments and global economic context. The proverbs are just another type of metaphors (Ruxandoiu 1966) and “can interfere the normal ways of thought or decision. They can be useful tools to strengthen the opinion of a risk taker in the decision-making process when there is no single “right” solution.” (Lauhakangas 2007).

Many proverbs appear in several cultures – as sign of universality. This is why the simple presence of a certain proverb in a certain language does not necessarily mean that it originates in that culture (Gheorghe 1986). Because the proverbs have a relatively large area of circulation – as demonstrated previously – deeper comparative studies are required in order to develop a sentence in this respect.

Regardless their geographic location, all proverbs deal with the following three major aspects: people’s ability to make right judgments (decisions); people’s exceptional sense of justice; special sense of humour – which make them “universal spiritual values” (Rudica and Costea 2004). Actually, the first two aspects are basic management values as well. Therefore, this paper focuses mostly on the business management and entrepreneurship meaning of the selected Romanian, Italian and Venetian proverbs. Romania and Italy were selected as countries with similar cultural background – in terms of Latinity.

A linguistic and (inter)cultural point of view

According to Mollica and Neussel (2007) proverbial language is an important component in knowing a language and its culture, since proverbs are an important indicator of a person’s overall linguistic competence. In foreign language teaching proverbs are used both to focus on language, on its metaphorical usage, and to take notice of culture. There are a lot of proverbs in different languages that are both semantically and formally the same and, as suggested in this study, similarities may be considered a sign of universality (see above: Universal and global value of proverbs).

Anthropologists have found that, in non-literate societies, study of the proverbs used by a native tribe offers clues to the world view of its members regarding education, law, business and marriage. There is no aspect of life that proverbs do not comment on and, in non-literate societies, they serve as rules of conduct and basic wisdom to be adhered to by subsequent generations (Mieder 1986).

A linguistic point of view

The American Heritage Dictionary of the English Language (Morris 1979) defines a proverb as a short, pithy saying in frequent and widespread use, expressing a well known truth or fact. In the Macmillan English Dictionary (2002) a proverb is defined “a short well-known statement that gives practical advice about life”, while in the Oxford Advanced Learner’s Dictionary (Hornby 2010) it is: “a well known phrase or sentence that gives advice or says something that is generally true”. Mieder (1986) defines proverbs as small pieces of human wisdom that have been handed down from generation to generation and that continue to be valid even in our modern technological age.

According to Mollica (2010), Norrick, whose linguistic analysis of the proverb is considered a basic reference, proposes two definitions of the proverb. The first is ethnographic, and states that a proverb is a traditional, conversational didactic genre with general meaning, a potential free conversational turn, preferably with figurative

meaning (Norrick 1985). The second is a supra-cultural definition which holds that a proverb is a typically spoken conversational form with didactic function and not associated with a particular source (Norrick 1985).

Mollica (2010) affirms that proverbial language, an important component in knowing a language and its culture, is replete with metaphors. The ability to exploit this form of popular speech necessitates at least some knowledge of metaphor in order to decode its significance and appropriateness to the context of a given discourse.

Communication depends on speakers' and listeners' shared knowledge and the communicative process is facilitated by the extent to which they have similar meanings for the terms used and the behavioural norms shared. The process relies equally on knowledge of language and knowledge of culture, or better still, on cultural awareness.

Interculturally speaking

People belong to and are moulded by a series of interlocking cultures which influence the way they view the world, make decisions and interact with others. Proverbs may help to reflect both on our own and on others' cultures and on the relationships between them; that is, through understanding proverbs we are able to improve both our cultural and intercultural awareness. National cultures have a massive influence on people's values, attitudes and behaviours and today people from different cultures have daily opportunities to negotiate, interact with people from other cultures. Therefore it is very important to develop awareness of cultural differences as multicultural groupings are becoming more common both in professional settings and elsewhere.

The list proposed in this study not only encourages us to think about cultural differences in preparation for intercultural encounters but also helps us to identify and understand similarities. Each of these encounters will be quite different and whether someone adapts to the cultural norms of the person he/she is negotiating with, or to the norms of a third culture, or whether he/she comes to a compromise, will depend both on his/her personality and experience and on those of the negotiating partner.

The purpose of this study is to raise awareness of cultural differences and help prepare them to deal with such differences in a non-judgmental way. Fantini (2000) states that intercultural communication competence means transcending the limitations of one's world view. Since it is likely to feel more comfortable with one's own culture, realizing that other people might also feel the same, knowing and using proverbs that share the same principles helps not dismiss the cultures of others. Through proverbs we can fulfill what Willems (2002) says can be reached through an education for intercultural communication competence: open up to other ways of thinking and other logic; find a tongue in which we can communicate our humanity to each other; learn to see that our own view of the world is just one among many.

The schema theory

According to Greene (1986) schema theory refers to the way knowledge is represented and organized in the mind, a perspective that provides an expectation-driven conception of the role of knowledge. The schema theory states that pre-existing knowledge provides the main criterion and context through which information is processed and interpreted. What people experience, and are told, enters their memories: the schema is a hypothetical mental structure for representing non specific concepts stored in memory and it guides information encoding, organization and retrieval. It originates from recurring contacts with similar experiences and is used to make sense of analogous experiences or of new situations.

Schemas are like drawers that may be filled with information and contain the default values for actions that people expect to happen in a certain situation (see also 'expectancy grammar': Oller 1979). They are what makes people think that something should be done in a certain way: when facing a new situation things may appear 'strange' and this implies a new schema must be acquired.

Proverbs can supply missing schemas, they are small pieces of human wisdom and can provide common underlying assumptions of the social group / culture concerned and give a sense of security and reliability, thus may foster intercultural communication among people.

Romanian, Italian, and Venetian proverbs

The proverbs are considerably older than the modern management science. A remarkable book demonstrates that there are proverbs in Bible (see the Book of Proverbs, attributed to Salomon and long considered the “Gospel” of the people), which have an older origin – Egyptian, Sumerian or Babylonian (Gheorghe 1986, 41-43). Many Greek and Latin authors appreciated proverbs: Hesiod, Euripides, Aristotle, Cato, Virgil, Cicero, Seneca, and Phaedrus.

It is worth remembering Erasmus von Rotterdam *Collectanea Adagiorum* (1500); by the time he died Erasmus had added 4,658 adages to his collection, many are accompanied by explanatory notes that are often like brief essays on political and moral topics, categorised by subject.

Still today proverbs could be considered as part of our historic and collective memory, though most of the time they have been and are replaced by superficial slogans that cannot be referred to the complex existential world. They come out in subjects referring to our cultural identity and to our life experiences (Lopez 2001). Bernardi (2009) affirms that for a long time the North-Eastern part of Italy was governed by local authorities (there were alliances with other Italian empires like the Holy Empire or powerful Signorie (Lords), but mostly it was run by the Serenissima Republic) and only for a few decades by the French or by the Austrian empire. This is reflected in the Venetian attitude and ability for self-government and produced related proverbs and mind-sets: *Magari col culo a la piova, ma parón ti!* (to be your own boss makes you even accept having your back [wetted] by the rain); *Mègio parón de sèssola che servidor de barca* (it’s better to own a small shovel than to work on a ship: it’s better to run a small business yourself than to work in a big company) and its variation on the Dolomites: *Mejo parón d’on panèr che servidor d’on forno* (better to own a small oven than be just one worker in a bakery). For people from the Tre Venezie region it has always been better to be independent, to run their own business.

The first considerable systematic collections of Romanian proverbs started early in the 19th century: Iordache Golescu (about 1827-1845) collected 18,366 proverbs in 854 handwritten pages; Anton Pann (1847) has collected 1,144 proverbs and presented them categorized by topics in 25 groups; he has enlarged the collection (to 3,015 proverbs) in 1852-1853. The Pann’s collection is important as he initiated one of the two important developments in the proverbs literature: *organizing the proverbs material by topics*. Most of the Golescu’s proverbs were taken by Iuliu A. Zanne and made accessible to the public in the 8th Volume (1900) of his monumental work in ten volumes (Zanne 1895-1903/1912). This gigantic scientific work of 8,000 pages, produced a century ago, is larger than all collections of proverbs which were published in Italy, Spain and Portugal all together, over the last hundred years; and unique in the world, considering the quality of the printing (Gheorghe 1986, 56).

The second development – starting from collections of proverbs – is to produce *comparative studies*. In 1863, the Romanian poet George Cosbuc has written the foreword to Ida von Düringsfeld’s comparative study about proverbs from 83 languages and dialects – among them there were 19 Romanian proverbs (von Düringsfeld 1863). There are more examples in this respect: analogous proverbs in Latin and nine modern European languages (Mawer 1885).

This empirical research started in Romania (Scarlat 2007, 2008b) and it is aiming at becoming broader, towards other countries or regions – like Balkans (Afendras and Scarlat 2007) or Arabian world (Scarlat and Afendras 2008). This paper aims at analyzing the equivalence between basic principles of business management and entrepreneurship – on the one hand – and the meaning of a sample of Romanian, Italian, and Venetian proverbs – on the other.

Business, management, and entrepreneurship by proverbs

The idea to use proverbs as examples or small cases appeared as extremely useful when teaching management to undergraduate students, which have none management experience and even no practical experience at all. At master level, the students have not only practical experience but significant management practice (Scarlat 2007, 2008a). There is a large spectrum of ways to use the proverbs as teaching aids in management and entrepreneurship classes²: as simple examples to strengthen or underline a new situation or abstract definition; as subject and

icebreaker for debates and group discussions; as homework to write essays; as research subject; or even as relaxing moment when the students seem to be less connected.

Amid the commonality, different people have their own way to express history-long life experience. In spite of similar life experience and conclusions, there are numerous proverbs expressing local and national peculiarities. This is why proverbs can be successfully used as a teaching aid when working with international undergraduate students either. The proverbs offer a valid pretext for cross-cultural communication, knowledge exchange, and teamwork, since “proverbs are multifunctional and flexible instruments of everyday reasoning, although they may maintain solidified attitudes or traditional modes of thought of a certain culture” (Lauhakangas 2007).

Through proverbs learners become aware not only of new elements of language, culture and management principles, but also of those aspects of behaviour and thinking patterns that may differ from their own.

Illustrative samples of Romanian, Italian, and Venetian proverbs are presented below, according to 21 different key-issues of business, management, and entrepreneurship (7 for each). It is significant to notice that:

- i. All the 21 principles are covered by proverbs in both languages.
- ii. There is an astonishing *high degree of correlation between Romanian – on one hand – and Italian or Venetian proverbs – on the other*: out of a sample of 33 Romanian proverbs on business, management and entrepreneurship issues (12, 11 and 10 respectively), 27 have Italian or Venetian correspondents (10, 9, and 8 respectively). Note that many of them are literally similar.

Business principles

“Romanian original version” & its loose English translation	Italian and Venetian proverbs & loose English translations	Comments on business principles
“Când sunt doi, puterea crește” Two means more power	“Due teste sono meglio di una” (It.) Two heads are better than one	<i>Business partnership</i> The importance of reliable partnership. Partnership (“two”) means more business potential (“more power”). When partnership is not reliable, based on mutual trust, and partners disagree (they “argue”), then both partners will loose and the competition wins (“the third party wins”).
“Când doi se ceartă, al treilea câștigă” When two argue, the third party wins	“Un legno solo no arde” (Ven.) A piece of wood doesn’t burn by itself “Tra i due litiganti, il terzo gode” (It.) When two argue, the third will benefit (literally: will enjoy)	The importance of coalitions – based on <i>win-win principle</i> . These proverbs apply for <i>teamwork</i> and team members as well.
“O mână spală pe alta și amândouă fața” One hand washes the other and both wash the face	“Una mano lava l’altra” (It.) One hand washes the other	In Italy it is mainly used in its literally meaning, to underline that there is always a third party ready to take advantage from a quarrel.
“Nu poți mânca miezul dacă nu spargi nuca” Crack the walnut to eat its kernel	“Col nulla non si fa nulla” (It.) With nothing you can do nothing “A chi no vol făr fadighe, el teren ghe produse ortighe” (Ven.) The soil will only produce nettles for whoever doesn’t want to make an effort.	<i>Business means effort</i> In order to enjoy the results of the business (“eat the kernel”) one has to put some efforts and work on it first (“crack the walnut”). The opposite it is not necessarily true.
“Paraua para câștigă” The coin earns other coin “Ban la ban trage” Money goes to money	“I soldi fanno soldi” (It.) “Schèi fa schèi” (Ven.) Money makes money “Chi più spende meno spende” (It.) He who spends more will spend less. “Chi ha buon vento naviga, chi ha denaro costruisce” (It.) Whoever has good wind will sail, whoever has money will build.	<i>Business needs (financial) resources</i> Basic rule of business is that it’s not possible to get profits with no expenses; in order to have profits, one has to spend first. Higher the expenditure, higher the expected profit (although not proportionally) and vice versa (although not reversibly). Financial resources (capital) are important to develop a business.
“Câștigul și paguba sunt frați de cruce”	“Non si fanno frittate senza rompere le uova” (It.)	<i>Duality gain-loss (profit-loss)</i> The loss is part of the business game as the gain (profit)

Gain and loss are sworn brothers “Nu e câștig fără pagubă” There is no gain without loss	You can't make an omelette without breaking the eggs. “Chi non semina non raccoglie” (It., Ven.) He who doesn't sow won't reap. “Avaro agricoltor non fu mai ricco” (It.) A greedy farmer was never rich “Buto ‘na sgârdoea par ciapâr un lusso!” (Ven.) Throw a minnow to catch a pike	is (“are sworn brothers”). Both gain and loss are associated to the business risk. More than that, the business risk and probability to gain are complementary: Business risk = 1 – Probability (gain) Higher risk business could lead to higher profit but higher loss too; and vice versa; When the risk is low, the profits are small as they share to all. Sometimes it is necessary to risk in order to get a good gain. It is important to be enterprising. This is the case of many Venetian workers that lost their works and started they own-run business.
“Cine nu riscă nu câștigă” Who does not assume the risk does not win (No pain, no gain) “Cine se teme de brumă nu pune viță de vie” Who is afraid of hoarfrost shouldn't cultivate grapevines	“Chi non risica non rosica” (It.) If you don't risk you won't gain.	<i>Assuming the business risk</i> Entering in business (“cultivate grapevines”) – hoping and planning an income (the grapes, wine and so on ...) means assuming the associated risks as well (like “hoarfrost”) – which do not depend on decision maker as they are external factors (here, the meteor-environment). The second proverb is more explicit and definitely clear
“Nu trece gârla dacă nu-i vezi fundul” Do not cross the river if you do not see its bottom	“Chi non può rendere fa male a prendere” (It.) If you can't pay back, don't borrow	<i>Assessing the risk</i> The businessman has to assume the risk but ... assesses the risk! Business is not gambling. The risk has to be correctly assessed – in order to better appreciate its consequences and plan the necessary resources accordingly (even to think at backup measures). A talented businessperson does not assume unnecessary risks or risks generated by total lack of information (no information on the depth of the river waters) in her/his business. S/he will gather the related information to this issue and then will plan the business (how/when/where to cross the river) and implement it (cross the river, finally) successfully.
“Frate-frate, dar brânza-i pe bani” The cheese is for money, even for brothers	“Conti chiari, amicizia lunga” (It.) Honest accounts, long friendships	<i>Business vs. family or friendship</i> Business principles are very strict: the business should not mix with family or friendship. When they meet, then the business relationships have priority over the friendship or family relationships (business comes first: “cheese is for money, even for brothers”).

Management principles

“Romanian original version” & its loose English translation	Italian and Venetian proverbs & loose English translations	Comments on management
“Așa-i lumea, din bucăți, vede unul face toți” The world is made out of distinct parts: one sees and all others do	“Se a mezzogiorno il re ti dice che è mezzanotte, contempla le stelle” (It.) If at noon the king says it is midnight, just contemplate the stars. “El tempo e la rason xe sempre del paròn” (Ven.) The boss always rules both time and reason (i.e. the boss is always right).	<i>Hierarchy principle</i> Organisations are hierarchically structured in managers (at different levels) and staff. The organization (“world”) is structured (“made out of distinct parts”): the role of the top manager (the “one”) is to supervise (“see”) and make the right decisions. The execution people just “do” in order to implement the manager's decisions.

<p>“Turma fără câine o mănâncă lupul” The flock which has no dog is eaten by the wolf “Vai de târla fără câini și de casa fără stăpâni” The sheepfold with no dogs and house with no masters are to weep for</p>	<p>“L’asino che aveva tanti padroni è morto di fame” (It., Ven.) A donkey with many owners will starve to death.</p>	<p><i>The supervising role of the manager</i> Any organisation (“flock”, “sheepfold”, “house”) must have a manager (“dog”, “master”). Lack of professional managers leads to business failure under the pressure of external factors (it is “eaten by the wolf”).</p>
<p>“Când pisica nu-i acasă, șoarecii joacă pe masă” When the cat is not at home, the mice play on the table</p>	<p>“Quando manca il gatto, i topi ballano” (It.) When the cat’s away the mice will (dance) i.e. play <i>This proverb have equivalents in French and other languages too</i></p>	<p><i>Controlling function</i> The manager (“cat”) has to permanently control its organisation (“home”); otherwise, the adverse factors (“the mice”) will provoke damages in key areas of the organisation (not only “at home” but even “on the table”).</p>
<p>“Croitorul bun măsoară de trei ori și taie o dată” The good tailor measures three times and cuts once “Judecă și apoi vorbește” Think and then talk</p>	<p>“Chi laora senza disegno laora senza inzegno” (Ven.) Anyone who works without a plan works without getting results</p>	<p><i>Documenting the decisions</i> The good decisions (“cuts”) have to be well prepared and documented (measured “three times”) by good managers (“good tailors”). Decision-making is a complex process: the decision cycle starts with gathering and processing the information; then developing decision options and selecting the right decision (“think”), <i>and only then</i> the decision is transmitted (“talk”).</p>
<p>“Înghite cât poți mesteca” Bite as much as you can chew “Întinde-te cât ți-e plapuma” Stretch as much as your cover allows</p>	<p>“Non fare il passo più lungo della gamba” (It., Ven.) Don’t take a step longer than your leg.</p>	<p><i>Setting the right objectives</i> The objectives should be set in SMART manner (Specific, Measurable, Achievable, Relevant, and Time-related). The objectives (“bites”) have to be correlated to the management and operational capacity (“as much as you can chew”) and available resources (“as much as your cover allows”).</p>
<p>“A veni la spartul târgului” To come when the fair is over “Bate fierul cât e cald” Hammer while the iron is hot</p>	<p>“Chiudere la stalla quando sono scappati i buoi” (It., Ven.) (It’s no use) shutting the stable door after the cattle have bolted. “Inutile piangere sul latte versato” (It.) It’s no use crying over spilt milk “Battere il ferro finchè è caldo” (It., Ven.) Strike while the iron is hot</p>	<p><i>Decision opportunity</i> When decision is made too late (“when the fair is over”), the opportunity is gone and the decision (“to come to the fair”) is useless. Or, one can get the expected result (the iron’s desired shape) as long as the iron is heated only; when cooled, it’s too late to hammer it!</p>
<p>“Capul face, capul trage” The head does, the head is responsible for</p>	<p>“Non riposa colui che ha carico d’altrui” (It.) The person in charge does not rest.</p>	<p><i>Assuming the responsibility</i> The head of the organisation is responsible for the consequences of the decisions s/he is making (“does”).</p>

Entrepreneurship principles

“Romanian original version” & its loose English translation	Italian and Venetian proverbs & English approximate translation	Comments on entrepreneurship
<p>“Nu tot ce zboară se mănâncă” Not everything that flies is eatable “Nu tot ce strălucește e aur” All that glitters is not gold.</p>	<p>Non è oro tutto ciò che luccica (It.) All that glitters is not gold.</p>	<p><i>Assessing the business ideas</i> The skilled entrepreneur has the talent to assess correctly the business ideas (“everything that flies”): only a few of them are good, workable and profitable (are “eatable”) while others are not.</p>
<p>“Norocu-i după cum și-l face omul”</p>	<p>“Aiutati che il ciel/Dio t’aiuta” (It.)</p>	<p><i>The entrepreneur and opportunity</i></p>

The good luck is made by the man himself	God helps those who help themselves <i>In the Italian (and English) version the presence of God (not luck) is that who will help the active man.</i>	The entrepreneurial spirit and skills are more important than chance. The business success (“good luck”) depends mostly on the entrepreneur’s potential (“man” – wonderful synthetic word for entrepreneur!) to see and use the opportunities. The entrepreneur is neither dependent nor waiting for hazard.
“Nu averea face pe om, ci omul averea” The man makes its wealth, not vice versa	“Tute le tere se bone par chi che sa coltivarle” (Ven.) All land is good land for those who know how to cultivate it.	<i>The entrepreneur-resources relationship</i> The entrepreneurial spirit and skills are more important than money (the capital). The business success (“wealth”) depends mostly on the entrepreneur’s potential (“man”, again!).
“Peștele de la cap se împute” The fish starts to rot at head “Copacul putrezește de la rădăcină” The tree starts to rot at the roots	“Il pesce è marcio dalla testa” (It.) A fish rots from the head down.	<i>Leadership</i> The role of leaders: the performant entrepreneurs are good examples to follow for their people. The opposite is true as well: the poor managers (rotten “fish head” or “tree roots”) provoke the failure of entire organisation (“fish” body or “tree”).
“Ce poti face azi nu lăsa pe mâine” Do not put off what you can do today till tomorrow “Leneșul mai mult aleargă și scumpul mai mult păgubește” The lazy man runs more and the tight-fisted man pays more	“Non fare domani quello che potresti fare oggi” (It.) Do not put off what you can do today till tomorrow “Chi prima va al molin, prima masèna!” (Ven) Whoever gets to the mill first grinds first.	<i>Active attitude</i> Avoiding the risk and prudence in excess lead to passivity (“lazy” and “tight-fisted” attitude), which is very costly in business (“man runs more” and “pays more” finally). Entrepreneurial spirit is to accept the risk, assess the risk, and have an active attitude: <i>act!</i> <i>Carpe diem: do not postpone, act!</i>
“Cine caută găsește” The man who is seeking, finds	“Chi cerca, trova” (It., Ven.) Anyone who seeks, finds “Con un colpo solo no se taglia un albore” (Ven.) You don’t fell a tree with just one chop.	<i>Perseverance</i> Perseverance, determination and diligence are strengths of successful entrepreneurs; they believe in their vision and persistently follow their way towards the goals set (they are “seeking” the goals). Finally, they achieve (“find”) their goals. <i>However, perseverance is not stubbornness.</i>
“Trestia care se pleacă în bătaia vântului nu se frânge” The flexible cane is not fractured when the wind blows	“Megio perder un dedo che tuta la man” (Ven.) It’s better to lose a finger than to lose a whole hand	<i>Flexibility</i> Flexibility doesn’t mean lack of verticality or character. To be flexible “when the wind blows” is to understand the unfriendly environment, adapt, and resist. When the environment is friendly again, the entrepreneur comes back and his business (“cane”) is vertical again by itself, with no effort.

It was not the purpose of this paper to present all the possible examples to illustrate all the aspects of business, management, or entrepreneurship. The above examples were not selected randomly either. As part of a more comprehensive work in progress (Scarlat, forthcoming), they were just a sample used to emphasize and document the idea that modern management science has strong roots in proverbs.

Conclusions

This paper is one in a series of first attempt to publicly present managerial aspects – as *principles of business, management, and entrepreneurship* – reflected in Romanian, Italian, and Venetian proverbs’ popular wisdom. The empirical research started in Romania and then it is aiming at becoming broader, towards other countries – as Italy.

The proverbs are one of the most significant means to synthesize, concentrate, distillate and treasure this generations-long life practical experience. Long before the management science to be born, the ancient businesspeople were successful – based on “only” their common sense, experience and best practice, continually transmitted along the generations.

Based on a sample of Romanian, Italian and Venetian proverbs, a set of 21 different key-issues of business, management, and entrepreneurship (7 for each) were analyzed. The major conclusions are these:

- (i) All the 21 principles are covered by proverbs in both languages.
- (ii) There is an astonishing *high degree of correlation between Romanian and Italian or Venetian proverbs*: out of a sample of 33 Romanian proverbs on business, management and entrepreneurship issues (12, 11 and 10 respectively), 27 have Italian or Venetian correspondents (10, 9, and 8 respectively).
- (iii) The proverbs have an unexplored and challenging potential to be used as teaching aids, while working with undergraduate students mainly but with international students as well.
- (iv) The proverbs used in our demonstration were considered as Romanian and Italian or Venetian, considering the respective territories as their origin. From popular perspectives, they emphasize the people's managerial talents in business and entrepreneurship. Although, this does not mean that only Romanian, Italian or Venetian proverbs enjoy this extraordinary property. Many proverbs are common in cultures of several peoples, regardless the country of origin, surpassing the country borders; hence, their *universal value* and potential to be used *globally as metaphors* in cross-cultural working environment.

To note that the results of this research are in line with previous cross-cultural comparative studies – following similar research matrix: Romanian vs. Malaysian proverbs (Scarlat and Kasim 2008); Romanian vs. Finnish (Scarlat and Tatila 2009); Romanian vs. Portuguese (Scarlat and Albuquerque 2009).³

One proverb says: Proverbs are people's coins.

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Endnotes

¹ PDI = Power Distance Index; IDV = Individualism Index; MAS = Masculinity Index; UAI = Uncertainty Avoidance Index; LTO = Long Term Orientation Index.

² The author is using case-examples of proverbs while teaching Business strategy, Project Management, and Entrepreneurship and management of small and medium sized enterprises – at University "Politehnica" of Bucharest, Romania.

³ Dr. Scarlat is the author of: General concept and methodology; Introduction; Universal and global value of proverbs; Romanian, Italian, and Venetian proverbs (second part); Business, management, and entrepreneurship by proverbs (Romanian proverbs, their translation and respective comments); Conclusions. Dr. Pavan is the author of: A linguistic and (inter)cultural point of view; A linguistic point of view; Interculturally speaking; The schema theory; Romanian, Italian, and Venetian proverbs (first part); Business, management, and entrepreneurship by proverbs (Italian and Venetian proverbs and their loose translation).

Australian management perceptions of the performance management - firm effectiveness conundrum

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Abstract

Most contemporary human resource management (HRM) theorists agree that performance management systems underpin strategic human resource management theory, and that their processes and outcomes should be measured and reflected in relation to firm effectiveness. Firm effectiveness is evidenced in such quantitative outputs as productivity, profitability, return on investment, employee turnover, and in qualitative aspects such as employee morale, employee voice, and organisational climate, amongst many others. Whilst some authors (notably, Guest 1995; Storey 1999; Boudreau and Ramstadt 2009) suggest that the time is overdue for HRM researchers and professionals to prove empirically that HRM practices fulfill their promise to contribute significantly to the 'bottom line' of the firms which they serve, there has been only a limited response by HRM researchers to this call. In addition, most of these studies have evaluated the overall contributions of HRM strategies and systems to firm effectiveness rather than the specific outcomes of performance management systems.

This paper reports on a focused study of the links between performance management systems and firm effectiveness in a selection of Australian public and private sector firms. In a departure from earlier studies which primarily explored the perceptions of specialist human resource managers, this study canvassed the opinions of senior managers in a wide variety of firms. The findings both reflect and challenge the assumptions of strategic human resource management theory, and provide both conceptual and practical insights of value to general managers, human resource management professionals, and subsequent researchers, in Australia, Asia, and globally.

Introduction

One of the key contemporary issues of strategic human resource management (SHRM) theory, not yet fully supported by empirical evidence, is the link between HRM functions and firm effectiveness (Legge 1995). A number of studies (Delaney and Huselid 1996; Ulrich 1998, 2007; Wood 1999; Guest et al 2000; Elias et al 2004; Kaplan and Norton 2004; Green et al 2006) have attempted to analyse these links and to assess the contributions of human resource management strategies and processes to business goals and outcomes. This paper aims to add to these research findings, and thence to contribute to this gap in the HRM literature.

There is an incipient body of literature that suggests that SHRM theory is gradually becoming incorporated and reflected in firm practice, with some encouraging results. Wood (1999), for example, emphasises the significance of 'synergy, fit and integration as key concepts in modern human resource management' (p. 367), but cautions that the contingency theory of HRM implies that 'internally-fitted (HRM) practices that match the strategy of the firm will perform best' (p. 368).

This paper uses SHRM theory to explore the links between an arguably core HRM activity (namely performance management systems) and firm effectiveness, in an attempt to contribute to ongoing research in the area. The following sections of the paper examine the various meanings of firm effectiveness, together with the theoretical linkages between performance management systems (PMS) and firm objectives and outcomes, before reporting on the findings of a recent survey exploring the perspectives of senior Australian managers on such issues.

Firm effectiveness – Some definitions and associated issues

Common 'bottom line' firm measures such as profitability, productivity, return on investment, efficiency and competitiveness are often used to assess firm effectiveness, but broader definitions blend these quantitative characteristics with more qualitative features such as the level of employee involvement and satisfaction, organisational flexibility and staff retention rates. As examples, Yeo (2003: 199) defines effectiveness as '...financial performance, where the consideration of budgets, assets, operations, products and services, and human resources are crucial in determining the overall bottom line of an organisation'; the Aberdeen Group (2007: 4) considers that the two key performance indicators are increased firm profit and 'an increase in the employee retention rate during the last twelve months'; and Roy et al (2005: 252) believe that 'the most appropriate definition of (firm) effectiveness is...the net satisfaction of all constituents in the process of gathering and transforming inputs into output in an efficient manner' (see also Connally, Conlon & Deutsch 1980).

There is general agreement, however, amongst writers on the subject of firm effectiveness (for example, Ahmad 1999; Parhizzani & Gilbert 2004; Leslie & Tilley 2004; Roy et al 2005; Sung et al 2005; Greiling 2006) that firm effectiveness measures are grounded in a plethora of sometimes conflicting theory – including 'the goal model, the system model, the internal process, the human relations approach, and the political approach' (Ahmed 1999: 543) – which has led to 'little consensus on the meaning of (firm) effectiveness' (Roy et al: 251). The research undertaken for this paper was based on the premise that, whilst quantitative measures of firm effectiveness remain significant indicators of financial performance, there are additional qualitative features such as customer service, shareholder and employee satisfaction, which can complement such narrow perspectives. This premise is supported by SHRM theory and parallels the research undertaken by the U.K Chartered Institute of Personnel Development on associated issues (CIPD 2005).

The following section of the paper summarises the theoretical and research evidence on the links between performance management systems (PMS) and firm effectiveness as a precursor to the presentation and discussion of the research findings gleaned from the recent Australian study.

The performance management - firm effectiveness conundrum

Research studies conducted by Vandenberg et al (1999), Sung et al (2005) and Watson Wyatt (Anon 2006) evidenced strong links between high performance work systems (HPWS) and HR programs respectively with firm performance, measured in narrow financial terms such as productivity and profitability. Vandenberg et al (1999: 301) emphasised the importance of employee participation systems (for example, information about HR processes, customer feedback, knowledge of the business and the power to make work decisions) on firm performance; Sung et al suggested that HR 'reward and commitment practices' (p. 15), including broad performance management systems, are the key aspects, driven by business strategies; whilst the Watson Wyatt study concluded that 'eight years of research...has consistently found a strong correlation between HR program design and (firm) financial performance' (Anon 2006: 1). All of these aspects can be considered as inputs to or outcomes of a comprehensive and integrative performance management system, but the central research question is whether in fact there is a demonstrable link between performance management systems and overall firm effectiveness – this is the performance management-firm effectiveness conundrum.

Research by Huselid (1995), Delaney and Huselid (1996), Youndt et al (1996), Becker & Gerhart (1996), Patterson et al (1998), Guthrie (2001), CIPD (2001, 2005), Lawler (2005), Cheng et al (2006), the Aberdeen Group (2007), and Chang (2007) all reported that the alignment of performance management systems and business strategies resulted in improved firm effectiveness. The 2001 CIPD (p. 7) study concluded that 'more than thirty studies carried out in the UK and US since the early 1990s leave no room for doubt that there is a correlation between people management and (firm) performance, that the relationship is positive, and that it is cumulative – the more and the more effective the practices, the better the result'. This latter finding is supported to a degree by several recent Australian studies (for example, Nankervis and Penrose 1991; Nankervis and Leece 1995; Nankervis and Compton 2006).

Thus, whilst strategic HRM theory and several empirical studies concur that the linking of PMS with organisational objectives and outcomes can contribute significantly to enhancing firm effectiveness, there is also contrary evidence. The following study was conducted to ascertain the perspectives of (primarily) generalist managers (line, middle and senior) on these issues, in order to contribute to their ongoing discussion.

Methodology

The study was conducted by survey and explored a sample of Australian line, middle and senior managers obtained from existing databases. The survey included six sections with 130 questions, and was partially based upon the 2005 CIPD survey conducted in the UK to allow subsequent comparison, although significant variations and additions were also included. The sections included organisation and participant details; organisational strategies, values & culture; views on performance management; your organisation's current performance management system; performance management systems (general); and outcomes of performance management. All questions were either multiple choice or Likert Scales to allow quantitative data recording, and were analysed using SPSS and ANOVA analysis techniques.

Research findings

In total there were 304 usable responses from a predominance of executives/senior managers (53.8%), middle managers (22.4%), and HR professionals (14%), with a smaller proportion of line (8.9%) managers. This paper reports on participants' general perceptions of the overall links between their PMS and firm effectiveness, in particular relation to vision, values and performance alignment; high performance cultures; general views of performance management; performance management systems; performance management systems and practices; and performance management system effectiveness. These quantitative findings are complemented by some of the qualitative comments made by respondents on each of the constructs, and regarding their overall satisfaction with their current PMS.

Quantitative findings

ANOVA analysis of the data revealed a significant mean score difference between executives/senior managers, line managers, and human resource professionals on the incorporation of *firm visions and values*, with the former being more positive than the latter. This difference and in the same direction was also illustrated with respect to the statement that 'the mission/vision statement is an important component of performance management', that is that HR professionals were less positive about the connection than their executive counterparts. Specifically, the means for executive/senior management (3.67) and line management (3.85) differed from that of HR professionals (3.24). Similarly, with respect to the statement that 'strategy and directions are important in performance management in this organisation', executive/senior management scores (mean 3.96) were significantly more positive than those of their HR counterparts (mean 3.55).

With respect to the existence of a *high performance work* culture, which was refined from the literature and in alignment with the former CIPD study, to include the characteristics of customer care, quality, flexibility, competence, skills/learning targets, business awareness, working relationships, contribution to team, financial awareness, productivity, aligning personal objectives with organisational goals, and achievement of objectives, only four of these components elicited significantly different responses from executive/senior managers and HR professionals.

Thus, in response to the statement, 'our high performance culture is characterised by customer care', executive/senior management were significantly more supportive (mean score of 4.14) than either HR professionals (mean 3.80) or line managers (mean 3.60).

Similarly, with respect to the relationship between quality and HPC, executives/senior managers (4.17) were more positive than their HR counterparts (3.86). With respect to the statement 'Our high performance culture is characterised by competence', once again executives/senior managers (4.14) and HR professionals (3.77) expressed different levels of support, as they did in relation to HPC and working relationships (executives/senior managers – a mean of 4.15, compared to a mean of 3.74 for HR professionals). There were no significant differences recorded on the other characteristics – namely, flexibility, skills/learning targets, business awareness, contribution to team, financial awareness, productivity, aligning personal objectives with organisational goals, and achievement of objectives. With average mean scores for these characteristics it may be assumed that they are considered equally important aspects of performance management systems by both participant groups, if only moderately so, but that more operational outcomes such as customer care, competence, quality and working relationships are perceived as more important by executives/senior managers, but less so by HR professionals.

Managers' *views of performance management* encompassed (inter alia) links to stretch goals, integrated approaches, line management ownership, developmental versus evaluative foci, motivational aspects, links to firm culture, qualitative versus quantitative techniques, training, communication issues, and links to rewards systems. In only five of these aspects were there significant differences in the means between executive/senior managers and HR professionals – namely, performance management as part of an integrated approach to people management, as 'a continuous and integrated part of the employee-line manager relationship', line manager ownership of the system, training, and the role of PMS in firm culture. In these aspects, executives/senior managers (mean 4.51) were supportive of PMS as an integrated approach to people management, but less positive than HR professionals (mean 4.68). Similarly, HR professionals (mean 4.73) are more positive than executives/senior managers (4.38), middle-management (4.61) and line-management (4.33) regarding the view that PMS should be 'a continuous and integrated part of the employee-line manager relationship'. Finally, HR professionals were more likely to agree (mean 4.64) that line-managers should own the performance management system, compared with both executives/senior managers (4.31) and the line-managers themselves (4.04). With respect to training for performance management, HR professionals (mean 4.23) were significantly more positive than their executive/senior management counterparts (3.77).

Finally, there were significant differences between all levels of management regarding the role of PMS in strengthening firm culture – middle-managers (4.45), HR professionals (4.35), executives/senior managers (4.13) and line-managers (3.92).

A broad variety of possible *links between PMS and other HR functions or processes* were included in this section of the questionnaire, notably job design, staffing strategies, learning and development, rewards and remuneration, succession planning, employee discipline and counselling, HR information systems, and HR planning. Only four of these links elicited significant responses, namely staffing strategies, learning and development, succession planning, and employee counselling. Thus, whilst their levels of support for all of these links were considerably less positive than on the former issues, executives/senior managers (mean 2.45) were more supportive than either line-management (2.26) or HR professionals (2.09) with respect to the link between PMS and staffing strategies. Similarly, executives/senior managers (mean 3.02) were more supportive of a link to learning and development outcomes than are their line-manager counterparts (2.56). With respect to links to succession planning, middle-managers (2.22), executives/senior managers (mean 2.57) and HR professionals, (2.43) were more positive than line-managers (1.84). Finally, employee counselling links were supported more strongly by executives/senior managers (2.8), HR professionals (2.37), and middle-managers (2.34) than by line-managers (1.88).

With respect to the *integrative aspects of PMS*, the survey addressed HR horizontal alignment issues ('performance management is integrated with other people-management processes'); development-focused PMS; employee-firm integration; and 'performance management is an integral part of the people management strategy'. It also explored perceptions such as 'performance management is bureaucratic and time-consuming' and 'the aims and objectives of performance management are well communicated and fully understood'. The views of middle-management (mean 3.30), executives/senior managers (3.21) and line-managers (2.77) were significantly different regarding the integration of PMS and other HR processes, and in relation to a primarily developmental focus of performance management – executives/senior managers (mean 3.15), compared with line-managers (2.81). They also differed concerning the integration of employee and firm goals through performance management systems –

executives/senior managers (mean 3.31) versus line-managers (2.92). Similarly, middle-managers (mean 3.53), executives/senior managers (3.52) were more likely to agree that PMS is ‘an integral part of the people management strategy’ than line-managers (3.08).

On the more perceptual questions, line-managers (mean 2.42) and middle-managers (2.34) were more likely to agree that ‘performance management is bureaucratic and time-consuming’ than their executive/senior manager (2.02) and HR professional (1.77) counterparts. Similarly, executives/senior managers (mean 2.86) were more supportive than line-managers (2.46) that ‘the aims and objectives of performance management are well communicated and fully understood’.

Not surprisingly then, the perceptions of *the effectiveness of the PMS* varied slightly between the respondents, with executives/senior managers (mean 2.69), line-managers (2.54), HR professionals (2.49) and middle-managers (2.41) considering it effective. The following qualitative responses provide some interesting reflections on the above quantitative findings, and enlarge upon earlier data.

Qualitative Findings

A single qualitative question in the survey requested respondents to identify the *three key issues* in performance management systems. Whilst it necessarily elicited multiple different responses, the main themes which emerged were different for executives/senior managers, middle-managers, line-managers and HR professionals, although there were some shared views. Thus for executives/senior managers, the issues most frequently mentioned included can be summarised as a common or shared understanding of the PMS; adequate training in the need for and use of the system, and an associated culture of accountability. ‘Common or shared understanding’ encompassed such aspects as specific communication of the purposes and value of the PMS; ‘buy in’ and commitment at all firm levels, especially by management; adequate feedback mechanisms; user-friendly systems; linkages between employee KPIs and firm goals; and clarity of purpose. Some examples of such comments follow: ‘open and transparent communication’, ‘acceptance by employees of the system’, ‘recognition that performance management is not a punitive process, but a process of continuous improvement’, and ‘integration into the organisational culture...it needs to become part of the organisational narrative’. More cynical comments included ‘culture eats performance management every day for breakfast’, ‘scrap them, dismiss the HR department, scrap the bonus system’, ‘should be abolished’, and ‘it is not a tick box, nor an opportunity to have a go’.

PMS training was perceived to include not only functional or process details, but also identification of the mutual benefits of performance management, and shared recognition that performance management should be a ‘normal everyday event’ or a ‘positive process’; and which might be conducted as a several stage process – for example, ‘one-on-one, class and then follow-up instruction’. Measurement and accountability aspects mentioned encompassed clear links to firm objectives, ‘needs to be able to extract trends across the business, objectives must be cascading and linked to the business strategy’, realistic goals (‘SMART principles’), individual employee accountability, and ‘selecting the right KPIs/metrics, to measure them and assign appropriate weighting to make it clear which are the most important’. One respondent suggested holding HR managers accountable as they have ‘the primary responsibility for the conduct of performance management programs (unit cost- relationship with achieving outcomes – identify professional development’.

Middle manager responses can be summarised as commitment, ownership and alignment. With respect to commitment, comments such as ‘everyone in the organisation has to take the process seriously’, ‘support from senior management’, and ‘a cohesive and understanding management team’ are reflective. The importance of stakeholder ownership of the PMS was expressed in such suggestions as ‘consultation (buy-in), user-friendly system’, ‘ownership from executive management, ownership and input by staff recognition and developmental plan for staff’, and ‘stakeholder involvement in the development of the system’. Alignment was explained through feedback ‘in both directions’, ‘alignment from top to bottom of goals’, and ‘integration with the vision, values, business plans and HR activities’.

Line managers focused more clearly on operational issues such as user-friendliness, effective communication about the PMS purposes and processes, and employee benefits. The need for simple, transparent, and consultative systems was frequently raised, from the perspectives of both employees and their supervisors – as examples, ‘it should be a system that is easy to use and is not time demanding’, and ‘effectively and timely reporting systems which matches the culture and maturity of the organisation...simple to use’. Communication and employee benefits issues raised included an emphasis on employee motivation, ‘direct feedback to employees on how they are performing’, and regular HR surveys – ‘PMS should encourage employee development by encouraging skill and competency enhancement’.

Many of these themes were also echoed by the HR professionals who responded to the survey, but they placed more emphasis on strategic aspects such as linking employee and firm goals; multiple stakeholder ‘buy-in’, especially executives, middle and line managers; and clear alignment between PMS and all other HR systems. The flavour of such comments includes the following:

- . ‘link performance to behaviours, relationships, and the individual to the organisation’
- . ‘managers and employees as ambassadors of the process...’
- . ‘aligning individual and organisational goals...’
- . ‘easy to use system that is appropriate to the organisation and that is linked to the organisation’s strategic and operational goals’

With respect to respondents’ *satisfaction with their current PMS*, there was a variety of comments on their effectiveness from all management levels. Those who were ‘mildly’ or ‘very’ satisfied cited such issues as in-house system development; close links to firm culture change and/or other HRM processes; senior management support; positive staff feedback and a ‘positive’ supervisor-employee review process; the ability to retain staff through KPI-linked performance bonuses; well-structured and integrated systems; regular revision of the PMS; reviewer skills; user-friendly procedures; and consistent applications across the firm, for their satisfaction. Illustrative comments included:

- . ‘...directly designed to foster change in culture – 70% behaviour and values, 30% outcomes’
- . ‘...executive management always receives positive feedback from staff’
- . ‘it is an accepted system that provides the opportunity for staff and management to have face to face discussions about their performance. It is generally an overwhelmingly experience’
- . ‘the tool/system we use does require work to line up competencies with our values’
- . ‘we are able to retain staff in a tight labour market (skills shortage) by paying above average salaries, linking some KPIs to performance bonuses, providing candid feedback on individual and group performance, and by maintaining a harmonious work environment’
- . ‘the system is well understood and reviewed regularly to keep up to date with trends and feedback...simple not time-consuming, motivates employees’
- . ‘it’s an integral part of our culture and an essential tool in the balanced scorecard methodology we employ’
- . ‘I am satisfied because it’s consistently applied across the whole organisation, which drives outcomes...’.

For those respondents who were most dissatisfied with the efficacy of their PMS, the main themes included their difficulty of usage; a compliance rather than a developmental focus; lack of alignment with firm values and goals; inadequate reviewer training; lack of senior/middle/line management commitment and support; insufficient communication about the PMS; inconsistency of application across the firm; or simply, the absence of a formal system. Particular comments included the following:

- . '...it is non-existent...'
- . '...not enough people know how it works and utilise it effectively...it is not taken seriously...implemented in a patchy fashion'
- . 'the system is not yet established enough...still in transition and under ongoing review'
- . 'too cumbersome and compliance-based'
- . 'organisational vision, values and strategies are not well defined, therefore individual goals and objectives cannot be related back to organisational objectives'
- . 'lack of commitment by senior management and the board, no link to succession planning or pay scales...the process is just to tick a box at audit time'
- . 'the systems are in place and well-documented and communicated. However, the nature of the industry being what it is, everyone is hard pressed for time, and the senior management has failed to communicate the need and the relevance of a proper and properly implemented system'
- . 'no matter how hard we try, (PMS) have the opposite effect'
- . 'the current system does not express the employee value proposition'.

Discussion

Whilst the findings reported in this paper include a blend of factual and perceptual data on the nature, characteristics, linkages and overall effectiveness of the performance management systems employed by the respondents' firms, they also provide valuable information on the different views of executive, middle and line managers, and HR professionals. Both executives/senior managers and HR professionals reported that their firms' performance management systems (PMS) enshrine their vision and cardinal values, but the former were in stronger agreement than the latter. Line managers were even less supportive. As this would seem to be a factual matter rather than a mere perception, the responses suggest that HR professionals and line managers are less convinced than their senior managers of the actual alignment between PMS and firm visions and mission statements. These findings might also imply that the rhetoric of such a strategic alignment (as asserted by authors such as Becker & Gerhart 1996; Delaney & Huselid 1996; Guest et al 2000) is not so well achieved in practice, and reflects Aberdeen's (2007) findings.

With respect to the links between high performance cultures, PMS, and desired firm outcomes such as customer care, quality, competence and working relationships, it appears that executives/senior managers differ from HR professionals, and line managers on all such criteria. All of these can be considered to be more operational than strategic issues. There were no significant differences between the responses of different levels of management on desirable PMS outcomes such as flexibility, business awareness, financial awareness, and the alignment of employee and firm goals, but the majority of responses were less than effusive, implying collusion on a 'lowest common denominator' approach to the more strategic implications of PMS.

In contrast, there were considerable differences in the opinions of HR professionals versus other firm managers with regard to the integrative approach of their PM systems; their role as a 'continuing and integrated part of the employee-line manager relationship'; line manager 'ownership' of performance management; the need for specific performance management training; and the importance of PMS in strengthening firm culture. HR professionals were considerably more supportive of all of these elements than executives/senior managers and line managers, and middle managers only agreed with them with respect to the last element. It may be inferred here that HR professionals are more focused on the strategic aspects of PMS, especially in relation to their broader firm outcomes (culture, cascading responsibilities, upgraded skills through specific training, and embedded systems), and is consistent with some previous research (for example, Guest et al 2000; Jas & Skelcher 2005; CIPD 2005; Lawler 2005; Green et al 2006; Greiling 2006; Nankervis & Compton 2006). However, even if this were true, the less supportive views of their executive/senior, middle and line management counterparts are likely to interfere with even the best plans. Of particular concern is the apparent reluctance of line managers to accept their natural 'ownership' of the performance management system.

With respect to the horizontal alignment of performance management with all other HRM systems – one of the two key pillars of SHRM theory (Cascio 1999; Ulrich 1998, 2007; Green et al 2006) – fewer of the respondents were actively supportive of the links to staffing strategies, learning and development, succession planning and employee counselling. Surprisingly, executives/senior managers valued the link between performance management and overall staffing strategies more highly than either HR professionals or line managers, and the latter were consistently less supportive with respect to links with learning and development, succession plans and employee counselling. This is of considerable concern, as line managers represent the crucial operational conduit between the performance of their employees and the potential achievement of desired firm goals and objectives (Connally et al 1980; Patterson et al 1997; Sung & Ashton 2005), and as HR professionals could be expected to be mainly responsible for the firms' overall staffing strategies (Jas & Skelcher 2005; Green 2006).

Consistent with their responses in other parts of the survey, line managers were significantly less enthusiastic than either executives/senior managers or HR professionals about the more strategic elements of PMS, including the integration of PMS and other HR processes (horizontal alignment); the affiliation of employees' performance objectives with firms' financial goals; the perception that PM systems should be an integral part of HRM strategies (vertical alignment). Whilst not surprising (see Nankervis & Leece 1997; CIPD 2005; Nankervis & Compton 2006), this finding suggests that many of the performance management systems reported on do not appear to have involved line management sufficiently in their design and implementation stages and/or that communication strategies have been less than adequate. In partial confirmation of this, as the key players in the implementation of PMS, both middle and line managers (as opposed to other managers) more commonly agreed that communication about performance management was inadequate, and that PMS were often 'bureaucratic and time-consuming'. Similar findings have been reported in other such studies (Parhizzani & Gilbert 2004; CIPD 2005; Brown 2005; Sung & Ashton 2005).

Finally, the findings of this study demonstrate many similarities with earlier research in respect of the features which contribute to the perceived effectiveness of PM systems – namely, the importance of a common understanding of their goals and processes between all stakeholders; comprehensive and ongoing communication strategies; ownership of the chosen system by all users; user-friendliness; and clear links between PMS, all other HRM processes, and with firm culture and desired outcomes (Nankervis & Leece 1997; Stanton et al 2005; Greiling 2006; Nankervis & Compton 2006). Not surprisingly perhaps, executives/senior managers and HR professionals (in that order) were generally more impressed with the effectiveness of their systems than either middle or line managers, and focused on arguably more strategic elements (for example, cultural outcomes, horizontal and vertical alignment) compared with a more operational focus for middle and line managers (for example, commitment, ownership, user-friendliness, employee benefits).

Conclusion

This paper reports on some of the quantitative and qualitative findings from an Australian research study which focused on the perceptions of a wide range of managers (executives/senior managers, middle and line managers, HR professionals) on the links between performance management and firm effectiveness. Whilst the data confirm the findings of many similar studies – in particular, that the rhetoric of performance management system designers is not always shared by all firm stakeholders or reflected in operational realities; and that linking PMS to firm effectiveness is often problematic - the paper contributes to the associated literature by demonstrating the sometimes conflicting imperatives of different management levels. Thus, executives/senior managers in this study were the most supportive of a strategic approach to the PMS-firm effectiveness relationship, followed by HR professionals, whilst middle and line managers were clearly more focused on operational and implementation perspectives.

More detailed data collected in this survey will drill further down into the specific contributions of PMS to such firm performance indicators as productivity, return on investment, profitability, and competitiveness, and will be reported in subsequent publications. However, it is evident that further research should focus on determining the actual links between PMS and firm performance, as reflected in such crucial measures as cost-effectiveness, return on investment, enhanced productivity and increased profitability.

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THE RELATIONSHIP OF BUSINESS STRATEGY AND HUMAN RESOURCE MANAGEMENT PRACTICES ON PRIVATE AND PUBLIC LIMITED COMPANIES IN MALAYSIA

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Abstract

This study investigated the relationship between two business strategies (differentiation and low-cost) and six human resource management (HRM) practices (recruitment & selection, training & development, compensation, performance management, employment security and work-life balance) and the extent to which such relationship bring differences to Public and Private Limited companies in Malaysia. Therefore, the main objective of this study was to develop the conceptual model to measure the interaction effects of business strategy and HRM practices. Structural equation modeling (SEM) used to examine the effect of business strategy to HRM practices and to examine the invariance effect of the two businesses ownership in the model. This study found that differentiation strategy was one of the business strategies that tend to emphasize on all six HRM practices while low-cost strategy found to emphasize on four HRM practices only. The results also indicated that the effects of business strategy and HRM practices implemented in Public Limited companies were only slightly different from the ones implemented in Private Limited companies.

Introduction

The influence of human resource management (HRM) practices on the overall performance of organizations has been in major research in the past decade in the developed countries. The results of these research indicating significant association between HRM practices and organization performance (e.g., Dyer & Reeves, 1995; Huselid, 1995; Becker & Gerhart, 1996; Guest, 1997; Cully, 1999; Harel & Tzafrir, 1999; Appelbaum, Bailey & Kalleberg, 2000). However, changes or trends that emerging today such as globalization, changes in the nature of work, and technology that requiring HRM practices to be more business oriented and strategically focused when managing organization. Firm size found to be an important predictor of HRM practices (Ng & Maki, 1993; Wagar, 1998; Kotey & Slade, 2005). Large firm were detailed, formal and much likely to adopt most of the HRM practices. It would be practical to investigate the relationship of business strategy and HRM practices in various different settings to examine the differences of effect due to firm size.

In this study, significant effect derived between different types of business strategy among HRM practices were determined as well as the comparison of the two variables between Public and Private Limited companies. This research study addressed the following questions concerning the relationship among business strategy and human resource management (HRM) practices.

- Research Question 1: Is there a relationship between HRM practices and the business strategy?
Research Question 2: Are there identifiable combinations of HRM practices that align and fit into related business strategy?
Research Question 3: Is Public Limited and Private Limited companies have the same identifiable combinations of business strategy and HRM practices?

Significance of this study was as follows:

For conceptual perspective, the study examines the relationship between HRM practices at the business strategy level. Business strategies was defined using Porter (1980)'s generic strategies. HRM practices in this study measured using the existing practices that seldom used in other empirical research. By examining variations of HRM practices such as employment security and work-life balance to business level strategies, the alignment between this relationship could discover in relation with Porter (1980)'s generic strategies. This methodology can further provide understanding of any systematic variations of HRM practices to different strategies of business level.

From the practical perspective, the findings of this study were useful to firm executives as they could adopt the pattern of human resource management practices within specific strategic conditions of organization and firm size. Furthermore, these findings will be useful to all management level as well as HR practitioners to

design their HRM practices at the hard or soft approach in order to improve firm performance as well as strengthening their firms competitive advantage.

Theoretical background and hypotheses development

According to Ferris, Hochwarter, Buckley, Harrel-Cook and Frink (1999), strategic HRM divided into three perspectives that are universalistic, contingency and configurational perspectives. Universalistic perspective claimed that availability of a set of HRM practices that are combined effectively are perform better than others that do not, hence, suggested to all organization to adopt these practices (e.g. Geringer, Frayne & Milliman, 2002; Truss, 2001). The contingency approach is attempted to link variations of HRM practices to specific organizational strategies (e.g. Hoque, 2000; Khatri, 2000). The configurational perspective is referring with how patterns of multiple, planned human resource deployment and activities achieve the organization's goal and argued that HRM practices should look as a system than individually (Doty, Glick & Huber, 1993, Meyer, Tsui & Hinings, 1993). In this study, concept of strategic fit was adopted as according to various researchers, the right adoption of HRM practices is vital because it assists business firms to enhance their competitiveness and support managerial efficiency (Wright & Snell, 1998).

The Relationship between Business Strategy and Human Resource Management Practices

The concept of business competitive strategy derived primarily from Porter's (1980, 1985) classifications of generic strategies: Cost leadership, Differentiation, and Focus strategies. Miles and Snow (1984) on the other hand, classified business strategies into defender, prospector, and analyzer. They also proposed each business strategies with correspondences human resource management practices. In reference to Porter's generic strategy, Schuler and Jackson (1987a) have used the terms slightly different from those of Porter to classify business competitive strategies. The terms are cost reduction, innovation, and quality enhancement. Besides, they have designated different types of employee behavior and HRM methods that would be best suited to each business strategy.

An organization could achieve its competitive strategy by implements an effective HRM practices. Effectives HRM needs to be systematically coordinated all individual HRM measures and it could directly influence employee attitude and behavior. Dowling and Schuler (1990) combined the respective HRM practices into strategies of utilization, facilitation, and accumulation, which were the three types of business strategy suggested by Schuler and Jackson (1987a). Dyer and Holder (1988) reclassified the combination of HRM practices and business strategies as inducement, investment, and involvement, respectively.

According to contingency theory, HRM strategies must be associated with specific business competitive strategies to enhance organizational performance (e.g., Miles & Snow, 1984; Porter, 1985; Schuler & Jackson, 1987a). The concept of "fit" is referring to the interaction of HRM strategies and business strategies in ways that will help to retain and motivate employees. Huselid (1995), however, concluded that adoption of high performance work practices alone is more important than the alignment of HRM practices with firm competitive strategy. Similarly, MacDuffie (1995) also found there was no evidence to support the linkages between appropriate HRM practices and mass production to compete with flexible production methods.

Although some of the previous research showed no consensus on the relationship between business strategy and human resource management practices, but in this study concept of strategic fit adopted and formulate the hypothesis below. In other words, it hypothesized that the strategic linkage between business strategy (i.e. differentiation and low-cost strategy) and human resource management practices (i.e. recruitment & selection, training & development, compensation, performance management, employment security and work-life balance) showed significant relationship.

H1. There is positive relationship between business strategy and HRM practices

Differences of Large Firms and Small Firms in Business Strategy and Human Resource Management Practices

Most research conducted using large-scale organizations and found different HRM systems or bundles of practices do contribute to the performance of these organizations, by employee retention, increasing

productivity, or even by improving profitability (Arthur, 1994; Delery & Doty, 1996; Huselid 1995; MacDuffie 1995). However, there were few studies that identified HRM practices in small medium enterprises (SMEs) and even fewer that focus on the relationship between HRM practices and performance (Heneman, Tansky, and Camp 2000). Most of the studies have reported the relationship between HRM practices and performance in large organizations rather than SMEs. Though there was debate as to the extent to which HRM practices results from large could applicable to small firm, these findings are of interest and provide the basis for theoretical examinations of the smaller firm (Chandler & McEvoy 2000; Deshpande & Golhar 1994).

In comparison with HRM practices of small medium enterprises (SMEs) or small firm were not as developed and were less structured than in the large enterprises (Hornsby & Kuratko, 1990, 2003; Kerr & McDougall, 1999; Marlow & Patton, 1993). Overall, this caused SMEs lacking of expertise on HRM methods and techniques. Therefore, relationships between HRM practices and performance in SMEs are not clear as compared to the ones observed by many researchers in large businesses. Again, this explained the need to increase research in this field (Cardon & Stevens, 2004; Hornsby & Kuratko, 2003; Katz, Aldrich, Welbourne & William, 2000; Tansky & Heneman, 2003).

Thus far, majority of the theoretical arguments proceeding from various viewpoints of different scholars have found that in large-size organizations are more likely to involve in human resource management and therefore would implement more extensive, advanced and complex HRM practices. Heneman and Berkley (1999) found that a greater percentage of large firms (50-99 employees vs. 20-49 employees) used more formalized and systematic recruitment and selection practices, more formalized compensation practices, and more special hiring inducements and hiring bonuses. Similarly, In De Kok and Uhlaner (2001) study on 16 small Dutch firms (10-41 employees), they found company size to be associated with more formal HRM practices, including greater performance appraisal and employer-based training is conducted.

However, there was some analysis of HRM systems in the empirical literature of different firm size to be inconclusive with the previous findings. Cardon and Stevens (2004), who reviewed existing research on managing people in small firms, provide a useful summary of what is known about HRM practices related to staffing, compensation, training and development, performance appraisal, organization change and labour relations. These authors noted that although recruitment and selection in SMEs is very important, but also problematic; SMEs focuses greatly on a total rewards perspective than do large firms; that training employees is important in SMEs; and that SMEs usually uses formal appraisals. Besides, Cassel, Nadin, Gray and Clegg (2002), on the other hand, found in the study that recruitment and selection procedures used in a medium-to-great extent by 61% of SMEs, following by performance appraisal systems, which were used to an average or large degree by 58% of SMEs. The least used HRM practices in their sample were those related to employee rewards, such as incentive schemes, which were used to an average-to-large extent by only 40% of SMEs. Decision-making and employee development appeared to use by mostly of the majority of small firms.

H2. There is significant difference on types of business ownership in the relationship between business strategy and HRM practices.

Methodology and Data Analysis

In conducting this study, 200 companies consist of profit making Public Limited and Private Limited selected randomly as population set. The sample includes 100 Public Limited and 100 Private Limited companies. Equal number of firms selected to ensure a representative sample. There were two respondents to the questionnaire. The first respondents, was the employees from non-human resource (HR) departments. They were required to providing information on business strategy, HRM practices in their company and employee outcomes. The second respondent was the person identified as the human resource manager. The respondent expected to have knowledge and able to answer questions pertaining business strategy as well as HRM practices within the organization. Huber and Power (1985) suggested several approaches to reduce potential measurement error when there was only informant per organization. They claimed that “if only one informant per organization is to be questioned, attempt to identify the person most knowledgeable about the issue of interest”. A usable survey of 61.5% from HR manager and 64.2% from non-HR employees was collected back corresponding to 123 and 642 responses respectively.

The independent variables for this study were drawn from business strategy and human resource management practices. Measures of business strategy (10 items) and human resource management practices (46

items) were utilized based on past studies of Dess & Davis (1984) and Guest, Conway & Dewe (2004) respectively. Both of instruments used a 7- point, Likert-type format. Therefore, the scale measurement of the dependent variables for this study was ordinal-type data. Figure 1 proposes the hypothesized structural model for the study. It consists of two exogenous variables (differentiation strategy and low-cost strategy) and six endogenous variables (recruitment & selection, compensation, performance management, training & development, work-life balance and employment security).

The 642 dataset were coded and saved into SPSS Version 14 and analysed using AMOS Version 16.0. During the process of data cleaning and screening for accuracy for data input, outliers, normality and multicollinearity, 22 dataset were deleted due to incomplete cases while another 49 data set were deleted due to Mahalanobis distance values more than χ^2 value ($\chi^2 = 137.208$; $n=90$, $p<0.001$) leaving a final 571 dataset to be analysed. Several statistical tests and analysis were then conducted such as reliability test, validity tests using confirmatory factor analysis (CFA) for construct validity, discriminant validity for multicollinearity treatment, descriptive analysis, correlation and structural equation modeling analysis using AMOS 16.0 (SEM). To summarize, SEM uses graphs to describe causal relation among business strategy, human resource management practices and employee outcomes.

Findings

On the sample, 52.7% of the subjects were female and 46.2% were male. The age groups was as follows: 61.5% were 21-30 years old, 25.2% were 31-40 years old, 6.0% were 41-50 years old, 2.6% were 51-60 years old and 4.7% were found incomplete. Most of the non-HR department employees held the SPM/Diploma/STPM (55.3%), Adv. Diploma/Bachelor/Prof. Degree (40.6%), Master Degree (2.6%), PhD/DBA (0.2%) and 1.2% found incomplete. Majority of the sample surveyed held first-line management (63.7%), follows by non-managerial (22.9%), middle-level management (9.6%), top-level management (3.5%) and 0.2% found incomplete. The distribution of monthly income was as follows: 40.8% were RM2001-3000, 34.5% were RM1001-2000, 12.1% were RM3001-RM4000, 6.7% were more than RM5000, 2.8% were RM4001-RM5000, 2.1% were not more than RM1000 and 1.1% were found incomplete. Most of the sample surveyed were from Private Limited Company (65%) while Public Limited Company (35%).

Descriptive Analysis of Variables

The research framework examined the relationship of two types of business strategy and six dimensions of HRM practices. Nunally (1978) suggested that reliabilities in the range of 0.50 to 0.60 were acceptable in the early stages of research. Overall most construct shows Cronbach's alpha readings above 0.60 (Table 1) and this items were within the acceptable range of coefficient suggested by Nunnally (1978).

Table 1 *Descriptive Statistics of Variables*

Variable Name	No. of Items	Mean (Std. Dev)	Cronbach's Alpha
Business Strategy			
Differentiation	5	4.17 (1.09)	0.815
Low Cost	5	4.26 (1.03)	0.808
HRM Practices			
Recruitment & Selection	5	3.75 (1.17)	0.553
Compensation	8	3.80 (1.11)	0.742
Performance Management	9	4.00 (1.08)	0.719
Training & Development	5	4.02 (1.18)	0.770
Work-Life Balance	5	3.96 (1.09)	0.625
Employment Security	5	4.06 (1.14)	0.651

Confirmatory Factor Analysis (CFA) Results

From the confirmatory factor analysis result in Table 2, we observed that the factor loadings of all observed variables or items are adequate from 0.518 to 0.915 except RS1 (0.491). The factor loadings or regression estimates of latent to observed variable should be above 0.50 (Hair et al, 2006; Bryne, 2001). This indicates that all the constructs conform to the construct validity test. The remaining number of items for each construct is as follows: business strategy (8 items), HRM practices (16 items) and employee outcomes (16 items). Confirmatory factor analysis conducted on every construct and measurement models (see Table 3). All CFAs of constructs produced a relatively good fit as indicated by the goodness of fit indices such as CMIN/df ratio (2 to 5); Goodness of Fit Index (GFI) of $>.90$; and root mean square error of approximation (RMSEA) of values less than $.08$ ($<.08$), comparative fit index (CFI) of $>.90$ and Tucker-Lewis index (TLI) of $>.90$.

The modified measurement model has a good fit with the data based on assessment criteria such as GFI, CFI, TLI and RMSEA (Bryne, 2001; Anderson and Gerbing, 1998). Table 3 shows that the goodness of fit of generated or modified model is better compared to the hypothesized model.

Table 2 *Confirmatory Factor Analysis Results of Construct Variables of Hypothesized Model*

Variable	Code	Attributes	Factor Loadings
Business Strategy: (8 items)	D1	Products (services) in this organisation are innovative and continually	0.799
	D2	This organisation aggressively entering new markets with new types of products (services).	0.739
	D3	This organisation consistently develop new product and new markets.	0.824
	D4	This organisation often changing the characteristics of products (or services) to satisfy customers' various tastes.	0.687
	LC1	Products (services) in this organisation are stable and consistently defined throughout the market.	0.728
	LC2	This organisation analyze costs and revenues carefully by keeping costs under control and selectively produce new products and enter new markets	0.714
	LC3	This organisation carefully analyze emerging trends and adopt those which have proven potential only.	0.738
	LC4	This organisation maintains a secure financial position through cost and quality control.	0.734
HRM Practices: (16 items)	RS1	Employee selection process for a given job is extensive in this organisation (for example, Use of tests, work sample, aptitude test)	0.491
	RS4	This organisation used interview panels during the recruitment and selection	0.632
	TD1	This organisation provides employees many opportunities of education and development	0.653
	TD2	Many different kinds of training programs are available for employee to	0.704
	TD4	This organisation has provided employees with training opportunities enabling them to extend the range of skills and abilities	0.818
	CR3	Performance-based incentives are available to employees in this organization	0.625
	CR4	Employees in this organization are rewarded when they produce at a high-	0.611
	PM2	Pay raises and promotions are closely tied to performance outcome of	0.565
	PM5	This organization emphasized cooperation and teamwork than high individual performance.	0.617
	ES1	This organization provides employee assistance program during work	0.634
	ES2	This organization treats employees who leave with respect and dignity	0.646
	ES5	This organization ensures long-term employment from the employee	0.540
	WLB2	The climate of this organization is cooperative and trustful	0.552
	WLB3	Working conditions in this organization are good	0.518
	WLB5	This organization spends enough money on health and safety-related matters	0.525
	WLB8	This organization wants jobholder to do many different things at work, using various skills and talents.	0.519
TOTAL	24		

Table 3 *Goodness of Fit Analysis-Confirmatory Factor Analysis (CFA) of Models (N=571)*

Final Models	Measurement Models (Exogenous)		Measurement Models (Endogenous)		Hypothesized Full Model	Modified Full Model
	Hypothesized	Modified	Hypothesized	Modified		
Items remain	10 items	10 items	46 items	24 items	34 items	23 items
CMIN	147.831	119.292	3586.666	482.518	1542.983	411.077
df	34	33	974	232	508	208
CMIN/df	4.348	3.615	3.682	2.080	3.037	1.976
RMSEA	0.077	0.068	0.069	0.044	0.060	0.041
GFI	0.949	0.958	0.748	0.934	0.851	0.943
CFI	0.938	0.953	0.639	0.925	0.823	0.928
TLI	0.918	0.936	0.616	0.910	0.805	0.912

Hypotheses Results

Since the hypothesized of full model in this study (Figure 1) did not achieve model fit as RMSEA, GFI, CFI and TLI was less than 0.90, hence the explanation of hypotheses result is based on modified full model (Table 4 and Figure 2). Table 4 demonstrates that hypothesis H1 which stated there is positive relationship between business strategy and HRM practices was partially supported as in this study except low cost strategy did not have significant relationship with compensation (C.R.= -0.706 <1.96; p=0.480 >0.05) and work-life balance (C.R.=1.928<1.96; p=0.054>0.05).

Table 4 *Direct Impact of Modified Full Model: Standardized Regression Weights*

Relationships between Exogenous and Endogenous	Std. Estimate	S.E.	C.R.	p-value
Differentiation → RS	1.019	.123	8.258	***
Differentiation → T	1.335	.140	9.561	***
Differentiation → CR	.899	.102	8.835	***
Differentiation → PM	.732	.098	7.493	***
Differentiation → ES	.896	.105	8.560	***
Differentiation → WLB	.812	.088	9.190	***
Low Cost → RS	-.227	0.081	-2.817	**
Low Cost → TD	-.309	.100	-3.097	**
Low Cost → CR	-0.044	.063	-.706	.480
Low Cost → PM	.299	.071	4.191	***
Low Cost → ES	.355	.089	3.994	***
Low Cost → WLB	.104	.054	1.928	.054

Figure 1. Hypothesized Full Model

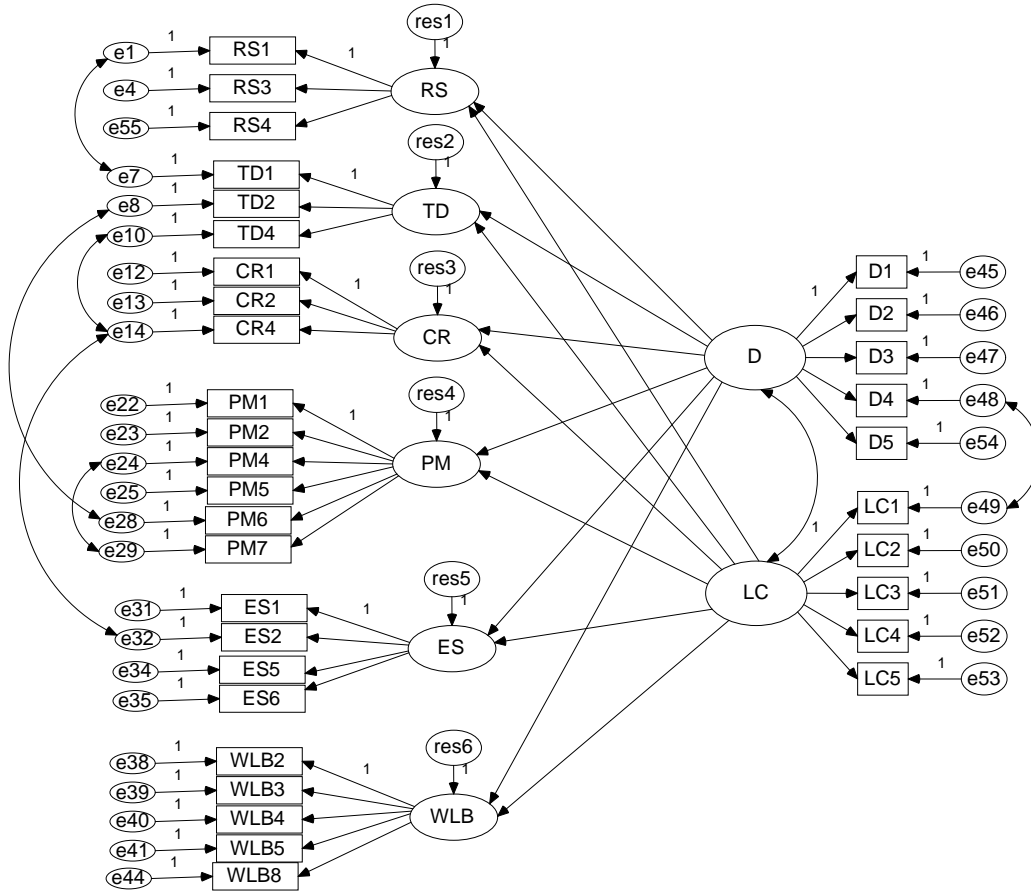
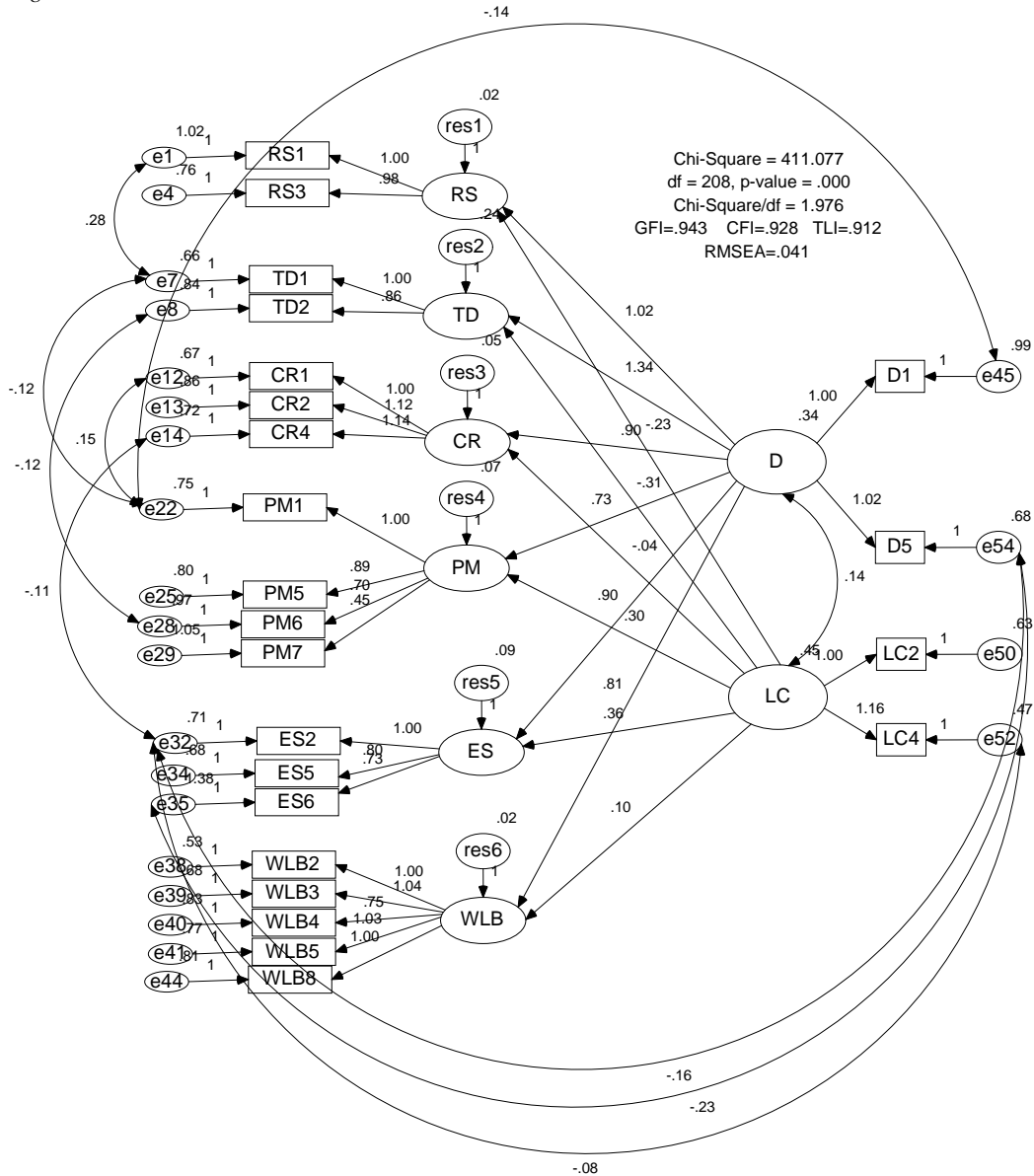


Figure 2. Modified Full Model



Testing for Invariant Results

For this study, comparison was made between two groups, Public Limited and Private Limited companies. First, equal factor structures across two groups were examined. Results indicated that there was only marginality better fit to both dataset with TLI=0.870, GFI=0.904 and CFI=0.892. After modification were made, the goodness-of-fit indices for revised model, GFI, TLI and CFI were 0.920, 0.925 and 0.905. All the indexes were above the threshold of 0.90, and are indicative that the hypothesized model of business strategy and HRM practices structure fit well across the two-business ownership. After having established the good fit of the model, testing for the invariance of factorial measurement and structure across groups was measured. The results of the model comparison are reported in Table 5.

Table 5 Goodness-of-Fit Statistics for Tests of Invariance

Model Description	Comparative Model	χ^2	df	$\Delta \chi^2$	Δ df	Statistical Significance
1. Revised Hypothesized Model (Model 1)		530.653	332	-	-	-
2. Factor loadings, regression paths variances & covariances constrained equal	Model 1	578.918	360	48.265	28	p<0.01
3. Factor loadings constrained equal	Model 1	544.629	345	13.976	13	NS
4. Factor loadings and regression paths constrained equal	Model 1	571.325	357	40.672	25	p<0.05
5. Factor loadings and only differentiation regression paths constrained equal-Model 1(a)	Model 1	557.297	351	26.644	19	NS
6. Factor loadings and only low-cost regression paths constrained equal	Model 1	561.310	351	30.657	19	p<0.05
7. Model 1 (a) with LC→RS constrained equal	Model 1	557.886	352	27.233	20	NS
8. Model 1 (a) with LC→RS and LC→TD constrained equal	Model 1	557.968	353	27.315	21	NS
9. Model 1 (a) with LC→RS, LC→TD and LC→CR constrained equal	Model 1	559.963	354	29.310	22	NS
10. Model 1 (a) with LC→RS, LC→TD, LC→CR and LC→PM constrained equal	Model 1	560.080	355	29.427	23	NS
11. Model 1 (a) with LC→RS, LC→TD, LC→CR, LC→PM and LC→ES constrained equal	Model 1	569.147	356	38.494	24	p<0.05
12. Model 1 (a) with LC→RS, LC→TD, LC→CR, LC→PM and LC→WLB constrained equal	Model 1	560.426	356	29.773	24	NS

Table 5 reveal differentiation strategy paths to HRM practices are non-significant while the low cost strategy paths to HRM practices was significant (p<0.05). Thus, the invariance hypothesis testing was rejected.

However, although there was an observed measure of low-cost strategy to HRM practices were found to be operating not equivalently for both Public Limited and Private Limited companies, the majority of the HRM practices, which have invariant to low-cost structural regression paths: recruitment & selection, training & development, compensation, performance management, and work-life balance. Only one of the HRM practices which employment security found to variant between two groups. As a result, those statistics of chi-squares lead to rejection of hypotheses of invariance across two groups in assessment of measurement weight and structural regression paths. This showed hypothesis 2 “There is significant difference in types of business ownership in the relationship between business strategy and HRM practices” showed mixed results.

Discussion

This study attempts to examine the goodness of fit of the hypothesized structural model by integrating business strategy and HRM practices. As expected, the hypothesized model do not achieve model fit: CFI, GFI, and TLI were less than threshold of 0.90. This implies that hypothesized model was not supported. However, the modified model accomplished model fit and supports some direct effects between dimension of business strategy and HRM practices. Firstly, the results indicated that differentiation strategy had a direct positive relationship with all the six HRM practices. This findings is somewhat consistent with the results of Chang and Chen (2002) as they claimed differentiation strategy tends to focus on new product and process, development and improvement, therefore, training & development, team and performance management were the likely the appropriate requirement. Second, low-cost strategy had significant positive relationship with performance management and employment security but significant negative relationship with recruitment & selection, and training & development. However, low-cost strategy found to have no significant relationship with compensation and work-life balance. These findings are somewhat consistent with the results of Schuler and Jackson (1995) studies where they suggested the appropriate HRM practices for organization employing cost-defender strategy include relatively fixed and stable job descriptions, career paths that encourage specialization and result oriented performance appraisal system, compensation at par with market levels and minimum levels of employee training and development. This showed that organization that emphasizes on low-cost strategy will focus lesser on employee training and development.

According to the results of invariance tests using multiple group analysis, the model was verified to have measured the same factor loadings across two groups of companies (Public Limited vs. Private Limited). The results in this study showed non-significant results which mean there was invariance or no difference of factor loadings between the two-business ownership. However, the results from path analysis revealed differences in the regression coefficients and error variances between the two groups. Prior to testing for invariance, this study found differentiation path to be invariant but low cost path was found to be different across the two groups ($p < 0.05$). This study revealed that regression path of low-cost to employment security ($p < 0.05$) to be significantly variant across groups. Large organization in this case that is Public Limited companies are more likely to develop HRM practices that approved and favourably assessed by society (Shaw, Tang, Fisher & Kirkbride, 1993; Cohen & Pfeffer, 1986). This is consistent with the result as large organization will likely to focus on employment security than small organization as Private Limited companies less likely to expose to community view and bring lesser influence to environment.

Suggestion for Further Research

Future research should be replicated with financial measurement as well as other significant variables, such as differences of industry sector such as primary agricultural, manufacturing and services sector be added into the hypothesized causal structural model. The conceptualization and measurement of HRM practices needs to be redefined. Although all six HRM practices represented well in the present study, these indicators may need to change in different settings and countries. In addition, testing the model within an experimental design would enable researchers to use the model to explain causal structures. Therefore, a more systematic analysis is called for, because the data used in this thesis are cross-sectional in nature and time-series data would allow a better test of causal order.

Conclusion

In conclusion, this study has conceptual and methodological implications. For example, a reliable and valid measurement model for business strategy covering two domains (differentiation and low-cost) and HRM practices covering six domains (recruitment & selection, training & development, compensation, work-life balance, employment security, performance management) was developed and tested by a CFA. Although this measurement model is not included with every HRM practices adopted and implemented by companies, but it has covered majority representative domains of HRM practices suggested by HRM researchers (e.g. “Best practices”, Guest, 1997). Besides, the use of Structural Equation Modeling (SEM) enabled the specification and estimation of a complex model of relationship between business strategies and HRM practices. This method also facilitated the comparison of these complex relationships for Public Limited and Private Limited companies. The finding of this study is important as previous empirical studies have proven that the combinations of model between HRM strategies with organizational strategy represent the best way to achieve companies’ business objectives (Pan, 2007) and obtain better economic results in terms of productivity and return over equity (ROE) than their main competitors (Portales Echeverria, 2001).

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Abstract

Employee gender characteristics vary among different retail sectors. For example, male dominated retail sectors such as hardware employ more male staff, while female dominated retail sectors such as cosmetics employ more female staff. The purpose of this paper is to explain such gender differences in retail employment. The data used for this study is a subset of the 'Australia at Work' survey, which is a longitudinal survey tracking the experiences of the Australian labour force via telephone interviews. In answering the research questions, a subset of telephone interview data from the 'Australia at Work' survey consisting of 702 respondents employed in the retail industry will be analysed. The results indicate that retail employment in Australia is dominated by females, and that certain retail sectors were found to have different employee gender characteristics. Managerial positions in retail were found to have only a slightly larger proportion of males, implying that there is little gender discrimination in retail managerial positions in Australia as compared to findings from the United Kingdom and the United States. Customers are likely to have preferences as to who they are being served by when shopping for specific products, affecting their purchase decisions and consequently the business performance of stores. Hence, managers can use such information in employment decision making to create a competitive advantage and increase profitability.

Key words: Management, Employment, Demographics, Gender, Retail.

1. Introduction

The retail industry is the largest employer in Australia (Wanrooy et. al. 2009). Due to changes within the retail industry such as changing retail structures, improving technological developments, and evolving customer characteristics, there is a need for current research in this area. In particular, research on retail employment will provide businesses with information that can improve hiring decisions and business strategy. As customers of different categories of products have varying expectations of retail staff, businesses need to make informed hiring decisions to improve customer service and consequent profitability. Hence, research on demographic stereotypes in retail employment is important. Research points out that gender stereotypes exist in retail employment (for example, Sparks, 1991; Fischer, Gainer, and Bristor, 1997; Taylor and Tyler, 2000; Korczynski, 2002; Lynch, 2002; Foster, 2004; Pettinger, 2005). Most of the existing research on gender stereotypes in retail employment has been carried out in the United Kingdom and to a lesser extent the United States, with no significant study undertaken in Australia, despite retail being its largest employer. Based on the foregoing, research is necessary to address these issues in the Australian retail context. Therefore, the purpose of this paper is to identify gender characteristics in retail employment within Australia.

2. Stereotypes In Retail

A substantial body of literature points out occupational differences between males and females. Occupational segregation occurs when workers are excluded from certain jobs, and over represented in others, for reasons such as race, gender, or national origin (Gabriel and Schmitz, 2007). Tikka (1999) points out that there are more male dominated occupations than female dominated occupations, in consideration that the female occupations tend to be lower paying, lower status, with fewer advancement opportunities. Gabriel and Schmitz (2007) highlights that recent analyses of gender employment patterns suggest that occupational differences between men and women are a

persistent presence in the U.S. labour market. For example, traditional blue-collar occupations continue to be male dominated, while women remain concentrated in service and clerical occupations. Likewise, Finch and Groves (1983) suggest that employers consider women to be better at service roles due to their natural ability to care for others. McGauran (2000) explains that gender segregation in the labour market depends on the supply of workers of each gender, and the interplay between the cost of workers and the skills sought of them. McGauran's findings suggest that a less regulated labour market, in conjunction with few male peripheral workers, contributes to stronger gender segregation in the labour force. According to Brockbank and Airey (1994), occupational segregation is the tendency for women to work in particular sectors of the labour market which are exclusively, or almost exclusively, staffed by females, giving the example of the retail industry.

Gender specific characteristics can explain the occupational differences. Generally, men are perceived to be more suited to more physically demanding roles (Lynch, 2002), such as work that involves heavy lifting like construction, and women are perceived to be more suited to social interaction roles such as customer service. Pettinger (2005) found that men dominated where goods were heavy, valuable or when the clientele was largely male and 'male' jobs were more likely to be associated with craft and training than female jobs. Sparks (1992) highlights that the expansion of the female component in retail employment has in the past been associated with increasing part-time employment. While there is a fundamental shift from full-time to part-time employment irrespective of gender, female part-time employment remains as a massive component of modern retail employment and operations. Brockbank and Airey (1994) postulates that the traditional pattern of part-time employment for married women has provided retail employers with a readily available pool of labour, and that they accept inferior terms and conditions to accommodate their traditional child-care and domestic obligations.

Retail employment has been found to be dominated by women (Brockbank and Airey, 1994; Sparks, 1992; Office for National Statistics, 2006; Pilcher, 2007). Sparks (1992) found that retailing in the United Kingdom has for a long period been a primarily female occupation, and there is evidence of a continued feminisation of the workforce, with one in seven of all women work in retailing. This is supported by Brockbank and Airey's (1994) finding that retailing in the United Kingdom is dominated by women. Pettinger (2005) explains that the gendering of retail employment lies with the feminisation of customer-service work due to the emotion management content. This is reiterated by Pilcher (2007), who points out that women are disproportionately represented in the service sector's five 'C's'; 'Catering; Cashier or Checkout, Clerical, Cleaning and Caring' occupations, most of which require a degree of emotional labouring. Similarly, Lynch (2002) found that departments such as checkouts and administration tended to be dominated by part time females.

Substantial research concludes that gender stereotypes exist in retail employment (Sparks, 1991; Fischer, Gainer, and Bristol, 1997; Taylor and Tyler, 2000; Korczynski, 2002; Lynch, 2002; Foster, 2004; Pettinger, 2005). Fischer et al (1997) state that gender stereotype or in-group bias/homophily may exist and influence evaluations of service quality depending on whether the service provider is a male or a female. Foster (2004) argues that certain retail sectors are "gendered", that is the products they sell have stereotypical male connotations, such as car sales or men's fashion, or stereotypical female associations like cosmetic sales and ladies' fashion and very often the gender of customer-facing staff reflect this association. Research by Brockbank and Airey (1994) shows that in one company which retails maternity and child-care products exclusively, 93 percent of employees were female.

In the example for DIY (Do-It-Yourself) stores, Sparks (1991) points out that male customers perceived male staff to have better technical knowledge and are more physically competent to handle products than female staff and often preferred to seek advice from male staff rather than female staff, with a particular preference toward older male staff. This is due to the assumption that males were more likely to have carried out home improvements or worked as a trade person than women. This finding is supported by Foster (2004), who found that DIY is an activity predominately undertaken by men and many items sold in this sector have stereotypical masculine connotations, such as power tools and electrical, plumbing and building products. Where female staff were employed in DIY stores, they tended to be located on the checkouts, returns desk and in "non expert" roles on more feminine product

areas like decorative, gardening and showrooms (Sparks, 1991). This finding is consistent with Korczynski's (2002) research, which found that trade experts were male and most checkout operators were female in DIY stores. This appeared to be a result of gender assumptions built into the roles. Men were generally perceived to be more adept at retail skills. For example, Bradley (1989: 232) wrote "...the sale of a carpet is considered to involve certain socially defined skills, whereas the sale of hosiery is not. Men predominate in carpet departments; women in hosiery. Of course, selling hosiery requires a variety of skills; they simply go unrecognised".

Fischer, Gainer, and Bristor (1997) state that in some service settings, women expect to receive better service from women and men from men. Pettinger (2005) states that gender is embedded in the work and employment relations in retail in a unique way: female sales assistants tend to serve female customers with products that are culturally 'feminine'. Notwithstanding, women were more likely to work in men's departments than men in women's departments, because of the way the occupation of sales assistant is feminised. The concept of female staff serving men can imply a degree of sexualization in their roles. For example, Hochschild (1983) suggests that the role of female flight attendants are sexualised by advertising using slogans such as 'Fly me, you'll like it', which could imply that they not only had to be 'unfailingly helpful and open to requests' but also should 'respond to the sexual fantasies of passengers' by acting in a 'sexy' manner, flirting with customers as though their behaviour is not 'intrusive or demeaning'. Hochschild also highlights the contrast between genders by stating that females 'enhance the customer's status' while males 'deflates the customer's status', giving the example that debt collectors are typically male.

McGauran (2000) found that women are considered better than men at cleaning and stocking goods and at selling to other women, and that women are more likely to be employed for their appearance, in less-skilled posts, and as part-timers. Kerfoot and Knights (1994) wrote that 'a nice mumsy face at the desk' would both increase sales and smooth the flow of production. Accordingly, Taylor and Tyler (2000) found that male managers recruiting telesales staff made stereotypical gendered assumptions about women possessing a 'natural' ability to 'chat' and build up a 'rapport' with others. Kerfoot and Korczynski (2005) state that gender stereotypes about women's 'proper' place in relation to paid work and their presumed attachment to so-called 'softer' skills in service work act to reinforce and reproduce gender division in the workplace.

Research shows that gender differences exist in retail management positions (Brockbank and Airey, 1994; Lynch, 2002; Schmidt and Parker, 2003; Broadbridge, Maxwell, and Ogden, 2006; Gabriel and Schmitz, 2007; Harris, Foster, and Whysall, 2007). While women dominate the retail sector, their dominance is in the non-managerial positions. Brockbank and Airey (1994) and Harris et al. (2007) found that retailing is dominated by women but managed by men. Where women were employed in management, they are more likely to be represented in the junior and middle management positions (Broadbridge et al, 2006). Schmidt and Parker (2003) found that senior management and director level positions in retailing are largely male. Where women are in managerial positions, Brockbank and Airey (1994) wrote that they are believed to be more likely to have a better understanding of their predominantly female staff and customers, and possess a greater ability for developing relationships with them.

The traditional view postulates that men are more capable than women at work, hence occupying the more important positions with women occupying subordinate roles. Bradley (1989) wrote that women and men's participation in retailing has its roots in the onset of capitalism and the existence of male trade union bargaining power which was used to define certain jobs/areas as skilled and kept as male preserves. According to Broadbridge (1997), where skill and knowledge were perceived to be required men prevailed; while if women were found in traditionally male sectors of retailing they were employed as counter assistants or cash clerks. Similarly, Lynch (2002) points out the retail jobs defined as 'peripheral' and 'low skill' were predominately filled by women, whereas men filled occupations considered to be 'skilled', such as management positions.

The reported paucity of women in retail management positions (for example, Lynch, 2002; Schmidt and Parker, 2003; Gabriel and Schmitz, 2007; and Harris et al. 2007) may be due to the unwillingness of female employees

taking up management positions. Harris et al. (2007) found that half of female part-time retail employees were not seeking promotion. Gabriel and Schmitz (2007) suggest that the male dominance of males in senior management is likely to be voluntary, as opposed to gender discrimination as a cause. In their study of gender differences among workers, it was found that while gender differences in occupational attainment persist, they apparently result from voluntary choices of men and women and from long-term changes in labour markets, such as the simultaneous growth of white-collar occupations and women's labour force participation rates. However, research by Kerfoot and Knights (1994) points out that some employment practices deliberately target 'mature' women returners to the workplace who were subsequently employed in low-paid, low-status work outside the main organisational career structure.

3. Research Questions And Methodology

The purpose of this paper is to identify gender characteristics in retail employment within Australia. The data used for this study is a subset of the 'Australia at Work' survey, which is a longitudinal survey tracking the experiences of the Australian labour force. In 2009, the survey documented the findings of a total of 6,801 respondents via telephone interviews. The relevant subset of the data used for this study consists of 702 respondents who are employed in the retail industry. Only data from selected questions in the survey will be relevant for use in this study. Chi square tabular analysis will be employed to confirm the statistical significance among the relevant data based on significance at the $p < 0.05$ level.

4. RESULTS

In answering the foregoing research questions in this study, the results (see Table 1) indicate that retail employment in Australia is dominated by females employees in general. Certain retail sectors were found to have different employee gender characteristics. Managerial positions in retail were found to be dominated by a slightly larger proportion of males while women dominated in non management positions such as supervisory and other positions. The findings are largely similar to previous research in this area, suggesting that such relevant aspects of retail employment in Australia have similar characteristics compared to the United Kingdom and the United States.

Table 1: Respondents classified by Retail Sector and Gender

Retail Sector		Gender		Total
		Male	Female	
Car Retailing	Count	12	6	18
	% within Industry	66.7%	33.3%	100.0%
Motor Cycle Retailing	Count	3	0	3
	% within Industry	100.0%	.0%	100.0%
Trailer and Other Motor Vehicle Retailing	Count	4	0	4
	% within Industry	100.0%	.0%	100.0%
Motor Vehicle Parts Retailing	Count	14	3	17
	% within Industry	82.4%	17.6%	100.0%
Tyre Retailing	Count	4	0	4
	% within Industry	100.0%	.0%	100.0%
Fuel Retailing	Count	3	3	6
	% within Industry	50.0%	50.0%	100.0%
Supermarket and Grocery Stores	Count	46	82	128
	% within Industry	35.9%	64.1%	100.0%
Fresh Meat Fish and Poultry Retailing	Count	5	6	11
	% within Industry	45.5%	54.5%	100.0%

Fruit and Vegetable Retailing	Count	3	1	4
	% within Industry	75.0%	25.0%	100.0%
Liquor Retailing	Count	9	3	12
	% within Industry	75.0%	25.0%	100.0%
Other Specialised Food Retailing	Count	2	8	10
	% within Industry	20.0%	80.0%	100.0%
Furniture Retailing	Count	5	4	9
	% within Industry	55.6%	44.4%	100.0%
Houseware Retailing	Count	2	3	5
	% within Industry	40.0%	60.0%	100.0%
Manchester and Other Textile Goods Retailing	Count	0	1	1
	% within Industry	.0%	100.0%	100.0%
Electrical Electronic and Gas Appliance Retailing	Count	9	1	10
	% within Industry	90.0%	10.0%	100.0%
Computer and Computer Peripheral Retailing	Count	5	2	7
	% within Industry	71.4%	28.6%	100.0%
Other Electrical and Electronic Goods Retailing	Count	3	1	4
	% within Industry	75.0%	25.0%	100.0%
Hardware and Building Supplies Retailing	Count	17	10	27
	% within Industry	63.0%	37.0%	100.0%
Garden Supplies Retailing	Count	8	2	10
	% within Industry	80.0%	20.0%	100.0%
Sport and Camping Equipment Retailing	Count	9	6	15
	% within Industry	60.0%	40.0%	100.0%
Entertainment Media Retailing	Count	2	4	6
	% within Industry	33.3%	66.7%	100.0%
Toy and Game Retailing	Count	3	1	4
	% within Industry	75.0%	25.0%	100.0%
Newspaper and Book Retailing	Count	7	15	22
	% within Industry	31.8%	68.2%	100.0%
Clothing Retailing	Count	4	24	28
	% within Industry	14.3%	85.7%	100.0%
Footwear Retailing	Count	0	3	3
	% within Industry	.0%	100.0%	100.0%
Watch and Jewellery Retailing	Count	0	3	3
	% within Industry	.0%	100.0%	100.0%
Other Personal Accessory Retailing	Count	0	4	4
	% within Industry	.0%	100.0%	100.0%
Department Stores	Count	12	27	39
	% within Industry	30.8%	69.2%	100.0%
Pharmaceutical Cosmetic and Toiletry Goods Retailing	Count	5	23	28
	% within Industry	17.9%	82.1%	100.0%
Stationery Goods Retailing	Count	3	4	7
	% within Industry	42.9%	57.1%	100.0%
Flower Retailing	Count	0	1	1
	% within Industry	.0%	100.0%	100.0%
Other Store-Based Retailing	Count	5	16	21
	% within Industry	23.8%	76.2%	100.0%
Non-Store Retailing	Count	4	4	8
	% within Industry	50.0%	50.0%	100.0%
Retail Commission-Based Buying and/or Selling	Count	0	1	1

	% within Industry	.0%	100.0%	100.0%
Accommodation	Count	25	31	56
	% within Industry	44.6%	55.4%	100.0%
Cafes and Restaurants	Count	24	41	65
	% within Industry	36.9%	63.1%	100.0%
Takeaway Food Services	Count	17	32	49
	% within Industry	34.7%	65.3%	100.0%
Catering Services	Count	8	8	16
	% within Industry	50.0%	50.0%	100.0%
Pubs Taverns and Bars	Count	11	7	18
	% within Industry	61.1%	38.9%	100.0%
Clubs (Hospitality)	Count	7	11	18
	% within Industry	38.9%	61.1%	100.0%
Total	Count	300	402	702
	% within Industry	42.7%	57.3%	100.0%

A chi square test carried out on this table produced a value of 106.95 ($p < 0.001$), indicating statistical significance at the $p < 0.05$ level.

Among the retail sectors, the grocery and supermarkets sector is largest employer, employing 18.2% of the total of 702 respondents sampled. This is followed by cafes and restaurants at 9.3%, accommodation at 8.0%, takeaway food at 7.0% and department stores at 5.6%. Female employees dominated retail employment in general, with 57.2% of all employees being female. This can be attributed to the likelihood that females are more inclined to homemaker or childcare duties and hence suit the part-time / casual nature of retail employment more than males.

Certain retail sectors were found to be dominated by male employees. The most male dominated category is electric and electronic goods with 81.0% being male employees, followed by motor vehicle and parts at 80.4%, garden supplies at 80.0%, and hardware at 63.0%. This finding suggests that retail sectors that involve technical knowledge and involve physical work are largely staffed by males, which corresponds with the findings of Broadbridge (1997), Sparks (1991), Korczynski (2002), and Foster (2004).

Where female employees dominated, the retail category of clothing employed 85.7% females, followed by pharmaceutical, cosmetics, and toiletries at 82.1%, department stores at 69.2%, newspaper and books at 68.2%, takeaway food at 65.3%, supermarkets at 64.1%, and cafes and restaurants at 63.1%. These findings are consistent with a wide range of research. For example, the finding that female employees dominate in areas where customers are more likely to be female such as clothing, cosmetics, and toiletries, have been documented by Fischer, Gainer, and Bristor (1997), and Pettinger (2005). The identified sectors of takeaway food, supermarkets, and cafes and restaurants where female employees dominate tend to be less skilled, check-out related, and part-time posts, a finding consistent with Broadbridge (1997), McGauran (2000), Lynch (2002), Korczynski (2002), and Pilcher (2007).

In relation to managerial positions in retail employment, 15.7% of the respondents were in managerial roles, with 17.7% in supervisory roles and 66.6% in other roles. It was found that the gender division in managerial roles was not substantial, with 53.0% of males in managerial roles (see Table 2). However, there is a higher percentage of females in supervisory roles at 61.9% (see Table 3) and other roles at 66.6% (see Table 4). This finding does not substantially correspond with the non-Australian context findings of Lynch (2002), Schmidt and Parker (2003), Broadbridge et al. (2006), and Gabriel and Schmitz (2007) that found managerial positions in retailing to be male dominated.

Table 2: Respondents classified by Managerial position and Gender

Managerial Position	Gender		Total
	Male	Female	
Count	53	47	100
% within Industry	53.0%	47.0%	100.0%

Table 3: Respondents classified by Supervisory position and Gender

Supervisory Position	Gender		Total
	Male	Female	
Count	43	70	113
% within Industry	38.1%	61.9%	100.0%

Table 4: Respondents classified by Other position and Gender

Other Position	Gender		Total
	Male	Female	
Count	171	254	425
% within Industry	40.2%	59.8%	100.0%

5. IMPLICATIONS AND CONCLUSIONS

The results suggest that gender stereotypes exist in retail employment in Australia. Such stereotypes can relate to perceptions and expectations of customers, management decision making, and discrimination. The demographic characteristics of retail staff can affect service quality. As suggested in the literature review, customers are likely to have preferences as to who they are being served by when shopping for specific products, affecting their purchase decisions and consequently the business performance of stores. Hence, managers can use such information in employment decision making to create a competitive advantage and increase profitability. For example, males shopping for DIY goods perceive male staff to be more knowledgeable (Sparks, 1991). This is reflected in the findings that products requiring technical expertise are male dominated.

It was also found that products for females such as cosmetics and clothing were more likely to be staffed by females. This implies that female employees are more suitable for female related products, as similarly pointed out by Fischer, Gainer, and Bristor (1997), who pointed out that women expect to receive better service from women and men from men. Notwithstanding, it was found that females dominate retail employment in general and from an employer's perspective, this can be explained by research stereotyping women with a 'natural ability' to build rapport (Taylor and Tyler, 2000), possessing 'softer skills' (Kerfoot and Korczynski, 2005), and sexualisation (Hochschild, 1983). This implies that female employees are more adept in retailing to both genders as compared to males, which can explain the finding that females dominate in retail employment and that female employees are stereotypical of retail positions.

As reported in the results, the slightly larger percentage of males in managerial positions does not substantially correspond with the non-Australian context findings of Lynch (2002), Schmidt and Parker (2003), Broadbridge et al. (2006), and Gabriel and Schmitz (2007) that managerial positions in retailing are male dominated. However, it is unclear if demographic differences in retail employment are the result of employer preferences or if certain demographic profiles, such as females as reported, generally prefer to work in certain retail positions. Therefore, further research in this area is recommended.

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MINDFULNESS-BASED STRESS REDUCTION (MBSR)

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Abstract

Aim

The aim of this paper is to create awareness on the concept of Mindfulness-Based Stress Reduction (MBSR) and how it works as a stress reduction technique.

Brief description

The world today has become a boxing ring; each one is competing to knock down others by hook or crook. Survival of the fittest is the buzz word going around. The cut throat competition and fight for existence has spawn stress that is unbearable. Uncontrolled stress will cause life threatening diseases or uncomfortable life to speak the least.

Mindfulness Based Stress Reduction is a technique that uses the thoughts, mind, nature and ancient yoga to control, reduce and eliminate stress. It does not require any special equipment or elaborate arrangements for practising the technique. The technique could also be practiced 24x7, and requires a few hours of guidance from the experts.

Retuning to nature is one way to reduce stress. Mindfulness Based Stress Reduction uses a combination of many art forms also along with Yoga and it has been found to be very effective in treating patients with terminal illness like cancer

Interpretation of stress is a highly individualistic perception. Effects of stress, coping ability also varies from person to person. *Stress is experienced when one perceives that the demands of work are greater than the ability to cope.* This threshold will be determined by various factors, such as cultural background , personality traits, health, gender, age and circumstances to name a few.

The important aspect is that the stress is an internal reaction to an external stimulus. There are conflicting situations which confronts us that lay strain on our resources, time, and ability to cope with demands of life. If we conclude that the required resources needed to effectively deal with a situation are beyond what we have available, we say that that situation is stressful - and we react with a classical stress response

Stress a Predestined Response

Contribution made by eminent neurologist Walter Cannon and scientist Selye is worthy in the area of study regarding stress. Walter Cannon coined the term homeostasis to further define the dynamic equilibrium of human body. He also was the first credited with recognizing that stressors could be emotional as well as physical. Through his experiments, he demonstrated the "fight or flight" response that man and other animals share when threatened. Further, Cannon traced these reactions to the release of powerful neurotransmitters from a part of the adrenal gland, the medulla. (Neurotransmitters are the body's chemicals that carry messages to and from the nerves.) The adrenal medulla secretes two neurotransmitters, epinephrine (also called adrenaline) and norepinephrine (noradrenaline), in the response to stress. The release of these neurotransmitters leads to the physiologic effects seen in the fight or flight response, for example, a rapid heart rate, increased alertness, etc.

The external stimuli will create an internal response no matter who you are as Neurotransmitters start working inside your body. Hence stress is an inevitable condition which need to be controlled and coping strategies have to be thought of.

Why We Respond Differently To A Given Situation

1. Perception and interception of situation differently.

2. Resource utilisation is not similar.
3. Availability of resources and skills are different.

Some situations which are not negative ones may still be perceived as stressful. This is because we think we are not completely prepared to cope with them effectively. It is common to experience stress before moving to a nice house or when a prize is won which are not a negative situation. Hence it is not the external stimuli only responsible for the stressful situation; it is the way one assigns or attaches thoughts to it. Your interpretation of events and challenges in life may decide whether they are invigorating or harmful for you.

A persistently negative response to challenges will eventually have a negative effect on your health and happiness. Experts say people who tend to perceive things negatively need to understand themselves and their reactions to stress-provoking situations better. Then they can learn to manage stress more successfully.

Mindfulness-Based Stress Reduction

By end of the day do you remember what breakfast you had in the morning or lunch? If you don't, you are not mindfulness. Human brain can travel faster than light. Thoughts could take you to moon or any inaccessible place it is impossible physically for you to reach.

- **Thoughts And You**

Most people identify so strongly with their minds and thoughts they think they are their minds and thoughts. This strong belief does *not* correspond with reality. Just because many people believe something does not make it true. For thousands of years people thought the earth was flat and that belief did not correspond with reality either.

Our thoughts and feelings are changing constantly. They seem to go on, automatically, by themselves, whether we want them to, or not. In other words we are subservient to our thoughts.

We think of next event before one finishes and end up in neither place. This is what happened while you were having breakfast or lunch. You were obsessed with the events in the office, a task unaccomplished, a scheduled business meeting and such hosts of routine events.

- **Origin Of Mindfulness-Based Stress Reduction**

Dr. Jon Kabat-Zinn developed the Mindfulness Based Stress Reduction (MBSR) program at the University Of Massachusetts Medical Centre. MBSR has evolved into a common form of complementary medicine addressing a variety of health problems since its inception. The National Institutes of Health's National Centre for Complementary and Alternative Medicine has provided a number of grants to research the efficacy of the MBSR program in promoting healing. Completed studies have found that pain-related drug utilization was decreased, and activity levels and feelings of self esteem increased, for a majority of participants.

Mindfulness-based stress reduction (MBSR), a form of stress relief rooted in the practice of mindfulness and cognitive therapy. It has gained popularity in recent years and has been found to be a rather effective means of stress relief. Used therapeutically, mindfulness-based therapies have been shown effective as a treatment or complementary treatment for more serious conditions such as borderline personality disorder, generalized anxiety disorder, and depression. Mindfulness-based stress reduction has been effectively used to help treat everyday stress, as well as the more significant stresses experienced by people with HIV, heart disease, and other serious chronic health conditions. It is possible to learn Mindfulness-based stress reduction through classes or by a trained therapist

- **How It Works**

MBSR can help you to either remove or change the source of stress, alter the way you view a stressful event, lower the impact that stress might have on your body, and teach you a way of coping. MBSR as a stress management therapy will have the objective of pursuing one or more of these approaches. *Mindfulness based stress reduction is simple, portable and effective* based in your relationship with your own mind or breath, there are no gadgets required to be used. It could be literally practiced all time regardless where you are.

Mindfulness Based Stress Reduction brings together mindfulness meditation and yoga. Although MBSR is training with potential benefits for all types of participants, historically, students have suffered from a wide range of chronic disorders and diseases. MBSR is an 8-week intensive training in mindfulness meditation, based on ancient healing practices, which meets on a weekly basis. Mindfulness practice is ideal for cultivating greater awareness of the unity of mind and body, as well as of the ways the unconscious thoughts, feelings, and behaviors can undermine emotional, physical, and spiritual health. The mind is known to be a factor in stress and stress-related disorders, and meditation has been shown to positively affect a range of autonomic physiological processes, such as lowering blood pressure and reducing overall arousal and emotional reactivity. In addition to mindfulness practices, MBSR uses martial arts to help reverse the prevalence of disuse atrophy from our culture's largely sedentary lifestyle. This had been found useful especially for those with pain and chronic illnesses. The program brings meditation and yoga together so that the virtues of both can be experienced simultaneously.

- **Increases Focus**

Ever imagined what will happen to a batsman facing a pace bowler, if he loses concentration for a split second? He could be out and spell disaster for his team. Some eminent sports personalities use this technique of MBSR knowingly or unknowingly. **Philip Douglas "Phil" Jackson** former American professional basketball player and widely considered one of the greatest coaches in the history of the National Basketball Association (NBA), had known to using this technique.

- **Removes Clutter**

Avoiding other thought and remaining in the present reduces clutter and gives clarity to mind. MBSR allows the job in hand to be done well and further motivates on the next task when its turn comes.

- **Allows Relaxation**

The technique is based on yoga the ancient Indian relaxation and rejuvenation programme, only difference being it includes and combines other art forms, martial arts etc. Concentrating on the breath cycle itself allows one to calm down and relax.

Some people prefer to practice mindfulness based stress reduction by innocently watching their breath. By watching the breath we become more aware of that which is going on and come back to the present. Simply allow the attention to gently notice the inhale.....and exhale...and inhaleand exhale...and inhaleand exhale..... This quiets the mind. One would feel secure in the wonderful gift of life.

- **Watch The Mind**

Mindfulness based stress reduction allows watching the mind to learn the truth about who we really are.

And thus, we become less involved with the mind's pain.

- Watch the mind
- without judgments,
- without "shoulds,"
- with no effort to control.

Watch the mind as it changes, as it plays its games and runs its conditioned patterns.

The thoughts and patterns go on, almost by themselves. They go on without any help from you. The thoughts and its association to the inner self is what create the stress, pain and anguish in us.

As per the MBSR the thoughts keep changing opinions and decisions taken once may not hold any relevance at all on a later date. Hence no point in brooding in the irrelevant things that is what MBSR teaches us.

Enjoy the Nature

Next time when you are in the nature's lap, don't forget to listen to the birds chirping; the rhythmic sound of a cascade, the caresses of the breeze that pass by least you will be breaching a golden rule of MBSR. When God created us, he endowed enough entertainment around us to recreate, only we have to tune back to the original frequency. Drifting back into nature will rejuvenate you; it will fill your inner self with colours and fragrances that a human being can imitate. The nature path is the destined path for human development.

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The Influence of Work Motivation, Job Resources, and Work Engagement on Proactive Behavior

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Abstract

An important issue in today's human resource management is to have employees who perform proactive behavior. Unlike a business environment a decade ago, a recent crisis and though competition demand company to perform not only better but also quicker in responding customers demand. To do that having employees who actively seeking a more responsibility is a must. This study is based on previous research developed a comprehensive model to examine the antecedents of proactive behavior. We include three forms of work motivation (job self efficacy, role breadth self efficacy, and role orientation), job resources, and work engagement in the model to figure out their effects on proactive behavior. Adding absorption as another dimension of work engagement, this study examined the relationship between job self efficacy, role breadth self efficacy, role orientation job resources, work engagement, and proactive behavior using structural equation modeling.

Keywords: job self efficacy, role breadth self efficacy, job resources, work engagement, and proactive behavior.

As the world changes, business is changing. These changes need response. Response needed by these changes can emerge as new demands on how work has been done before. These changes, (1) emerged against the background of worldwide economic recession and the pressure of this recession placed on companies to enhance their competitiveness, and (2) embody the strategic view that such competitiveness is best achieved through increased responsiveness to customer demand, by controlling cost whilst simultaneously improving quality and tailoring output more specifically to customer requirements (Parker, Wall, and Jackson, 1997). It is answering why modern companies need employee with proactive behavior. Proactive behavior refers to anticipatory action that employees take to impact themselves and/or their environments (Grant and Ashford, 2008). That behavior includes taking initiative in pursuing personal and organizational goals (Frese & Fay, 2001), actively adapting to new environments (Ashford & Black, 1996), taking charge (Morrison & Phelps, 1999), expanding roles (Parker, Wall, & Jackson, 1997), and implementing ideas and solving problems (Parker, Williams, & Turner, 2006). Modern organization need their employee to be more proactive, initiative, responsible in professional development and more committed to high quality of working standard (Bakker and Leiter, 2010).

Writers have suggested that proactive behavior at work improves job performance (Bateman and Crant, 1999). Proactive people see opportunities and act on them, take initiative, persist until goals are reached or change is brought about (Burke and Koyuncu, 2010). Crant (2000) refers to proactive behavior as "taking initiative in improving current circumstances; it involves challenging the status quo rather than passively adapting present conditions". As Crant (2000) suggested, because of its wide-ranging impact, proactive behavior has the potential to be a "high-leverage concept rather than just another management fad".

Global crisis influence more than anybody could predict. Indonesia is one of many countries affected by the crisis. One of Indonesian sectors influenced by crisis is the bank industry. Based on a quick survey (2008) by Bank of Indonesia, with a topic of "The Impact of Financial Global Crisis on Bank Industry and Other Economic Sectors in Central Java", it is said that the crisis is a barrier for Indonesia economic growth. Moreover, bank industry will be suffering for the low economic growth because there will be a decrease number of loans distribution which as a matter of fact, loan department is an important department underpinning bank industry. Recent crisis and though competition would be very strong reasons for companies to consider about proactive behavior.

Previous research by Ohly and Fritz (2007) included job self efficacy, role breadth self efficacy, intrinsic motivation, and role orientation as the antecedents of proactive behavior. Result revealed that only role breadth self efficacy is significantly related to proactive behavior when examining all motivational variables simultaneously while job self efficacy, role breadth self efficacy, and role orientation had no significant relation with proactive behavior. Different with research by Ohly and Fritz (2007), a research by Parker, William, and Turner (2006) suggests that role breadth self efficacy and flexible role orientation had positive links with proactive work behavior. Another research by Salanova and Schaufeli (2008) found the mediating role of work engagement (i.e. vigor and dedication) among job resources (i.e. job control, feedback and variety) and proactive behavior at work. Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002) defined work engagement as a positive, fulfilling, work-related state of mind characterized by vigor, dedication and absorption.

This article follows the latter view and considers proactive behaviour in terms of personal initiative (Frese, Fay, Hilburger, Leng and Tag 1997; Salanova and Schaufeli, 2008), which is a behavioral pattern whereby the individual takes an active self-starting approach to work, thereby going beyond formal job requirements. Proactive employees show personal initiative and are action-directed, goal-directed, seek new challenges, and are persistent in the face of obstacles. The aim of this current study is to understand more about antecedents of proactive behavior. Based on previous research developed a comprehensive model to examine the antecedents of proactive behavior (Salanova and Schaufeli, 2008; Ohly and Fritz, 2007), we combine previous models and adding one dimension on a variable for capturing the whole dimensions of this construct (see figure 1). Many research revealing about proactive behavior held on western setting. We examine the relationship between job self efficacy, role breadth self efficacy, role orientation job resources, work engagement, and proactive behavior to see whether this new model has a good fit in explaining the factors influencing proactive behavior and to see whether it works in Indonesia setting.

Job Self Efficacy and Proactive Behavior

Self-efficacy refers to an individual's self-beliefs, related to their own ability to perform specific tasks successfully (Bandura, 1998 in Ayupp and Kong, 2010). Job self-efficacy has been found to be related to proactive behavior (Morrison & Phelps, 1999). Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. They set themselves challenging goals and maintain strong commitment to them. They heighten and sustain their efforts in the face of failure. They quickly recover their sense of efficacy after failures or setbacks. They approach threatening situations with assurance that they can exercise control over them (Bandura 1994).

Hypotheses 1: Job self efficacy will be positively related with proactive behavior

Role Breadth Self Efficacy and Proactive Behavior

Role breadth self efficacy concerns the extent to which people feel confident that they are able to carry out a broader and more proactive role, beyond traditional prescribed technical requirements. Its focus is not on what people do (i.e., their behavior), but rather on what they feel they can do (Parker, 1998). It has been said that one key requirement for this is that employees have to be proactive and use their initiative (Frese et al., 1996). Role breadth self efficacy, and other form of self efficacy, is an important determinant of proactive behavior (Axtell and Parker, 2003). Employee with role breadth self efficacy will feel capable for taking initiative to actively change their working condition and more related to proactive behavior (Parker et al., 2006)

Hypotheses 2: Role breadth self efficacy will be positively related to proactive behavior

Role Orientation and Proactive Behavior

Role orientation targets the degree to which individuals incorporate certain responsibilities into their work-role (Parker, Wall, & Jackson, 1997). Aligning with Parker (2000), this can mean a move away from narrow "that's

not my job” mentality to an orientation in which employees see broader problems as their responsibility and recognize the importance of being proactive. Role orientation is related to proactive behavior (Unsworth, Wall, & Carter, 2005).

Hypotheses 3: Role orientation will be positively related to proactive behavior

Job Resources, Work Engagement, and Proactive Behavior

Job resources refer to those physical, psychological, social, or organizational aspects of the job that either/or (1) reduce job demands and the associated physiological and psychological costs; (2) are functional in achieving work goals; (3) stimulating personal growth, learning and development (Demerouti et al., 2001). The JD-R model posits that job demands (i.e. physical demands, time pressure, shift work) are associated with exhaustion, whereas lacking job resources (i.e. performance feedback, job control, participation in decision making, social support) are associated with disengagement (Demerouti et al., 2001). Work engagement refers to a positive affective-motivational state of fulfillment that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, Gonzales-Roma, & Bakker, 2002). Favorable job characteristics foster high levels of energy and persistence in the face of obstacles (i.e. vigor), as well as the fulfillment of personal needs and identification with the job (i.e. dedication) (Salanova & Schaufeli, 2008). It requires additional effort to start proactive behavior and to persist in it (Frese, Fay, Hilburger, Leng, & Tag, 1997). For individuals to engage in proactive behavior, it is necessary for them to care about their work and to regard it as worthwhile to invest the extra effort. When dedicated to their work and enthusiastic about it, individuals will be more likely engage in proactive actions to keep the work situation a positive one and to further improve it. To perceive opportunities for proactive behavior and to persist in it, it is important for individuals to become absorbed in their work and to concentrate on it. It is crucial for them to resist the temptation to detach from work in the case of emerging difficulties (Sonnentag, 2003).

Hypotheses 4: Job resource will be positively related to work engagement and in turn, work engagement will be positively related to proactive behavior

Method

Sample and Procedures

We used 267 (105 men and 162 women) bank employees from 40 bank offices in Surakarta, Indonesia with organic employee and 2 years minimal working on the bank as the characteristics of purposive sampling technique applied. Survey method used on data collection with 90% response rate (300 were sent and 271 were back). From 271 data sets, 267 were used on the calculation.

Instruments

Proactive behavior. To measure proactive behavior, we used 3 items developed by Salanova & Schaufeli (2008) and 2 items developed by Frese et al., (1997) on a 5-point scale which ranged from 1 (*never*) to 5 (*always*). The internal consistence (Cronbach α) was 0.900.

Job self efficacy. To measure job self efficacy, we used 3 items developed by Wang & Netemeyer (2002) on a 5-point scale which ranged from 1 (*not sure at all*) to 5 (*totally sure*). The internal consistence (Cronbach α) was 0.716.

Role breadth self efficacy. To measure role breadth self efficacy, we used 7 items developed by Parker et al., (1998) on a 5-point scale which ranged from 1 (*not sure at all*) to 5 (*totally sure*). The internal consistence (Cronbach α) was 0.896.

Role orientation. To measure role orientation, we used 3 items developed by Ohly & Fritz (2007) on a 5-point scale which ranged from 1 (*not true at all*) to 5 (*totally true*). The internal consistence (Cronbach α) was 0.848.

Job resources. There are three types of job resources in this study. Autonomy/job control measured with 3 items developed by Hackman and Oldham (1974) on a 5-point scale which ranged from 1 (*totally disagree*) to 5 (*totally agree*). The internal consistence (Cronbach α) was 0.894. Feedback measured with 4 items developed by Sims, Szylagyi, & Keller (1976) on a 5-point scale which ranged from 1 (*not true at all*) to 5 (*totally true*). The

internal consistence (Cronbach α) was 0.878. Task variety measured with 3 items developed by Sims, Szylagyi, & Keller (1976) on a 5-point scale which ranged from 1 (*not true at all*) to 5 (*totally true*). The internal consistence (Cronbach α) was 0.895.

Work engagement. To measure work engagement, we used 9 items Utrecht Work Engagement Scale (Schaufeli et al. 2002). The internal consistence (Cronbach α) was 0.824 for vigor, 0.813 for dedication, and 0.884 for absorption.

Data Analysis

Structural Equation Modelling (SEM) methods as implemented by the AMOS 4.01 program (Arbuckle and Wothke, 1997) with maximum likelihood estimation were used to test the models. The goodness-of-fit of the models was evaluated using (Hair et al., 2006) : (1) the χ^2 goodness-of-fit statistic; (2) the Root Mean Square Error of Approximation (RMSEA); (3) the Goodness of Fit Index (GFI) with rule of thumb ≥ 0.90 ; (4) the Adjusted Goodness of Fit Index (AGFI) with rule of thumb ≥ 0.90 ; (5) Normed Fit Index (NFI) with rule of thumb ≥ 0.90 ; (6) Tucker Lewis Index (TLI) with rule of thumb ≥ 0.90 ; and (7) Comparative Fit Index (CFI) with rule of thumb ≥ 0.90 . However, χ^2 is sensitive to sample size, so that the probability of rejecting a hypothesized model increases when sample size increases. To overcome this problem, the computation of relative goodness-of-fit indices is strongly recommended. Values of RMSEA smaller than .08 indicate an acceptable fit.

Results

Validity test using SPSS 15.0 resulted in dropping 2 items. Running data on measurement model excluded the two items dropped on the previous step resulted in dropping 3 more items. The measurement model achieved goodness of fit indices except for AGFI; (1)The χ^2 goodness-of-fit statistic was 492,454; (2) RMSEA was 0.013; (3) GFI was 0.901; (4) AGFI was 0,882; (5) NFI was 0.910; (6) TLI was 0.995; and CFI was 0.995. However, this model can be accepted (see table 1).

Structural model also achieved goodness of fit indices except AGFI; 1)The χ^2 goodness-of-fit statistic was 507,915; (2) RMSEA was 0.016; (3) GFI was 0.889; (4) AGFI was 0,880; (5) NFI was 0.907; (6) TLI was 0.992; and CFI was 0.993. Although AGFI did not reach the cut value (≥ 0.90), the delta between cut value and reached value is relatively small (0.02). So, this structural model can be accepted.

By using 0.01 as level of significance, the value 2.58 should be reached by critical ratio for accepting paths hypothesized in this study. Critical ratio for relationship between job self efficacy and proactive behavior showed the value of 2.915 and 3.990 for relationship between role breadth self efficacy and proactive behavior. These findings support hypotheses 1 and 2. Critical ratio for relationship between role orientation and proactive behavior showed the value of 0.740. It means hypotheses 3 was not supported. Critical ratio for relationship between job resources and work engagement showed the value of 7.706 and 3.033 for the relationship between work engagement and proactive behavior. Thus, hypotheses 4 was supported. However, these results achieved without including direct effect of job resources to proactive behavior. Different result obtained by including the direct effect of job resources to proactive behavior. Result showed critical ratio value of 7.698 on the relationship between job resources and work engagement, and 1.021 (not significance) for the relationship of job resources and proactive behavior.

Discussion

Results showed support for hypotheses 1. It indicates that the increase of job self efficacy on employee will also increase employee proactive behavior. This result consistent with prior study (Speier & Frese, 1997) showed that self efficacy enhances employee personal initiative. People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. They heighten and sustain their efforts in the face of failure. They attribute failure to insufficient effort or deficient knowledge and skills which are acquirable. They approach threatening situations with assurance that they can exercise control over them (Bandura, 1994). Support also achieved by hypotheses 2. This result support the study of Ohly & Fritz (2007); Morrison & Phelps (1999); Parker (1998). People with high role breadth self efficacy have more confidence in performing a

broad range of activities (Parker, 1998), they will feel capable of taking initiative to actively change their current job situation compared to people with low role breadth self efficacy.

This study was not supporting hypotheses 3 saying role orientation will be positively related to proactive behavior. This study consistent with prior study (Ohly & Fritz, 2007). This study used measurement instrument developed by Ohly and Fritz (2007) for role orientation. Different result can be obtained by using other measurement instrument. Result showed that measurement instrument developed by Ohly & Fritz is not fit in some setting. Moreover, bank employee on this research restricted by control activities and segregation of duties as mentioned in standard of bank internal control system of Indonesian bank by Bank of Indonesia. So, we see no chance for this people to apply flexible role orientation on their work.

Full support for hypotheses 4 was achieved. As predicted, job resources positively related to work engagement which in turn positively related to proactive behavior. Job resources play a vital role in the development of work engagement, and refer to physical, social, or organizational aspects of the job that are functional in obtaining work goals, reducing job demands, and providing opportunities for personal growth and learning (De Lange et al, 2008). Job resources like social support or support provided at the departmental level play an important role in reinforcing positive images of oneself, and in fostering positive work outcomes like work engagement (Demerouti et al., 2001). The insignificant direct effect of job resources on proactive behavior might be better explained by including job demand variable on the calculation.

Implication

Results suggest that job self efficacy and role breadth self efficacy enhance employee proactive behavior. Further, job resources enhance work engagement which in turn enhances proactive behavior. Based on these results, bank/organizations may increase the level of employee job self efficacy, the level of role breadth self efficacy, and provide job resources (autonomy, feedback, and task variety) for enhancing proactive behavior. According to Bandura 1977 in Jackson 2002, there are few things should be considered to enhance self efficacy; performance accomplishment, vicarious experience, verbal persuasion, and emotional arousal. To enhance role breadth self efficacy, bank/organizations need to provide a good work design, training, and good communication quality in the workplace.

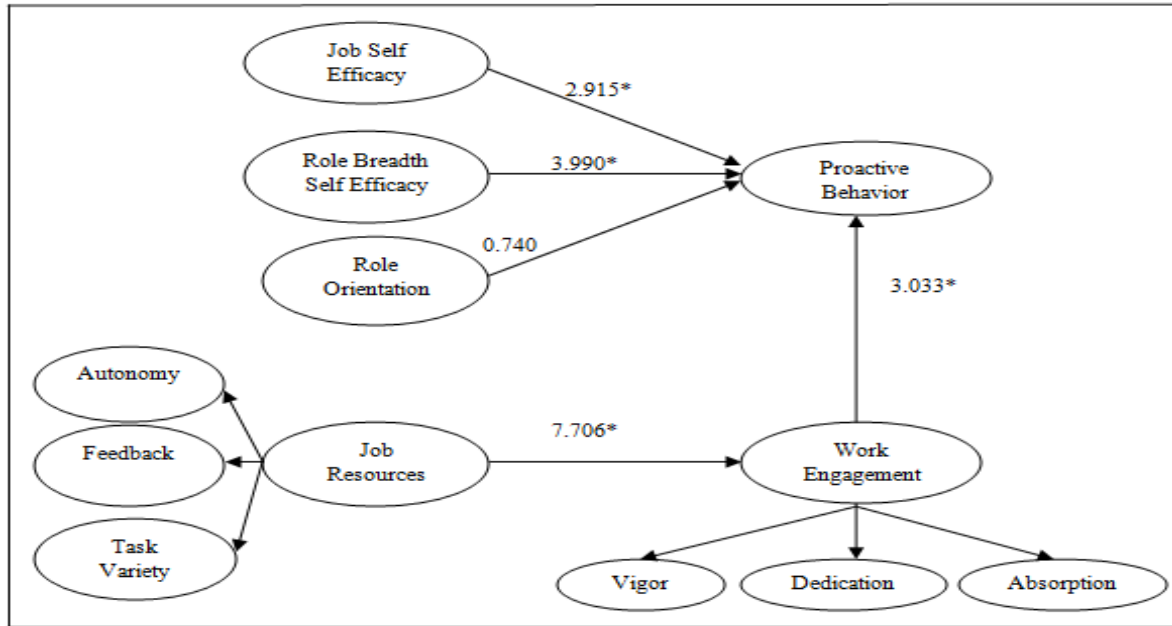
Limitations and Future Research

This research supports three of four hypotheses. However, this study has some limitations. First, sample used in this research come from bank employee only. It affects the generalization of this study. There is an obvious need to conduct this study within other organizations to ascertain the generalization of the findings. Second, data used for this study is self-reported data. It might be influencing the bias and accuracy. Future study might achieve better accuracy using multi-rater method in collecting data. Third, measurement instrument used for role orientation is different with what has been used in many prior studies which has a better generalization level. It is suggested to use measurement instrument which contextually fit or the one having good level of generalization. Fourth, job demand variable which might explain the direct effect of job resources to proactive behavior better, was not included in this study. Including job demand variable on explaining relationship of variables involving job resources is essential.

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For a full list of references, contact the author(s).



*significance on $\alpha = 0.01$

Figure 1. The Research Model

Table 1
Model Fit

	χ^2	Significance probability	RMSEA	GFI	AGFI	CMIN/DF	TLI	CFI	NFI
Cut of value		≥ 0.05	≤ 0.08	≥ 0.90	≥ 0.90	≤ 2.0	≥ 0.90	≥ 0.90	≥ 0.90
Measurement model	492.454	0.229	0.013	0.901	0.882	1.048	0.995	0.995	0.910
Structural model	507.915	0.136	0.016	0.899	0.880	1.072	0.992	0.993	0.907

Notes. χ^2 = Chi-square; RMSEA= Root Mean Square Error of Approximation; GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; TLI = Tucker Lewis Index; CFI = Comparative Fit Index; NFI = Normed Fit Index.

The Killer Stress

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Abstract

Aim

The aim of this paper is to discuss stress, its manifestations on human beings and ways to reduce the stress affecting the quality of life.

Brief description

Stress is an inevitable part of modern life and its going to stay this way, whether you like it or not. Stress need to be understood in its entirety to develop personal coping techniques. Stressors are highly distinctive in nature and what are stressors for one individual may not be cause of concern for others.

Two live case studies have been included in the paper to elucidate the importance of stress related problems. The need to reduce stress may be disputable; so is whether the stress givers can become victims to stress themselves. Stress is alarmingly contagious. There are many a cause for stress and stressors could be identified and blocked if a stress diary is maintained.

The article has given insight into organisational intervention in coping with stress at work place and spelt out how as an individual one can reduce stress. Importance of emotional intelligence is also mentioned in the article.

Case One

Amith, (name changed) a dashing twenty five year young Indian software engineer, was extremely happy getting a high paid salaried job in a South African diamond mining company. A room next to his office for living, snacks beside him to munch while he is continuously working on the computer was more than what he could ask for besides the large pay packet. He was fit as fiddle when he joined the company. However, hours of working on the computer without moving from his seat, and heavy snacking made him obese and he looked like a pumpkin in two years.

Parents of Amith fixed his marriage as he was expected to come home in the winter break after a long two years stay in the foreign land. The date of his arrival came and gone, but there was no news from Amith. The old parents got worried and contacted the company's office in Johanna's burg. To their utter dismay, they were told their only son is no more. When the parents were making plans for his marriage, Amit was fighting for his life after a massive heart attack; the company did not even bother to inform them! *Amith was a victim of inappropriate work culture, stress, an utterly unethical management and an unruly life style.*

Case Two

Nothing could stop me from becoming a General one day, thought the young officer, when he passed out from Indian Military Academy sixteen years back. Presently, a Lieutenant Colonel in the Indian Army, Lieutenant Colonel Yogesh Sharma (name changed) is suffering from stress related ulcer. Loosing over ten kilos in a span of two years and his expected promotion, he was a nervous wreck when he met me in lawns of an officer mess somewhere in the western sector.

Posted at a coveted appointment that controls the logistics, man power and coordination in large sector, the Lieutenant colonel was under tremendous amount of work pressure. Is it the work pressure that landed him in this dire predicament? "NO. Not the work stress alone" the officer confided to me. It was the humiliation that meted out by his boss day in and day out that was responsible for the situation, he later told me. The officer had under gone a torturous tenure under a boss who never accepted any mistakes and instead of correcting or guiding the junior officer, the senior officer used to call him at unearthly time to admonish and ridicule him.

The officer's career has been doomed beyond repairs, his dreams shattered and his health has been ruined due to mismanagement of his boss. What do we learn from such cases? Yes, there is distressing amount of stress present in the organisations and pathetically disproportionate reduction measures in place. There are no balanced work life policies which can assure a stress free quality life.

Stress Coping Techniques

Stress management encompasses techniques intended to equip a person with effective coping mechanisms for dealing with psychological stress, with stress defined as a person's physiological response to an internal or external stimulus that triggers the fight-or-flight response. Controlling the source of stress or learning to set limits and to say "No" to some demands that bosses or family members may make are some ways of coping with stress. However you run into a problem of spoiling the relationship in such cases and a tradeoff need to be done. One must know how tactfully to decline the needs in such situations.

The term *stress* had none of its contemporary connotations before the 1950s. It is a form of the Middle English *destresse*, and from the Latin *stringere*, means to draw tight the word was derived. The word had long been in use in physics to refer to the internal distribution of a force exerted on a material body, resulting in strain. **Walter Cannon** used it in 1934 to refer to external factors that disrupted what he called *homeostasis*.

The recent usage came in to being out of **Selye's** experiments during 1930s. He coined the term "**eustress**" for positive stress, and "**distress**" to the bad stress.

He argued that all people have a natural urge and need to work for their own benefit, a message that found favor with industrialists and governments. He also coined the term "**stressor**" to refer to the causative event or stimulus, as opposed to the resulting state of stress.

Factors in Stress

Stress affects people in different ways and what one person finds stressful can be normal to another. How they appraise the situation will depend on various factors, including:

- their background and culture;
- their skills and experience;
- their personality;
- their personal circumstances;
- their individual characteristics;
- their health status;
- their ethnicity, gender, age or disability; and
- other demands both in and outside work.

Signs of Stress

The first signs that indicate that employees might be suffering from excessive pressure or stress are changes in behaviour or performance. The kinds of change that may occur are shown in the table below.

❖ Work performance	➤ Regression
❖ declining/inconsistent performance	➤ crying
❖ uncharacteristic errors	➤ arguments
❖ loss of control over work	➤ undue sensitivity
❖ loss of motivation/commitment	➤ irritability/moodiness
❖ indecision	➤ over-reaction to problems
❖ lapses in memory	➤ personality clashes

❖ increased time at work ❖ lack of holiday planning/usage	➤ sulking ➤ immature behaviour
➤ Withdrawal ➤ arriving late to work ➤ leaving early ➤ extended lunches ➤ absenteeism ➤ resigned attitude ➤ reduced social contact ➤ elusiveness/evasiveness	❖ Aggressive behaviour ❖ malicious gossip ❖ criticism of others ❖ vandalism ❖ shouting ❖ bullying or harassment ❖ poor employee relations ❖ temper outbursts
❖ Other behaviours ❖ out of character behaviour ❖ difficulty in relaxing ❖ increased consumption of alcohol ❖ increased smoking ❖ lack of interest in appearance/hygiene ❖ accidents at home or work ❖ reckless driving ❖ unnecessary risk taking	🚩 Physical signs 🚩 nervous stumbling speech 🚩 sweating 🚩 tiredness/lethargy 🚩 upset stomach/flatulence 🚩 tension headaches 🚩 hand tremor 🚩 rapid weight gain or loss 🚩 constantly feeling cold

Most Common Causes of Stress

Human being is a psychological paradox. There is no predictable behaviour pattern and each personality complex and unique in itself. People react and behave differently to stressful situations. What is stressful situation to one person may not be a stressful situation to other at all. The threshold level varies due to the common causes are:-

- Bereavement
- Family problems
- Financial matters
- Illness
- Job issues
- Lack of time
- Moving home
- Relationships (including divorce)

Mental Health at Work Place

People with mental health problems are not a uniform or homogenous group. Individuals will face challenges specific to themselves and many may need little or no support at work.

Employers who wish to create a healthy work environment will recognise the need to establish policies and procedures in the area of mental health that set out a tangible programme with measurable targets and an effective auditing process. Mental health policy should be an integral part of any organisation's health and safety at work policy.

❖ Self help for treating stress

Exercise - exercise has been proven to have a beneficial effect on a person's mental and physical state. For many people exercise is an extremely effective stress buster.

Division of labour - try to delegate your responsibilities at work, or share them. If you make yourself indispensable the likelihood of your feeling highly stressed is significantly greater.

Assertiveness - don't say yes to everything. If you can't do something well, or if something is not your responsibility, try to seek ways of not agreeing to do them.

Alcohol and drugs - alcohol and drugs **will not help you** manage your stress better. Either stop consuming them completely, or cut down.

Caffeine - if your consumption of coffee and other drinks which contain caffeine is high, cut down.

Nutrition - eat plenty of fruit and vegetables. Make sure you have a healthy and balanced diet.

Time - make sure you set aside some time each day just for yourself. Use that time to organize your life, relax, and pursue your own interests.

Breathing - there are some effective breathing techniques which will slow down your system and help you relax.

Talk - talk to you family, friends, work colleagues and your boss. Express your thoughts and worries.

Seek professional help - if the stress is affecting the way you function; go and see your doctor. Heightened stress for prolonged periods can be bad for your physical and mental health.

Relaxation techniques - mediation, massage, or yoga have been known to greatly help people with stress.

Measures To Reduce Stress At Work Place

To reduce workplace stress actions could be taken including:

- Undertaking a stress audit and subsequently directing resources to reduce or eliminate the sources of stress
- People management skills development for managers at all levels
- The development of a supportive work ethos to encourage staff to discuss stress and seek support when experiencing stress.

Sources of stress being not identical and highly individualistic in nature, cannot be eliminated, other interventions may be considered, such as:

- stress management and training in relaxation techniques
- promoting healthy behaviour and exercise
- personal counselling schemes.
- Practice of Yoga and other stress busters.

❖ **Keep a stress diary**

If you're not sure what causes your stress, keep a stress diary at work for two to four weeks, and then review it to spot the triggers. Each day, make a note of:

- the tasks you did and meetings you had at work that day
- how you felt at the start of the day: whether you're cheerful and optimistic, or dread going to work
- specific times when your mood changed
- whether you avoided certain tasks or people
- any situations that led to difficult scenes or unpleasant feelings
- whether too much is being asked of you
- whether you're worried that you might lose your job
- whether you enjoy what you're doing, or not. Quite simply, are you in the wrong job?

❖ **Reducing job stress by taking care of yourself**

Start by paying attention to your physical and emotional health. When your own needs are taken care of, you're stronger and more resilient to stress. The better you feel, the better equipped you'll be to manage work stress without becoming overwhelmed.

❖ **Get moving**

Aerobic exercise –perspiring -is an effective anti-anxiety treatment lifting mood, increasing energy, sharpening focus and relaxing mind and body.

❖ **Make food choices that keep you going and make you feel good**

Eating small but frequent meals throughout the day maintains an even level of blood sugar in your body. Low blood sugar makes you feel anxious and irritable. On the other hand, eating too much can make you lethargic.

Avoid alcohol and nicotine

Alcohol temporarily reduces anxiety and worry, but too much can cause anxiety as it wears off. Drinking to relieve job stress can also start you on a path to alcohol abuse and dependence. Similarly, smoking, nicotine is a powerful stimulant – leading to higher, not lower, levels of anxiety.

Get enough sleep

Stress and worry can cause insomnia. But lack of sleep also leaves you vulnerable to stress. When you're sleep deprived, your ability to handle stress is compromised. When you're well-rested, it's much easier to keep your emotional balance, a key factor in coping with job and workplace stress.

❖ **Reducing job stress by prioritizing and organizing**

When job and workplace stress surrounds you, you can't ignore it, but there are simple steps you can take to regain control over yourself and the situation. Here are some suggestions for reducing job stress by prioritizing and organizing your responsibilities.

❖ **Time management tips for reducing job stress**

- **Create a balanced schedule.** Analyze your schedule, responsibilities, and daily tasks. All work and no play is a recipe for burnout. Try to find a balance between work and family life, social activities and solitary pursuits, daily responsibilities and downtime.
- **Don't over-commit yourself.** Avoid scheduling things back-to-back or trying to fit too much into one day. All too often, we underestimate how long things will take. If you've got too much on your plate, distinguish between the "shoulds" and the "musts." Drop tasks that aren't truly necessary to the bottom of the list or eliminate them entirely.
- **Try to leave earlier in the morning.** Even 10-15 minutes can make the difference between frantically rushing to your desk and having time to ease into your day. Don't add to your stress levels by running late.
- **Plan regular breaks.** Make sure to take short breaks throughout the day to sit back and clear your mind. Also try to get away from your desk for lunch. Stepping away from work to briefly relax and recharge will help you be more, not less, productive.

❖ **Task management tips for reducing job stress**

- **Prioritize tasks.** Make a list of tasks you have to do, and tackle them in order of importance. Do the high-priority items first. If you have something particularly unpleasant to do, get it over with early. The rest of your day will be more pleasant as a result.
- **Break projects into small steps.** If a large project seems overwhelming, make a step-by-step plan. Focus on one manageable step at a time, rather than taking on everything at once.

- **Delegate responsibility.** You don't have to do it all yourself, whether at home, school, or on the job. If other people can take care of the task, why not let them? Let go of the desire to control or oversee every little step. You'll be letting go of unnecessary stress in the process.

Reducing Workplace Stress by Improving Emotional Intelligence

Even if you're in a job where the environment has grown increasingly stressful, you can retain a large measure of self-control and self-confidence by understanding and practicing emotional intelligence. Emotional intelligence is the ability to manage and use your emotions in positive and constructive ways. Emotional intelligence in the workplace has four major components:

- **Self-awareness** – The ability to recognize your emotions and their impact while using gut feelings to guide your decisions.
- **Self-management** – The ability to control your emotions and behaviour and adapt to changing circumstances.
- **Social awareness** – The ability to sense, understand, and react to other's emotions and feel comfortable socially.
- **Relationship management** – The ability to inspire, influence, and connect to others and manage conflict.

❖ **Reducing stress in the workplace with emotional intelligence**

The more emotional intelligence you have, the more stress you can avoid in the workplace. Fortunately, emotional intelligence is not something we're born with; it's something we can learn and develop.

The skill set that enables you to acquire these capabilities can be learned but requires the development of emotional and nonverbal ways of communicating that include:

- Learning to recognize your particular stress response and become familiar with sensual cues that can rapidly calm and energize you.
- Staying connected to your internal emotional experience so you can appropriately manage your own emotions.
- Learning to recognize and effectively use the nonverbal cues that make up 95-98% of your communication process. It's not what you say but how you say it that impacts others –for better or worse.
- Developing the capacity to meet challenges with humour.
- Learning to navigate conflict by becoming a good listener.

❖ **Reducing workplace stress by breaking bad habits**

As you learn to manage your job stress and improve your work relationships, you'll have more control over your ability to think clearly and act appropriately. You will be able to break habits that add to your stress at work – and you'll even be able to change negative ways of thinking about things that only add to your stress.

❖ **Eliminate self-defeating behaviours**

Many of us make job stress worse with patterns of thought or behaviour that keep us from relieving pressure on ourselves. If you can turn around these self-defeating habits, you'll find employer-imposed stress easier to handle.

- **Resist perfectionism.** No project, situation, or decision is ever perfect, and you put undue stress on yourself by trying to do everything perfectly. When you set unrealistic goals for yourself or try to do too much, you're setting yourself up to fall short. Do your best and you'll do fine.
- **Clean up your act.** If you're always running late, set your clocks and watches fast and give yourself extra time. If your desk is a mess, file and throw away the clutter; just knowing where everything is saves time and cuts stress. Make to-do lists and cross off items as you accomplish them. Plan your day and stick to the schedule — you'll feel less overwhelmed.
- **Flip your negative thinking.** If you see the downside of every situation and interaction, you'll find yourself drained of energy and motivation. Try to think positively about your work, avoid negative-thinking co-workers, and pat yourself on the back about small accomplishments, even if no one else does.

❖ **Find Ways to Dispel Stress**

- **Get time away.** If you feel stress building, take a break. Walk away from the situation. Take a stroll around the block, sit on a park bench, or spend a few minutes meditating. Exercise does wonders for the psyche. But even just finding a quiet place and listening to your iPod can reduce stress.
- **Talk it out.** Sometimes the best stress-reducer is simply sharing your stress with someone close to you. The act of talking it out – and getting support and empathy from someone else – is often an excellent way of blowing off steam and reducing stress.
- **Cultivate allies at work.** Just knowing you have one or more co-workers who are willing to assist you in times of stress will reduce your stress level. Just remember to reciprocate and help them when they are in need.
- **Find humour in the situation.** When you – or the people around you – start taking things too seriously, find a way to break through with laughter. Share a joke or funny story.

❖ **What managers or employers can do to reduce stress at work**

It's in a manager's best interest to keep stress levels in the workplace to a minimum. Managers must act as positive role models, especially in times of high stress. All of the tips mentioned in this article are twice as important for managers to follow. If someone that we admire remains calm, it is much easier to remain calm ourselves – and vice versa! There are also organizational changes that managers and employers can make to reduce workplace stress.

❖ **Improve communication**

- Share information with employees to reduce uncertainty about their jobs and futures.
- Clearly define employees' roles and responsibilities.
- Make communication friendly and efficient, not mean-spirited or petty.

❖ **Consult your employees**

- Give workers opportunities to participate in decisions that affect their jobs.
- Consult employees about scheduling and work rules.
- Be sure the workload is suitable to employees' abilities and resources; avoid unrealistic deadlines.
- Show that individual workers are valued.

❖ **Offer rewards and incentives**

- Praise good work performance verbally and institutionally.
- Provide opportunities for career development.
- Promote an "entrepreneurial" work climate that gives employees more control over their work.

❖ **Cultivate a friendly social climate**

- Provide opportunities for social interaction among employees.
- Establish a zero-tolerance policy for harassment.
- Make management actions consistent with organizational values.

Conclusion

Stress has become an inevitable part of modern life, like it or not it is going to stay. Coping with stress is the only way to survive. The stress creators and the stress takers need to understand this in a more realistic perspective.

Employees can be more productive when they are satisfied and their stress level could also be reduced. Considering the return on investment and the social cost of the adverse effects of the stress, managerial intervention in the stress reduction programmes will be good trade off.

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Relationships between culture and values: A comparative study between Finland and India

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Abstract

Globalization and opening economy have increased the number of professionals working across cultural boundaries. In the light of these changing socioeconomic configurations, it is becoming increasingly important to understand the cultural values of these professionals for effective cross-cultural management. Values of professionals differ across cultures and knowing the relationship between values and cultures can assist the professionals with better understanding of the behavior in the workplace and consequently help in the cross-cultural management. This paper compares the relationships between values in the Indian and Finnish contexts, and will provide insights to those professionals who are attempting to adjust to a new culture and seeks success at working across cultural boundaries. The cultures of the countries concerned will be conceptualized based on Hofstede's dimensions. For comparative reasons, especially Schwartz's definitions of values are used to measure values. Power, Achievement, Hedonism, Stimulation, Self-direction, Universalism, Benevolence, Tradition, Conformity, and Security in Finnish and Indian cultural context will be compared. Also work goal values will be compared to illustrate possible differences in attitudes and motivation to work. In addition to cultural differences, there are certain diverse values and their influence. A manager coming from different culture requires coaching in the relevant cultural differences in terms of values to be able to adapt to the country and apply appropriate leadership style.

Introduction

International business, foreign direct investments, expatriate work and any international cooperation require an understanding of the differences between cultures. For example, business negotiations, expatriate managers and professionals, management of foreign personnel, and cross-cultural teams presuppose a good knowledge of cultural differences. As Hofstede (1984) defines it, culture is "the collective programming of the mind that distinguishes the members of one human group from another". Hofstede's cultural dimensions (masculinity-feminism, collectivism-individualism, power distance and uncertainty avoidance) serve well to explain the differences of values of different countries. (Cf. Routamaa, Hautala & Mohsin 2007). For example, India, Indonesia, Japan, Malaysia Pakistan and the Philippines, represent more masculine and collectivist countries than the feminine and individualist European Nordic countries, and, presumably, there are also some systematic differences in values.

However, research on expatriates indicates that failed expatriate assignments are still costly and numerous. Kale and Barnes (1995, p.271-280) recommend a combination of Hofstede's national cultural dimensions, Reynold's typology for organizational culture and the MBTI as a method of understanding personality for international sales training. Studies abound with recommendations on how to increase expatriate success mostly by contributing lists of "suitable" personality characteristics and behaviors required to succeed in a new culture. Black, Mendenhall and Oddou (1991) introduce three main skill areas that expatriates need to focus on to survive in a new culture: skills related to maintenance of self, skills relating to fostering relationships with host nationals and skills that promote a correct perception of the host environment and its social systems. Berry, Kim and Boski (1988, p.63) introduce three strategies for coping with this adjustment process. Expatriates can adjust psychologically by adjusting their behavior to the environment, or they can adjust by changing the environment, or they can move to a more congenial environment. Recently more emphasis has been placed on cross-cultural training, but research shows this to be sporadic and culture-based. Some personal characteristics needed for a successful assignment are technical ability, stress tolerance, flexibility, communication skills, and cultural empathy (Hiltrop & Jassens 1995, p.358-365). For example, Routamaa & Rautiainen (2002) found that the psychological type has an association with the expatriate adjustment in a new culture.

Along with globalization, value types and values from a cross-cultural perspective have awakened great interest in recent years (e.g. Abramson & Inglehart, 1995; Hofstede, 1980, 1991; Markus & Kitayama, 1991; Schwartz, 1992, 1994; Schwartz & Bardi, 1997; Schwartz & Ros, 1995; Smith & Schwartz, 1997; Inglehart, 1997; Triandis, 1990).

Taylor (1871) defined culture as “that complex whole that includes knowledge, beliefs, art, laws, custom, and any other capabilities and habits acquired by man as a member of society”. Fundamental webs of culture constitute patterned ways of thinking, acting, feeling, and interpreting (see e.g. Kluckhohn 1951, p.86; Ting-Toomey, 1985, p.75). Ronen (1986, p.18) sees culture as “the frame of reference” of individuals, and Harris and Moran (1987, p.102) discuss the “mental frameworks” which groups, organizations and nations develop. The more individuals conform to each other in terms of background variables such as nationality, education and sex, the more likely it is that they perceive their social environment similarly, and in that way share the same subjective culture (Hofstede 1984). Dealing with values here, the subjective culture is of special interest over the objective culture, which is composed of a more concrete infrastructure (cf. Routamaa & Pollari 1998).

Hofstede’s definition referring to *the collective programming* is a good frame of reference in which to analyze values in a cultural context. Studying work-related values at the societal level, Hofstede (1984) identified four dimensions.

Power distance can be defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. **Individualism** pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. **Collectivism** as its opposite, pertains to societies in which people are integrated into strong, cohesive groups from birth, which throughout their lifetimes continue to protect them in exchange for unquestioning loyalty. **Uncertainty avoidance** is defined as the extent to which the members of a culture feel threatened by uncertain or unknown situations. This feeling can be expressed through nervous stress and a need for predictability for example, by a need for written and unwritten rules. **Masculinity** pertains to societies in which social gender roles are clearly distinct, and femininity pertains to societies in which social gender roles overlap. (Hofstede, 1991, p.23-158) Also a fifth dimension, **long-term versus short-term orientation**, has been identified in a survey with the Chinese Value Survey instrument carried out by M. H. Bond (Hofstede, 1993), which could be of great use if some comparative data across countries were employed. In high uncertainty avoidance cultures, in organizations the concern is with long term rather than short-run results.

In spite of the criticism (see e.g. Spector, Cooper & Sparks, 2001; Hofstede, 2002; Spector & Cooper, 2002), Hofstede’s studies and cultural dimensions serve the understanding of cultural differences well. Different cultural contexts may also explain the differences of values of different countries. Culture, “software of the mind” or “collective programming”, as Hofstede puts it, may affect our values. However, as Routamaa and Pollari (1998) found, the mutual relationships between values and personality types may be fairly similar in each culture. They also found that cultural background affects leadership style. In the masculine culture, the average manager may favor more dedicated, benevolent autocratic behavior. Correspondingly, the feminine culture with its negotiating and compromising practices refers to integrated, even related styles. However, the leadership style differences between personality types were similar in both cultures except that they were more task oriented in the masculine culture. Accordingly, a similar relationship between culture, values and personality types may be assumed.

“Software of the mind” functions as a filter when people interpret what kind of values they emphasize. Do the values differ significantly because of the cultural differences when the personality type is controlled? Controlling of the type may provide an answer to the question of the effect of the culture. This paper will compare the relationships between personality types and values in Indian and Finnish contexts, but actually, the countries are not as important as the cultures they represent.

Next, the study compares Finland and India which represent the cultures concerned here, in relation to Hofstede’s cultural dimensions and based on Hofstede’s (1984) results, and the differences will be characterized to the extent they are relevant to potential value and work goal value differences.

Cultural differences between Finland and India

Comparison of power distance and masculinity dimensions between Finland and India reveals that both are higher in India. Finland is characterized by a small-power distance, and femininity. In the individualism-collectivism dimension, Finland is in the individualism cluster whereas individualism is near to the world average in India. Uncertainty avoidance is higher in Finland (See Table 1).

In feminine cultures, the preference for resolving conflicts is compromise and negotiation. In masculine cultures, there is a feeling that conflicts should be resolved by a good fight: Let the best man win (Hofstede, 1991, p.92). In feminine cultures a humanized job gives more opportunities for mutual help and social contacts. The masculine leadership culture is assertive, decisive, 'aggressive', and a decision-maker is looking for facts rather more than a group-discussion leader. The management in a feminine culture is less visible, more intuitive than decisive and more consensus-seeking than the counterpart in a masculine culture (Hofstede 1991, p.94). In weak uncertainty avoidance, masculine cluster, *achievement* and *esteem* are typical whereas *security* and *belongingness* are typical of strong uncertainty avoidance, feminine cluster (Hofstede 1991, p.125).

On the power distance and uncertainty avoidance dimensions, Finland is in the cluster of small-power distance and strong uncertainty-avoidance, whereas India is in the cluster of large-power distance and weak uncertainty avoidance. The old caste system and nearly 200 years under British rule has affected power distance. Countries with strong uncertainty avoidance but small power distance have organizations like the *well-oiled machine model*; the activities are structured without concentrating on the authority. In the large-power distance, weak-uncertainty-avoidance countries, a *family* organization with an omnipotent owner-manager is characteristic; so a concentration of authority without structuring of activities may be observed (Hofstede 1991, p. 142-143).

TABLE 1: COMPARISON OF HOFSTEDE'S CULTURAL DIMENSIONS IN THE CASE OF JAPAN AND FINLAND

Cultural dimensions	Finland	India
Power distance	Small	High
Masculinity	Low	Somewhat masculine
Individualism	Individualistic	A bit over average
Uncertainty avoidance	Over average	Under average
Long term orientation	Very long (Estimated)	Short

It may noted, however, that India is a country of various cultures, religions and over three hundred languages. That is, the weights of cultural dimensions may vary a lot in different regions. For this reason, maybe, the dimensions in Table 1 have got quite moderate, in a way average grade. It may be noted, however, that in-group collectivism is high even though institutional collectivism is in the midrange (see House, Hanges, Mansour, Dorfman and Gupta 2004). Family with more than two generations form the basic unit of Indian society. Concerning uncertainty avoidance, one difference between Finland and India is religion. Presumably, many religions in India may give better trust to the future than Lutheranism, national church in Finland, mostly based on quasi-membership without genuine faith.

Values

In accordance with Hofstede's "social programming", values are also seen as "abstract social cognitions" that help people's adaptation to the environment (Claxton & McIntyre, 1996). According to Comte, value consensus is usually defined as concurrence among members of a society concerning their values (Comte, cited by Partridge, 1971; see Schwartz & Sagie, 2000).

Theoretically, the values, that is the types of values used here, are based on Schwartz's (1992) and Schwartz and Boehnke's (2004) definitions. (Table 2). Spirituality is not included in the questionnaire used here.

TABLE 2: TYPES OF VALUES AND SUB-VALUES OF THE STUDY

<p>Achievement - Implies personal success through demonstrating capabilities while respecting the social standards that the individual has to respect. The associated values include ambition, influence, capability, success, intelligence and self-respect.</p> <p>Benevolence - Is associated with the values of being helpful, responsible, forgiving, honest, loyal, and capable of mature love and true friendship.</p> <p>Conformity - The restraints on action, inclination and impulses that are likely to upset or harm other individuals or groups and violate social norms or expectations are the relevant goals here. The associated values include obedience, self-discipline, politeness and honoring of parents and elders.</p> <p>Hedonism - Pleasure and the sensuous gratification of oneself are the defining goals here, leading to pursuit of pleasure and enjoyment of life.</p> <p>Power - The attainment of social status and prestige and control or dominance over others and resources define this motivational type. Values associated with this include social power, wealth, authority, preserving a public image and social recognition.</p> <p>Security - Safety, harmony and the stability of society, of relationships and of self-preservation are the defining goals of this value type. The relevant values include national security, reciprocation of favors, family security, a sense of belonging, social order, health and clean living.</p> <p>Self-direction - Independent thought and action in choosing, creating, exploring (creativity, freedom, choosing one's own goals, curiosity and independence).</p> <p>Spirituality - Implies meaning and inner peace through the transcendence of everyday life. The associated values include a spiritual life, meaning in life, inner harmony and detachment.</p> <p>Stimulation - Values derive from the assumed need of individuals and groups for variety and stimulation in order to maintain an ideal level of activity, motivating an exciting life, a varied life, and a daring outlook.</p> <p>Tradition - Springs from commitment to, and acceptance of, the customs and ideals that are imposed by an individual's culture or religion. The associated values are tradition, devotion, and acceptance of one's lot in life, humility and moderation.</p> <p>Universalism - This motivational type is defined by understanding, appreciation, tolerance and protection for the welfare of all other people and of nature. The associated values include equality, unity with nature, wisdom, a world of beauty, social justice, broad-mindedness, protecting the environment and a world at peace.</p>

The work goal values indicate what goals are important in an ideal job. The goals concern, for example, using of skills, challenges and contribution, work content, working relations, recognition, career opportunities, security, earnings, work conditions, company prestige, benefits, serving one's country, etc. Actually, the work goals presented by Vunderink & Hofstede (1998) are a lot in line with Maslow's need hierarchy.

Sample and Method

The research aimed at comparing values and work goal values in two different cultures in terms of Hofstede's cultural dimensions. Of course, the use of Hofstede's cultural dimensions could be criticized for example in terms of the aging of Hofstede's research. The world has changed and cultures may have converged a little since that time. However, Hofstede's research serves as useful, common frame of reference in this comparison. The sample consisted of 794 Finnish people and 93 Indian people who completed the questionnaires. In case of the value questionnaire (Schwartz), a 7-point scale was provided for respondents to indicate how important the values presented are. The 56 value items loaded logically in the samples producing ten factors. Further, the possible effects of the sample size and composition could be asked. Both samples are heterogeneous in terms of gender and age. Samples were obtained from several organizations and adult students. According to earlier studies (e.g. Routamaa, Hautala & Mohsin 2007; Routamaa & Heinäsuo 2006), possible minor in-culture discrepancies do not obscure cross-cultural comparisons. The effect of sample size to consistency was tested comparing a random 93 observations sub-sample of the Finnish data to the whole data of 794

observations. The means of the values as well as the ranking order had no noteworthy changes. Keeping this in mind it may be concluded that the Indian sample is representative enough for a comparative study. The means and significances of the value differences between the cultures and value rankings will be reported.

In order to measure work goal values, a 5-point scale questionnaire (Vunderink & Hofstede 1998) was administered. 22 items indicate how important it would be to a respondent to have the goals presented in an ideal job. To conceptualize the work goal values into easier comparable form, using factor analysis, sum variables representing Maslow's need hierarchy was obtained.

Results

Values

Table 3 presents the value rankings in terms of means. In Table 4, the relative ranking orders are listed and compared. Benevolence in terms of being helpful, responsible, forgiving, honest, loyal, capable of mature love and true friendship is among the two top values of both cultures. Self-direction is also among top three in both countries. Instead, hedonism is third in Finland whereas ninth in India. Pleasure and enjoyment are more important in feminine, individualistic culture. Respectively, universalism is the top value in India. Unity with nature, wisdom, a world of beauty, protecting the environment and a world at peace, among others, are typical for hedonism and also imaginable in Indian culture of various religions better than in western oriented, individualistic Finland. Universalism is more typical of collectivist cultures; in fact, averagely, India is not very collectivistic. Interestingly, two of the three final values, stimulation and power are the same, and occur in the same order in the two cultures. Tradition is valued a bit higher in India. Further, achievement is usually a more typical value for masculine cultures than feminine ones (cf. Routamaa, Hautala & Mohsin 2007). That is, orientation towards work is also different in masculine cultures compared to feminine cultures, which should be recognized by those coming to work from a different culture. The ranking of achievement is higher and averagely much more valued in India. Conformity is also much more important in India. Security is higher ranked in Finland but it must be noted that the mean value of it is also much higher in India. That is, the ranking orders in Table 2 cover the fact that the only value ranked higher in terms of mean value in Finland is hedonism. Otherwise, all other values are higher valued in India. In table 3 the first number is the mean value, number in parenthesis is the ranking and the third number is standard deviation.

TABLE 3: RANKINGS OF MEANS OF THE VALUES IN THE TOTAL SAMPLES IN FINLAND (N= 782) AND INDIA (N=92)

	Power	Achievement	Hedonism	Stimulation	Self-Direction	Universalism	Benevolence	Tradition	Conformity	Security
Fin n=782 Mean Std. Dev.	2.92 (10) 1.24	4.39 (7) 1.17	5,08 (2) 1.18	4.12 (8) 1.32	4.88 (3) 0,92	4.49 (6) 1.05	5.28 (1) 0.92	3.21 (9) 1.18	4.46 (5) 1.13	4.83 (4) 1.02
India n=90 Mean Std. Dev.	4.61 (8) 1.42	5.73 (1) 1.02	4.66 (6) 1.64	5,10 (9) 1.52	5.80 (3) 0.92	5.85 (5) 1.06	5.84 (2) 0.87	5.20(10)) 0.95	5.79 (7) 0.95	5.67 (4) 0.92
Significance	0.000** *	0.000** *	0.033* *	0.000** *	0.000** *	0.000** *	0.000** *	0.000** *	0.000** *	0.000** *

TABLE 4: VALUE RANKINGS OF FINLAND AND INDIA

Finnish values:	Indian values
1. Benevolence	1. Universalism
2. Self-Direction	2. Benevolence
3. Hedonism	3. Self-Direction
4. Security	4. Conformity
5. Universalism	5. Achievement
6. Conformity	6. Security
7. Achievement	7. Tradition
8. Stimulation	8. Stimulation
9. Tradition	9. Hedonism
10. Power	10. Power

Work Goal Values

Table 5 presents the work goal values in both countries. 22 values were grouped using factor analysis. Five items were omitted because the factor loadings spread to many factors. Four factors were found. Self Actualization (Cronbach's Alpha 0,657), Social Needs (Cronbach's Alpha 0,560), Safety Needs (Cronbach's Alpha 0,629) and Psysiological Needs (Cronbach's Alpha 0,715). Standardized sum variables will be used in order to compare the countries concerned. Additionally, as single item recognition of good job illustrates Esteem needs. Cronbach's Alpha of Social Needs is low because it includes two items that are the opportunity to help other people and serve your country. Patriotism, the latter item is quite high valued in India (mean 4.03***) whereas not so much (2.07***) in feminine, individualistic Finland. That is, to measure the social needs, the work goal values do not constitute very good variables but acceptable enough to compare the cultures. It may be noted, however, that in this case the measure of social needs illustrates more affection and not so much belongingness. Regardless, the work goal values can be conceptualized using Maslow's need hierachy. In spite of all criticism, Maslow's need hierarchy is a good method to measure individual motivation and society level of needs fulfillment. Against most sources, it must be noted that the upper needs can be satisfied even though the lower needs are not satisfied very well. But on the society level, the need hierarchy roughly illustrates also the importance order of the needs. It may be noted that both the more numerous Finnish data and Indian data produced the same factor structure.

Self-actualization is as important in both cultures. In Finland it got the highest mean value but in India shared third rank. The order in Finland is (1) Self Actualization, (2) Esteem Needs, (3) Safety Needs, (4) Physiological Needs, and (5) Social Needs. Correspondingly, in India the order is (1) Safety Needs, (2) Esteem Needs, (3, 4) Physiological Needs and Self Actualization and (5) Social Needs. As can be seen in Table 4, statistically there are not significant differences in self actualization and esteem needs between the countries. That is, these work goals are highly valued in both countries. Instead, social needs, safety needs and physiological needs are significantly higher valued in India.

In high power distance and masculine cultures safety needs and physiological needs are significantly more important than in feminine, individual culture. In more collective culture of India, also social need in terms of affection to fellows and country are much more important than in individual, feminine culture. Accordingly, it may be concluded that the individualism is more dominant than feminism.

The differences in work goal values in terms of need hierarchy means remarkable differences in motivation that must be taken into account in management and leadership.

TABLE 5. WORK GOALS VALUES IN FINLAND AND INDIA.

COUNTRY		N	Mean	Std. Deviation	Asymp. Sig. (2-tailed)
SelfActualization	Finland	790	4,12	,469	
	– India	91	4,07	,580	,561
EsteemNeeds	Finland	791	4,10	,695	
	– India	92	4,23	,665	,112
SocialNeeds	Finland	786	3,05	,801	
	– India	93	4,04	,855	,000***
SafetyNeeds	Finland	800	4,08	,820	
	– India	92	4,97	1,048	,000***
PhysiologicalNeeds	Finland	790	3,54	,630	
	– India	91	4,07	,592	,000***

Conclusions

What are the lessons to be learned based on the analyses above? Firstly, the study confirmed the results of earlier studies that posit that there are culture-based weights in the values that must be taken into consideration in international business. The study revealed that there is a certain amount of conformity among members of a society concerning their values. That is, there may be some shared values over the individual values. These different relationships between culture, values and work goal values make expatriate work and cross-cultural management very demanding.

The most typical values for the higher power distance, low uncertainty avoidance and masculine culture were universalism, benevolence and self-direction. Hedonism was very low ranked compared to feminine, individualistic culture (cf. Routamaa, Hautala & Mohsin 2007) and also many masculine and collectivist cultures (cf. Routamaa, Hautala & Tsuzuki 2010). The means in India were significantly higher with the exception of hedonism.

The most typical values for the low power distance, somewhat average uncertainty avoidance, individual and feminine culture were benevolence, self-direction and hedonism. The latter revealed the biggest difference from the opposing culture. A challenge for managerial work especially in feminine culture is that power is valued very low but somebody always takes the power if not the manager. This may be one reason for so usual bullying in Finnish organizations.

In global business, leadership and expatriate work is challenging. The business person or traveler should recognize the value differences within countries in order to succeed in business or leisure relationships. As was noted, for example, hedonism and universalism were very differently valued in cultures concerned. Personal relationships are a sensitive area where insulting values may cause confusion. The great number of unsuccessful expatriate recruitments is a serious example of the scarce understanding of cultural and value differences.

Concerning especially leadership behavior, the results of work goal values in terms of Maslow's needs hierarchy revealed important differences between the cultures. Based on situational leadership approach (see Figure 1) (e.g. Hersey & Blanchard 1969), human oriented (supportive behavior) and task oriented (directive behavior) leadership should be applied according to subordinates need structure. Subordinates whose physiological needs are high posit especially directing leadership. Safety needs require secure circumstances in terms of norms, rules and advices, that is directing and coaching leadership. The more social needs are weighted, the more coaching and supporting leadership is appropriate. Esteem needs are most related to supporting style, and finally, self-actualization requires mostly delegating style.

Given these relationships between leadership styles and needs, on the average in Finnish culture, supporting and delegating leadership styles are more often required whereas in India, there is more use of directing and coaching styles. That is, leaders must adjust their leadership behavior quite a bit when moving from organization to another in intercultural context.

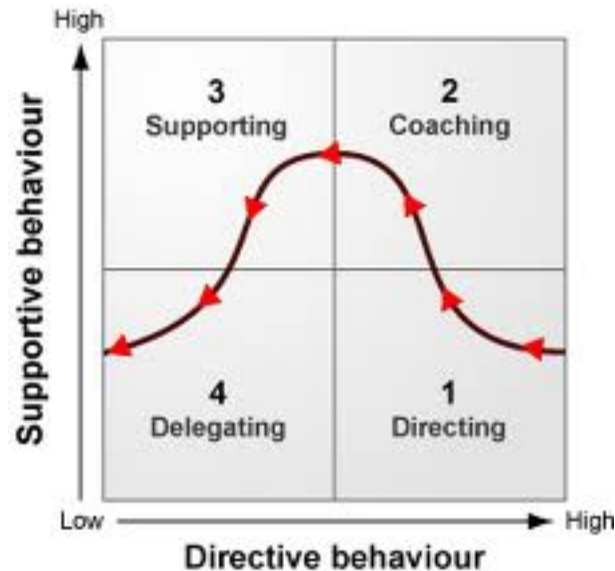


FIGURE 1: SITUATIONAL LEADERSHIP DIMENSIONS AND APPROPRIATE STYLES (HERSEY & BLANCHARD 1969).

To succeed as a manager in a foreign culture requires training and coaching in cultural aspects and values. For example, a manager in a masculine, collective, high-power distance culture has to take into account physiological needs and security values, which demands more task-oriented leadership behavior, while for example hedonism and higher needs in an individualistic, feminine culture require more delegating and people-oriented leadership. A manager coming from an individualistic and feminine culture may also experience difficulties in applying a task oriented and collective leadership style when used to functioning in work communities colored by individually oriented hedonism and benevolence. Correspondingly an expatriate coming from a high-power distance, collectivist and masculine culture to the opposite culture may feel insecure and inactive in an uncollective milieu of hedonism. That is why knowledge of cultural dimensions and values, and knowledge of the relationships between them is a big challenge for expatriates. In future studies, also the role of personality should be considered.

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Employee control and choice in Workplace grievance resolution processes

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Abstract

There is increased evidence of the cost of grievances in the workplace, to individuals and to the organisation. Contemporary grievance resolution system research indicates that the provision of complementary ADR processes may be associated with a range of positive outcomes. However, these outcomes would necessarily be contingent on the employee selecting the 'right' ADR process. Additionally, control over ones environment has been linked to health and well-being outcomes. This paper explores the individual's experience of grievance resolution in three Australian organisations. Data from in-depth semi-structured interviews conducted with 25 employees was analysed using thematic narrative techniques. The findings reveal an association between the organisations actions that covertly dis-empowered the individual and the individual's reports of significant psychological harm and damage to career prospects. These dis-empowering tactics may actually increase the overall risk to the organisation and as well as placing an unacceptable burden on the individual.

Introduction

Workplace grievances are a difficult topic. They are inevitably troubling and frequently distressing, not only for the aggrieved and the alleged perpetrator but also for third parties. These same reasons also make them difficult to research. While there is now a substantial body of research into bullying and harassment, the subject of most workplace grievances, there is little academic work focussed on the internal grievance resolution process (Saam, 2009). The emerging interest in this field includes the work of Bendersky's (2003, 2007) on complementarities in grievance resolution systems, Van Gramberg's (2006) multi-level study of alternative dispute resolution processes and Mahoney and Klaas' (2008) study of dispute resolution in the workplace. This current study aims to contribute to our understanding of how grievance resolution processes operate in the workplace by exploring the experiences of grievants; the individual who lodges a grievance with the hope of satisfaction.

Unionised workplaces were the focus of research on dispute resolution and grievance filing in the USA (Lewin & Peterson, 1988), which explored the operational mechanics of the system, with limited attempts to reveal the theoretical basis. This set a basic framework of information about a range of objective measures such as settlement rates, level of process at which settlement occurs, and the time taken to reach settlement (Lewin, 1988). However, the participant's subjective evaluation will also give a valid assessment of the effectiveness of a grievance resolution system. Assuming that the purpose of the grievance system is to resolve the matter to the participants' satisfaction, the participant's perceptions of fairness and dignity of the process are also valid (Bemmels & Foley, 1996; Clark & Gallagher, 1988). In their review of the literature, Bemmels and Foley (1996) argued that it was timely to utilise a subjective approach to exploring the operations of a grievance resolution process.

In a departure from the traditional measures of effectiveness discussed, Bendersky (2003) reviews and analyses a multi-component system that catches and handles all grievances, industrial disputes and interpersonal conflict. She theorises that access to, and employee choice of, complementary processes, will activate a range of positive indirect outcomes. There are several basic underlying assumptions of her model. The anticipated positive outcomes are all contingent on the organisation allowing the parties in conflict to choose a combination of dispute resolution processes. The impact of choice, and the degree of control and empowerment that necessarily accompanies the freedom to choose, may independently contribute to the effectiveness of the resolution process independently from the effects of the intervention chosen.

A second assumption is that the parties will somehow make an appropriate choice in matching the type of conflict and type of dispute resolution process, thereby achieving the best possible outcome. As previously discussed, an employee complaining of being targeted by another's bad behaviour is generally in a highly stressed state. In such a state of distress, their decision-making is likely to be impaired, thus reducing the likelihood of them making an efficacious choice.

Diametrically opposed to a framework of complementary alternate dispute resolution processes are the rigid, conveyor belt type processes that are often quasi legal processes (Giacobbe-Miller, 1995). They rely on assessing claims, collecting information and evidence, substantiating claims, controlling risks, meeting procedural timelines, witnesses, investigation of fact and outcomes that can include disciplinary measures. This model is broadly based on society's expectations of retributive justice, that is, punishment of the offender.

Conceptual background

The principles or values on which justice judgements may rest are many and varied; they include *equality, equity, need, duty, retribution, restoration, rectification, reciprocity, entitlement, impartiality* and *participation* (Selznick, 1992). Although nowhere can it be said that any of these arise from the pure or original state as described by Rawls's *veil of ignorance*, rather they have become embedded or accepted over time within the reality of complex historical contexts. Further, concepts of justice, or the principles on which justice judgments and expectations are made, change over time and between contexts. *Justice* is not a static state but a fluid dynamic concept that is subject to a range of competing influences. Nor is a particular form of justice a uniform cultural norm within this or that society, group or individual. Within any given organisational context a number of justice principles may be operating, and at times these may be in contradiction or opposition with each other (Pfeffer & Langton, 1988).

Rawls develops a strong argument for adoption of the principle of equality as the fundamental basis of justice. He argues that if you operate behind the *veil of ignorance* then you would agree on two principles. The first principle is maximising basic liberties compatible with a similar system of liberty for all. Within an institutional setting this would imply the *impartial application and consistent interpretation of rules* (Rawls, 1972 p. 504) over time and circumstance; thereby providing certainty and reducing uncertainty (Lind & van den Bos, 2002). This principle is similar in application to the first two of Leventhal's six elements of procedural fairness; consistency and bias suppression (Leventhal, 1980). The application of these principles would provide the employee with a degree of control over the grievance resolution process. Additionally, The belief in one's ability, and hence capacity to exert some control over their circumstances, has a great influence over levels of motivation and emotions (Bandura, 1995).

Uncertainty heightens the need for fairness, sensitises the individual's justice judgments and may increase the impact of stress (Lind & van den Bos, 2002). The opposite is found in the identification of successful coping strategies, as these rely on clarity and acceptance of definitions of bullying behaviours, acceptance of the damage to the target and also clear objective remedies that will elicit a return to normal working relationships (Zapf, 2001).

Methods

The workplace grievance resolution process is a contemporary phenomenon that is contextualised within a time and place (Schwandt, 2001) where the boundaries between the phenomena and its context can be blurred (Yin, 2003). A case study approach is recommended when the research question calls for *an empirical inquiry that investigates a contemporary phenomena within its real life context* (Yin, 2003 p 13). The research strategy is that of exploring the exception, seeking to understand those phenomena that current theory does not adequately explain. In order to do this, an inductive approach to data collection is engaged and an interpretative analytical strategy applied to the data. This approach aims to enable a fresh view of experiences of employees who lodge a grievance and to allow the underlying theories to emerge.

Scholars have called for a fresh exploration of workplace grievance resolution systems using qualitative methods (Greenberg, 2001; Leung, 2005; Lewin & Peterson, 1988), particularly to include the subjective perspective of the individual. This study has used a social constructionist approach and interpretative analysis techniques to produce knowledge that will deepen our understanding of the employee who appeals for assistance and protection from workplace bullying and harassment.

Research setting

Many organisations express sensitivity when approached about research into workplace grievances (Renzetti & Lee, 1993). In order to overcome this sensitivity, credibility and trust between the researcher and the organisation needs to be established and maintained throughout the study (Renzetti & Lee, 1993). Drawing from the author’s professional networks, senior managers in eight organisations based in two major Australian cities were directly approached, via personal contact and then a written request in the form of a briefing paper. As an inducement to participate, organisations were offered a de-identified report and recommendations to improve their grievance resolution processes.

The key considerations in selecting the organisations were theoretical relevance and a size. Cases that varied in the dimensions of ownership type, industry, size and demographic composition were selected. Additionally, prediction of contrasting results, would lead to theoretical replication. Initial contact suggested that two cases were confident that their grievance resolution system met high of standards of justice and fairness, while the third was not sure.

The size criteria of the organisation was calculated by estimating the minimum number of employees needed to yield at least six to ten grievances over the past five years. Accepted prevalence rates of bullying behaviour are estimated at between 1 and 4 per cent of employees (Zapf, Einarsen, Hoel, & Vartia, 2003), and the limited evidence suggests that reporting rates are fairly low. Hence, it was estimated to ensure a reasonable number of potential participants, the minimum number of employees would be approximately one thousand.

These sampling tactics led to three organisations being selected as research sites. One organisation was a large tertiary institution, the second was a medium size semi autonomous government instrumentality and the third was an alliance of three organisations, two private and one public sector, that came together to construct a freeway. This final case was included, despite its small size, on the basis the General Manager indicated there were a very high rate of grievances. Details of the characteristics of these organisations are set out in Figure 1.

Figure 1 Characteristics of the cases

	Size	% Non-Ongoing employees	% Female	% Professional	Diversity – indigenous	Turnover	Interviewees
Case 1: Edu – Org	7,100	17%	52%	42%	0.006%	16%	9
Case 2: Asset – Org	1,000	13%	38%	43%	5%	1%	6
Case 3: Alliance – Org	285	8%	18%	16%	1%	7%	10

Source: Documents collected by Author 2006 and 2008

The research strategy is to use in depth semi-structured interviews consistently across multiple case studies to find rich data that will allow for consideration of the employees perspective of the grievance resolution system.

The sampling criterion was that the interviewees had been involved in a grievance resolution process, and were willing and able to engage in an in-depth interview about their experiences. Sampling tactics were designed to protect the volunteers' privacy, employees responded directly to the researcher from a general invitation sent by the organisation. Interviews were conducted off site, in a mutually convenient location. These tactics resulted in 25 employee volunteering to undertake an in depth interview with the researcher about their experiences.

Data collection

Information about each organisation was collected to contextualise the data from the participants. This included publically available material such as Annual Reports as well internal documents such as relevant policies and procedures. This enabled an analysis of the organisations values and a description of its characteristics and culture to be portrayed. A simple description of each organisations grievance resolution systems was obtained.

This study adopted an constructionist approach, hence the research interview revealed data that is *locally and collaboratively produced* (Rapley, 2004 p. 16). This acknowledges that people construct their sense of self in the present while providing individuals with an opportunity to present themselves to another as adequate, or better, within their own terms of reference. The research interview creates a space where there is less risk that the impressions made will later influence opportunities in the workplace. The researcher created a safe environment by establishing rapport, and by demonstrating empathy through acknowledging emotions and concerns as legitimate. Interviews were conducted in a mutually agreed location, most were off site.

Prior to embarking on the interviews an interview protocol was drafted. Each interview commenced with a short introduction about the study followed by questions that re-orientated the person back to their pre-event condition and perspectives. Next the interviewee was asked to reconstruct the events surrounding the grievance and attempts at resolution. Four simple open-ended research questions guided the interviewee and issues of interest were followed as they arose. The interviewee was re-orientated back to the present situation at the end of the interview.

Interviews were between forty minutes and one and a half hours of duration and were taped, with the interviewees consent, primarily to assist in the data analysis stage. It was important to be able to listen and re-listen, to the whole way of describing the experience. It is not just words that are relevant to communication, but the tone, inflections, hesitations, speed of delivery and non-verbal noises that create and communicate meaning. Additionally, a taped interview reduces the reliance on summaries and paraphrasing and reduces the role that perspective has on the interpretation of meaning.

Data analysis and reduction

The interviews were transcribed by professional transcribers, which created more distance and a letting go of early impressions about what was said. The stages include data reduction to eliminate noise and sorting based on issues, data categorisation that revolves around themes and then a final stage of data interpretation.

The interview content was fractured and then tabulated under general headings. After all comments from each interviewee were grouped under headings, an initial coding process was undertaken (Charmaz, 2006; Webb & Mallon, 2007). This process of analytical interpretation selects and names concepts in the narrative without any attempt to summarise, order or group them. The codes stick closely to the actual words of the interviewee. Codes ranged from simple concepts such as *Misrepresentation* and *On the outside of the group* to more detailed descriptions such as *Considered his treatment although unjust, to be just a small hiccup in the overall scheme of the organisation*. Phrases, words and sentences were coded, where possible *in vivo* codes where used to preserve the integrity of the interviewees meanings, for example the term *cut and burn* was retained, which means to use up and then discard (Charmaz, 2006).

The codes were then transferred onto a table which enables a simultaneous view of initial codes to be examined. Then the main conceptual themes were identified. During the process of data interpretation a review of the literature was undertaken. As patterns, in the form of similar behaviours and feelings emerged, then interpretation of their meaning occurred.

The Organisation, its Grievance Resolution Process and the revelations of the Interviewees

EDU – ORG

Edu – Org’s texts state that individual excellence and the advancement of its personnel is the primary organisational aim, it’s structure is simultaneously rigidly hierarchical and highly flexible with chaotic and obscured decision-making delegations. Additionally, the texts place high importance on garnering external awards, and present a strong imperative to enhance and protect Edu – Org’s organisational reputation. The senior executives applied a number of different strategies and techniques aimed at containing the risk of damage to the organisation’s reputation. This was identified clearly by this informant when she noted:

I think it’s just that organisations have become so risk-averse that you just have to say the word ‘risk’ to a senior executive and they just say ‘what do we do to stop that’ EDU - GP1 (45:35)

The dominant characteristic of Edu-Org’s written grievance resolution system is its lack of detail; especially its lack of reference to procedural justice criteria, indeed there is an absence of process or steps to be undertaken. This lack of information creates uncertainty for both the grievants and the grievance handlers, and may be linked to organisation level trust judgments (Lind & van den Bos, 2002).

It was a most unpleasant process for the person who was dismissed and I have to say I felt the whole process, whilst it was handled appropriately within the framework, didn’t really address the sorts of issues that should have been addressed by the process. EDU - GH1 (29:10)

The interviewee considered that the decision-making criteria established by the grievance resolution system actively hindered the collection of relevant information and therefore acted to protect people accused of improper decisions. He described in some length how the evidence submitted was incomplete and inadequate, which led to considerable frustration. However, the requirement to disprove the motivations of the alleged perpetrator was primary, and led to a focus away from the grievant. In this matter, the interviewee went on to say he considered that the limitations of process forced an unsafe outcome. Unsafe because it did not sufficiently address the grievant’s concerns, thereby increasing the likelihood of an appeal to an external agency.

Interviewees were asked if they believed that justice was achieved, the terms *substantive* and *procedural justice* were not used. In his response he said:

Justice would have been probably a way of finding the truth of the matter, rather than working within a particular framework that to a certain extent obscured some of the truth of the matter. EDU - GH 1 (48:25)

This interviewee expressed considerable inner turmoil, on one hand he believed he has operated ethically and appropriately because he had adhered to the requirements of the written grievance resolution process. On the other hand, he steadfastly believed that the grievant did not get justice, that the truth of the matter was not revealed and that therefore the grievance resolution process acted to re-affirm an incorrect action.

In addition to the lack of detail or clear steps within a grievance resolution procedures, individual investigators lacked knowledge of justice processes. The investigators had limited knowledge of the elements of procedural justice, and the distinction between procedural justice, distributive or substantive justice and interactional justice. This legally qualified investigator described justice as:

I was thinking about fairness really. I think there’s two types of fairness there and one is in implementing the procedure fairly and one is in being fair in your dealings with aggrieved parties, and the other side for that matter. Well, I think fairness in terms of procedures is actually following and applying the procedure as it’s written. EDU - GH2

This interviewee was not wrong, just incomplete in his understanding of justice processes. Consistency with the procedure does not necessarily lead to justice if the procedures do not meet the rules of procedural justice. The written procedures were narrow and restrictive. The limited steps and lack of procedural justice

criteria obscured the process from external review, creating uncertainty for employee who may wish to lodge a grievance.

Additionally, the minimal documentation that does exist, beyond some basic posters, is difficult to locate. The HR department is not delegated to respond to a grievance and can only refer the grievant back to their supervisor. The only other course of action is to appeal directly to the CEO; not a course of action immediately attractive to many personnel. Clearly, the ramifications of these difficulties were understood by this interviewee, a senior manager with over 30 years of service at Edu – Org.

One of the problems with our policies and procedures as I see it is that there isn't always an alternative to if the person who's harassing you or bullying you is your head of department who you can go to – other than going to the (CEO) – but that's not what everybody wants to do. EDU - GP1 (10:35)

Some grievants made direct approaches to the HR department, only to receive words of sympathy but a clear directive that no action would be taken. This interviewee was not advised of the existence of a grievance resolution process or of external avenues open to her. She was given to understand that her account of bullying was accepted but that the alleged perpetrator was beyond the control and direction of central administration.

What sort of reactions did you get from HR?

'Oh, isn't that sad. Yes, we'll try, but we really can't...there's a culture in the... Department, well we'll try and do something, but you know we really can't do much'. EDU - G1 (44:35)

Informants' uniformly recognised that Edu – Org would be protected by the grievance resolution process; indirectly they acknowledged the primacy of Edu – Org's needs over individual needs. In particular, grievants and grievance handlers referred to inadequate protection from retaliation and, indeed, a reluctance to put in place protective measures for the grievant. The grievance resolution system was focussed on obtaining objective evidence and presenting a case that would withstand legal scrutiny. Informants provided clear and unequivocal descriptions of bullying behaviour; hence their expectations that an exemplary resolution process would address the issues and protect the grievant were not unreasonable.

Although Edu – Org implied that its internal process would meet the highest ethical standards, the lack of prescribed procedural justice left grievants without a guarantee of procedural fairness. Grievants described their uncertainty as a sense of floundering, indeed two informants displayed extreme distress during the interviews. These attributes all have the effect of discouraging the employee from making a grievance and blocking the progress of a grievance for those who do.

ASSET - ORG

A desk top analysis revealed a comprehensive and detailed Grievance Resolution Policy and Procedure, as well as a Code of Conduct and Disciplinary Procedures. According to these documents, targets of bullying or harassing behaviours are recommended to confront the perpetrator or to seek assistance from their supervisor in the first instance. If the target is not satisfied with the outcome they are advised to make a written complaint. Then the HR department appoints an investigator to seek verifiable facts and then to determine if the grievance is substantiated. Senior managers make the decisions about outcomes.

During the interviews, investigation officers expressed concerns about the limitations that the process placed on them. This was expressed as:

(T)here was a lot more going on than what I was investigating. Something was going on. I certainly didn't come to the conclusion that nothing was going on, but I was not able to substantiate those particular claims as (it) was written. Asset-org GH3 18:10

Interviewees reported that the HR department had refused to act unless they put their complaint in writing. Several interviewees noted that they were required to have a diary of events before the HR department would

accept their grievance. In reality, this meant that the grievant had to withstand a further extended period of bullying and harassment before the organisation would intervene.

Interviewees expressed their disappointment that the HR department did not provide the level of expert support and assistance that they expected. For instance, interviewees reported that they were not advised of their rights and entitlements during the grievance resolution process. This included not advising that they could take sick leave if they experienced distressing psychological or physical symptoms because of the alleged bullying. Neither did the HR department put in place any strategies to protect the grievant from ongoing bullying during the resolution process.

When I was going through the process [Asset – Org] never said to me, 'Take time off.' VECCI did. VECCI said, 'Are you still there working with those two people?' I said, 'Yes I am.' She goes...they were horrified. They said, 'Has [Asset – Org] told you are entitled to be...' I said, 'No.' She said, 'I'm ringing [Asset – Org] this minute.' She went and rang them and said, 'What the hell are you doing having her still working under that circumstance.' [Asset – Org] never mentioned to me that I could have time off. Just things like that. That they just – they just didn't want to know about it – and still don't want to know about it. Asset – Org G1 (38:35)

This lack of support from the HR department had serious consequences for some interviewees. The incidents described included significant threats of violence for one person and, in a different matter, a potential job loss for another person. The following quote comes from a grievance handler who was trying to intervene and de-escalate an upward bullying matter.

I feel like we were let down by lack of support from the organisation, not my immediate supervisor. I had words to my supervisor and said 'look I have to get out for a while.' I was going home and just abusing the kids and bloody yelling and screaming because I'd had a gutful. I was just angry and tense I reckon. He organized the shrink and I took time off. Asset - Org GH1 (42:35)

This grievance handler experienced a new workplace injury that he attributed to a seriously deficiency in the level of support he received during his attempts to resolve a grievance. He describes the consequences for his health and well-being, and refers to the deleterious effect on his family. Additionally, the workplace was also negatively affected; his workplace commitment was lowered, leading to changes in his performance the workplace.

There were also suggestions that the different elements of the grievance resolution system were confusing:

Sitting from where I am, most of [the verbal support] came from my Regional Manager. Yes, but we should have ... I was just a bit bemused, I suppose, from all the misinformation and different processes that were available to us. GH1 (30:35)

Alliance – Org

Alliance – Org did not have written grievance resolution policies and procedures, rather, parts of each parent organisation's grievance resolution policies were drawn from and applied informally, with some reference to industry custom and practice, to create an informal flexible approach. If the initial approaches to alleged perpetrators failed to achieve a resolution, then the verbal grievance led to informal interventions strategies by the immediate supervisor. If these failed, or the matter was serious, then the problem was elevated to the senior management team where a group decision was made. This means in many instances the matter will be considered and decided by a group who will *promptly resolve any dispute elevated to it...on a best for project basis.*

Grievance handlers described their experiences as sometimes out of their control; they were uncertain about what steps to take and received little guidance in response to requests for assistance. Specific concerns were raised about the investigation process, particularly around aspects of evidence gathering and testing, and allowing parties to be informed and to be heard. This disquiet about the process was not alleviated by the group decision-making, particularly as some interviewees believed that gossip, or group pressure, had influenced the

decision-makers. Grievants expressed a general feeling that the organisation attempted to avoid the grievance, noting difficulty in accessing decision-makers, a tendency to shift blame or use delaying tactics to avoid dealing directly with the issues presented. Whether the organisation responded to the grievance or avoided it, all the described experiences were characterised by procedural injustice.

The interviewees, both grievance handlers and grievants, gave numerous examples of senior managers avoiding a direct response to requests for information or action. In its mildest form the response was sympathetic but non-committal, for example when this grievant explained the details of his complaint he was seeking an active response, instead he got murmurings of sympathy:

I have in the time since brought it up to sort of specific people. Nobody has ever said, ever explained it all. They just say, 'That's terrible, they shouldn't have done that. G1 (36:35)

This grievant never got a clear response to his complaint of serious defamation occasioned by the making of a film which portrayed him as grossly negligent.

The confusion and vagueness about the resolution process was particularly evident when the interviewees turned to the actual investigation process used. Bearing in mind that grievance handlers in this situation were also members of the management teams who made final decisions, concerns about evidence not being tested lead to concerns about the reliability of the outcome. This was expressed in the following quote where the interviewee was not confident that the evidence available was sufficient to make a judgment:

But these allegations came out of it which of course – it never got followed though to actually document that evidence as such – to demonstrate that that was happening. It never came out in the open. GH1 (1:06:16)

Other procedural issues were also raised. This grievance handler noted that one party to the grievance did not ever have an opportunity to be heard or to defend himself from the allegations:

I don't think he ever got given an opportunity to plead his case. ...I think if I had my way again, I think he should have been given an opportunity to speak directly to those people, and never got given that, which is I think...so all they got fed was stuff that was coming in from the [other parties] side of things. GH1 (1:13:03)

Group belonging emerged as a key theme for the grievant via the perceived impact on their professional reputation and their relationships with their colleagues. Reputation was considered a critical professional identifier in an industry environment of short term projects and few major organisations undertaking those contracts. The importance of reputation was as an entrée to the next job, and to enable the quick development of team based work groups. One supervisor spoke extensively about his belief that his professional reputation had been badly damaged by his informal grievance.

After, six months later, when I went to other jobs, I had a few other supervisors and they talked to me about it after I got to know them. And a few of them actually said, 'When I heard you were coming to my job I wasn't all that happy because I thought you were a bit of a scammer and a bit of a trouble maker.' So like they told me that after they got to know me and they were comfortable with me. G1 (46:35)

It was also clear that grievants were reluctant to come forward in the first place, as they were concerned about losing their job:

They knew better, but there's this thing about 'will I lose my job?' GH3 (45:35)

Chaotic and quick decision-making left grievants bewildered but not significantly damaged, in terms of their health and well-being and their prospects for future work. The clear hierarchy and the overriding decision-making criteria of 'best for project' appeared to act as a protector against harm. Employees knew what to expect if their conflicts got out of control.

Discussion: control and choice in grievance resolution processes. Empowering or Dis-empowering the grievant?

Grievance resolution systems in Australian workplaces inevitably require the target to attempt to resolve their complaint with the alleged perpetrator in the first instance. This requirement makes several assumptions. First, it assumes that the bullying, harassing or bad behaviour is a form of conflict in which both parties are equally able to defend themselves. Second, it assumes that the grievant is not experiencing psychological trauma to the extent that their ability to negotiate with the alleged perpetrator is impaired. Third, it assumes that the grievant has not already made any attempt to protect or defend themselves or that these attempts may also have exacerbated to the problems. Additionally, it ignores the evidence that targets of bullying are frequently too ashamed or too frightened to seek early intervention and so the problem is entrenched by the time assistance and guidance from the organisation is sought (Hubert, 2003). Grievance resolution systems that make provision for a support person to accompany the grievants may not be sufficient to allay all these concerns.

This inevitable first step, often referred to as the principle of resolving the conflict as close to the source as possible, assumes the grievant has the capability to exercise choice and control over both problem and the intervention. A number of organisational tactics emerged from the data that appeared to be aimed at dis-empowering the grievant. These included obscured or difficult to find policies and procedures, restricting or thwarting access to external qualified support, and chaotic decision-making processes. A quick escalation to the CEO, with attended concerns about exposure to unknown persons within the organisation and loss of control over process, was cited as a grievance resolution system that was construed as being used to silence the grievant. As well as these deliberate actions, the data also revealed as widespread the general act of omission, namely a general lack of focus on the grievant, their concerns and well-being.

In a situation of a grievance there is a clear asymmetry of resources between the organisation and the individual making the grievance (Aksoy & Weesie, 2009). The grievant is significantly less powerful than the organisation. However, there is considerable potential for harm to the organisation to occur if the substance of the grievance is not adequately attended to. A strategy of dis-empowering the grievant is not consistent with (1) the organisation's responsibilities under OH&S regulations, (2) with research that shows increased levels of satisfaction within an organisation when complaints are appropriately rectified in a timely manner, (3) with theoretical reasoning that links guaranteed fairness with increased trust.

Additionally, a dis-empowered grievant's capacity to assist a search for systemic causes of the grievance problem is thereby diminished. A dis-empowered grievant will become self-absorbed, confused and over reactive, thereby reducing their ability to provide consistent and reliable information.

The organisation's motivation for engaging in these dis-empowering tactics could vary from (1) an assertive risk management strategy, (2) an over inflated belief in the power of the grievant, (3) a belief that the grievant will go away if the process is made difficult, or (4) a belief that only serious grievances will overcome the barriers and proceed. The potential danger is that a grievant may have a prolonged association with feelings of helplessness, powerlessness and distress which may induce a significant psychological disability such as a learned helplessness or chronic depression and anxiety. The substantially increased risk of damage to the health and well-being of the grievant increases the likelihood of legal action and overt retaliatory action, either self-directed such as terminating employment or suicide, or even organisation directed aggression such as physical attacks on property or associated persons. An organisational audit may conclude that these dis-empowering tactics actually increase the overall risk to the organisation, as well as placing an unacceptable burden on the grievant.

Limitations and further study

Inductive case study research has natural boundaries and limitations relating to the conventional paradigms of validity, reliability and objectivity that are well known (Lincoln & Guba, 1985). This interpretive inquiry creates credibility, dependability, transferability and confirmability via qualitative research traditions of thick data, multiple sources of data and transparent research protocols and analytical techniques (Anafara, Brown, & Mangione, 2002). In addition, this study has a number of specific boundaries relating to the subject matter. It is skewed towards the negative experiences of grievants and grievance handlers as they volunteered to participate in this research in higher numbers. This is taken into account by refraining from claims that exclude the

possibility of the grievance resolution system being a positive experience. However, research that tests the analysis and conclusions of this study would need to gather data more broadly within a greater range of organisations.

Alleged perpetrators were not sought as participants because of the interpretative and analytical difficulties associated with social desirability effects. However, there is a paucity of research undertaken from the perspective of the abrasive manager. Research which specifically focuses on this cohort, including their experience of being named as a bullying, and their experience of the grievance resolution process would start to address this gap.

A significant limitation of social constructionist research is the distinct possibility that individuals are not fully cognisant of the social structures and attitudes in which they are embedded. The available data in this study does not have the power to investigate this notion. However, an emerging area of research is interested in how procedural justice may obscure perceptions of, and hostile feelings about, distributive injustice (MacCoun, 2005).

This study suggests that the individual's degree of control over the selection of resolution process may have a direct impact on their perceptions of the outcomes. Future research that separates the effect of control and choice, and the effect of the intervention strategy would clarify this.

Conclusion

Two organisations carried out a number of actions that disempowered the grievant significantly. These acts ranged from locating the grievance resolution policies and procedures in obscure and difficult places, refusal to accept or act on verbal grievances, not advising grievants of entitlements, and not publishing process criteria. Participants who had experienced these types of acts reported significant negative impact on their health and well-being and on their career prospects.

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ⁱ VECCI; Victorian Employer's Chamber of Commerce and Industry. This organisation was engaged by Asset – Org to handle the grievance.

Employee motivation as a part of human resources activities

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Abstract

The article provides a synthesis of employee motivation theories and offers an explanation of how employee motivation influences human resources activities in industry. In addition to explaining why it is important to analyse employee motivation the author described the relevant employee motivation theories and also analysed the results from survey companies in industry.

The data were collected from employees of diverse type of organisations to gain wide representation of sector composition. In all, 200 self-administered questionnaires were distributed among the employee of different sectors and they returned 175 completed useable questionnaire for response rate 87, 5 %. The participation in survey was voluntary and confidentiality of responses was ensured.

The final segment of the paper provides an illustration with explanation the differences in theme of employee motivation in industry. There is thus a reason to attach the main differences in employee motivation and consider the potential application of new approaches in employee motivation as a part of human resources activities. Results of literature review and empirical research indicate that the employee motivation has an impact on the human resources activities. The present study is an attempt to find out the major factors that motivate employees.

Results of study show that employee motivation can be influenced by many motivation factors. For evaluating the research the study use the statistical method especially the factor analyses. There are several motivation factors which are necessary for right setting of employee motivation in companies.

Implications of the study for managers in the context of employee motivation as a part of human resources activities have been discussed. Guidelines and limitations for future research are also in the results of this article provided.

Background of Study

Work motivation is usually described as the set of psychological processes that cause the initiation, intensity and persistence of behaviour. (Pinder, 1984) Motivation is considered the most important and the most difficult function in the management process. Work motivation influences also the other part of the human resources management in companies. Motivation is a desire to achieve a goal. Combined with the energy to work towards that goal. The topic of motivation employees is extremely important to managers and supervisors.

Most organizations do not give it much thought until something starts to go wrong. Pain gets people's attention.

Four reasons explain this fact:

1. Motivation is intangible
2. Motivation drives all human action.
3. We can intuit our own motivation and see shifting nature and intensity. We can measure the motivation of workers indirectly.
4. Motivation is lost in a twilight zone.

Human motivation at work is the core of the field of organizational behavior. In work and other parts, motivation is often described as being „intrinsic“ or „extrinsic“ in nature. (Sansone and Harackiewicz, 2000)

Kovach (1987) says that if company knows why its employees come to work on time, stay with the company for their full working lives and are productive, then the company may be able to ensure that all of their employees behave in that way. The other scientists as Wiley (1997) says that the success of the company depends on understanding what motivates their employees and the relation of this conclusion with the improving of the productivity. To understand the concept of motivation can be helped the managers to identify what motivates their employees.

Literature review

Helliegele, Slocum and Woodman (1992) conclude that motivation as the force acting on our within a person that causes the person to behave in a specific, goal directed manner. (p. 204) Motivation encourage employee motivation for their own survival. (Smith, 1994) There are several definitions of motivation for example: motivation is the psychological process that gives behavior purpose and direction (Kreitner, 1995), the motivation is a predisposition to behave in a purposive manner to achieve specific, unmet needs (Bedeian and Lindner, 1995) and the motivation is also the will to achieve (Bedeian, 1993)

The purpose of this article, 14 motivation factors have been examined. This section focuses on discussing the most motivating employees and try to define basic sources for motivation factors design. The basis of the investigated motivation factors are the motivation theories such as Maslow's need-hierarchy theory, Herzberg's two factor theory, Vroom's expectancy theory, Adam's equity theory, Skinner's reinforcement theory. According to Maslow theory, employees have five levels of needs. (Maslow, 1943) The five levels of needs are physiological, safety, social, ego and self actualizing. The sequence of satisfying human needs is: the lower level needs had to be satisfied before the next higher level need would motivate employees. Herzberg's two factor theory consists of two factors: motivators and hygienes. Vroom's expectancy theory is about relation effort and performance. It means that employee effort will lead to performance and performance will lead to performance (Vroom, 1964). Adam's theory states that employees seek to maintain equity between the inputs that they bring to a job and the outcomes that they receive from it against the perceived inputs and outcomes of others (Adams, 1965). Skinner's theory states about positive and negative aspects of relation between behavior and outcomes. (Skinner, 1953)

Purpose

The purpose of this study is to describe the basic differences between motivation factors of employees in industry. To manage change, companies must have employees committed to the demand of significant change and as such committed employees are the potential source of competitive advantage (Dessler, 1993). Well known is the fact about the personal costs, for example Fitz-enz (1997) states that in USA the average company loses about one million dollar with every 10 managerial and Professional employees who leave the company. This study also discusses the motivational factors. The range of examined motivational factors was based in context of work motivation theories. A survey was distributed among different levels of managers in the industry. Moreover, the basis of this study covers data analysis the relationships between socioeconomic data, organizational data and the motivational factors.

Methodology

The data were collected from employees of diverse type of organisations to gain wide representation of sector composition. In all, 200 self-administered questionnaires were distributed among the employee of different sectors and they returned 175 completed useable questionnaire for response rate 87, 5 %. The participation in survey was voluntary and confidentiality of responses was ensured. The questionnaire was structured after a survey of motivation literature as a background for the study. The number of motivational factors was designed after the study of famous motivational theories which gave the basis to this study.

Measured motivation factors which were designed as a result of literature about motivation theories and also chosen from former research are: company policy, interpersonal relationships, work conditions, salary, information about activities of the company, non-monetary rewards, corporate culture, justice of the employer, recognition and appreciation, work criteria and methods used at work, relationships with colleagues, job security, opportunity to work through team work, possibility of education which is not provided by the employer.

Results and Discussion

A total of 200 copies of questionnaire were distributed to the chosen managers in the industry of Slovak republic. The managers were chosen in basis of strict survey sampling. The method of factor analysis was used to analyse the relations between the motivation factors. In fact, the similar name for motivation factor is motivation tool because employer uses this variable as a potential device for influencing the work motivation in company. The results of factor analysis are four factors. Each group contains the dependence of motivation factors. This dependence can be direct or indirect. The step before factor analysis was correlation matrix of motivation factors and then was used factor analysis for specifying the correlations between the motivation factors in context of factors (factor analysis). The four groups of factors separated from factor analysis give the opportunity to see the additions between the motivation factors and also give chance to specify similarities of each group of characterized factors. The value of KMO was 0,853. It means a high value of coefficient KMO. (according to standard table – theory)

The main two motivation factors (tools) which has significant coefficient high than 0,6 but less than 1 in every factor of the factor analysis are:

In Factor 1 – job security, possibility of further education which is not provided by the employer

In Factor 2 – corporate policy, work criteria and methods used at work

In Factor 3 – salary, non-monetary rewards

In Factor 4 – work conditions, corporate culture

Statistical results of the study

Factor Analysis

Kaiser-Meyer-Olkin MSA statistic = 0.853

Original matrix trace = 14.00

Varimax Rotated Loadings

	FACTORS				
	Factor 1	Factor 2	Factor 3	Factor 4	
<i>Corporate policy</i>	0.154	0.783	0.158	0.160	
<i>Interpersonal relationships</i>	0.309	0.224	0.159	0.547	
<i>Work conditions</i>	-0.069	0.357	-0.124	0.639	
<i>Salary</i>	0.130	0.310	0.644	0.254	
<i>Information about activities of the company</i>	-0.086	0.532	0.286	0.357	
<i>Non-monetary rewards</i>	-0.013	0.183	0.785	0.176	
<i>Corporate culture</i>	0.170	0.006	0.250	0.768	
<i>Justice of the employer</i>	0.162	0.119	0.330	0.539	
<i>Recognition and appreciation</i>	0.425	-0.004	0.437	0.422	
<i>Work criteria and methods used at work</i>	0.256	0.747	0.150	0.055	
<i>Relationships with colleagues</i>	0.506	0.276	-0.198	0.387	
<i>Job security</i>	0.760	0.275	0.159	-0.013	
<i>Opportunity to work through team work</i>	0.470	0.070	0.580	-0.085	
<i>Possibility of education which is not provided by the employer</i>		0.657	-0.026	0.142	0.356

Note: results of factor analysis, 14 motivation factors, N=175

Source: Own research

The results of the survey can be used by organizations to develop policies, practices, and strategies that would enable higher levels of work motivation.

Empirical evidence

The survey presents a new empirical evidence in support of a relational signalling approach to analyse of motivational factors. In the results is an evidence that future research is needed to systematically study the impact of applying the results of motivational factors in decision making (in the field of HR management). The part of the research results which are presented in this article has a big potential to develop the new ideas in the work motivation. In addition, more practice surveys may be conducted to demonstrate causality in a more survey results.

Guidance and limitations

There are many different types of motivation factors including potential for increasing work motivation like geographical position of company, or communication between employer and employees, etc. All these have good and bad points, and better and worse ways of deploying them.

Conclusion

One of the conclusions from this study is that the some of the factors above can contributed to a work motivation and are also significant for HR management. The analysis showed relation between some of the motivation factors and this relation can be the base for futher research.

This paper shows the new possibilities in research of motivation factors. Due to the results of statistical methods which were used for this study there are a lot of new questions which can be considered in study of work motivation. Based on analysis of motivation factors, according to which affective settings of work motivation is the chance that can company get the possitive results in productivity, this study showed that work motivation has several difficulties and thus must be specify for every company through chosen motivation factors.

A central message of the present study is that work motivation should be accompanied by the set of „right“ motivation factors in order to make both the required performance and productivity and hence to reach a goal of company in strong compatatave industry area. In this line, the study discussed a possible relationship between motivation factors which were described through statistical data.

The factor 1 can be named security and possibility prefered by employees. The factor 2 can be named as character of the job. The factor 3 can be named as rewards. The factor 4 can be named as a work environment. The limititations are the groups of factors which were used for research. For furher research it will be helpful to extend the group of analysing factor of work motivation.

However once analyzed work motivation and its motivation factors, this study concludes that this survey knowledge should be only the one from the group of many steps aiming at developing the work motivation as the succesful instrument of company in recent compatatave area of business units (companies). In particular, the companies should concetrare their efforts on setting the package of chosen motivation factors compatible with the knowledge from motivation theories by stimulating improvements on company productivity.

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Impact of international remittances on schooling in the Philippines: does the relationship to the household head matter?

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Abstract

We study the impact of international remittances on schooling in the Philippines. Unlike previous studies, we allow for the potential heterogeneity in the impact across households due to the school-age child's relationship to the head of household. This is potentially important, because the employment opportunities abroad are usually taken at the expense of the time with children. We find that there are negative guardian effects when children with overseas parents are looked after by someone other than their parents. However, these negative effects tend to be outweighed by the positive impacts of remittance flows from overseas.

Introduction

International remittances have become one of the most important sources of global financial flows in developing countries. Reported remittances to developing countries have soared from around \$30 billion dollars in 1990 to over \$160 billion dollars in 2005 (World Bank, 2006). This amount is approximately double the amount of official development assistance, and comparable to the magnitudes of foreign direct investment and foreign portfolio investment. Since reported remittances do not include unofficial remittances, which may be as large as formal flows (Brown, 2006) international remittances may well be larger than any other types of financial flows once unofficial remittances are taken into consideration.

International remittances have also been remarkably stable. They are not subject to the conditionalities imposed by donors or the herd behavior of private investors (Kapur and McHale, 2003). Further, remittances flow from households to households. Thus, they are less likely to be influenced by official corruption or haphazard institutional changes than other types of international flows.

Chami et al. (2005) find that, unlike other types of financial flows, there is a negative correlation between remittances growth and per capita GDP growth. Thus, remittances are countercyclical, so that the economic slowdown can be mitigated by increased flow of remittances. At the individual level, remittances could serve as a form of insurance. Yang (2007) find that roughly 60 percent of declines in household income are replaced by remittance inflows from overseas.

Insurance motives are not the only reason why migrants send remittances. Remittances may also be due to altruistic considerations. For example, Osili (2007) find that poorer origin families tend to receive higher transfers, other things being equal. Agarwal and Horowitz (2002) find that per-migrant remittances tend to decline with the number of migrants in the household, indicating that altruistic motives to remit may be more important than insurance motives. Therefore, if altruistic motives are indeed important, poor countries can potentially receive a disproportionately large amount of remittances.

It is, therefore, no surprise that researchers and policy-makers have become increasingly interested in the role of remittances in development. Using cross-country regressions, Adam and Page (2005) find that remittances tend to reduce poverty in the developing world. Similar findings are made using household surveys in ten Latin American countries (Acosta et al., 2008) and in the Philippines (Sawada and Estudillo, 2007).

One channel through which remittances may promote development is investment in human capital. In El Salvador, Edwards and Ureta (2003) find that incomes from remittances help children remain in school. Other sources of incomes have a similar effect, but their effects are much smaller. Calero et al. (2009) find that remittances tend to increase school enrollment for the poor but not for the non-poor in Ecuador, suggesting that the remittances may help the poor overcome binding resource constraints. Yang (2008) find that favourable exchange-rate shocks are associated with more child schooling and less child labor in the Philippines.

This study also aims to shed light on the impacts of remittances on human capital investment using household survey data in the Philippines. The Philippines is an interesting and important country to study, because the size of remittances is large in the Philippines. In 2003, the size of remittances were about 10 percent of the Gross Domestic Product (Goldin and Reinert, 2007). This is more than seventy times larger than the foreign direct investment and official development assistance combined.

There have been a number of studies on the impact of remittances on development in the Philippines (Ang, 2009; Lauby and Stark, 1988; Sawada and Estudillo, 2007; Yang, 2007, 2008). Unlike previous studies, however, we explicitly consider the relationship between the children of the emigrant worker and the characteristics of the households that the children belong to. This is important, because the money remitted from the emigrant worker may not necessarily benefit the children of the emigrant worker, if the remittance is "intercepted" by the household head in the receiving country. Therefore, the impact of remittances on human capital investment may well depend on the relationship between the household head and the child.

We explore the potential importance of the relationship between the child and the household head with two different regression models. The first model uses the schooling outcome directly. We test whether the characteristics of the households receiving the remittances affect the education outcome. We also estimate a model of education expenditure share. This allows us to see whether the transfer money go to education.

This paper is organized as follows: In Section 2, we describe the data used in this study and present key summary statistics. Section 3 presents the regression results followed by conclusions in Section 4.

Data and Summary Statistics

We use the Family Income and Expenditure Survey (FIES), the Labor Force Survey (LFS) and the Survey on Overseas Filipinos (SOF), the Consumer Price Index (CPI) for various years. These data are collected by the National Statistics Office of the Philippines and available for purchase. The FIES data contain detailed household expenditure and income data, and the LFS data contain employment, demographic, and education variables for each individual in the household. The SOF data contain information on remittances and the characteristics of the emigrant workers. The FIES and LFS can be merged at the unit-record level for 1997, 2000, and 2003.

For the analysis of the education expenditure share, we further merge the annual CPI data into the merged FIES-LFS data by a combination of year and province. The prices are normalized so that the national average price for year 2000 for each good is equal to 100. Since the definitions of goods in the CPI and FIES data are not the same, we have aggregated goods in both data sets to match the definitions. As a result, we have the following ten categories: (i) cereal (CR), (ii) meat, fish and dairy products (MF), (iii) fruits and vegetables (FV), (iv) other food (OF), (v) housing related expenditure (HS), (vi) utilities, communication and transportation (UT), (vii) personal care and household maintenance (PH), (viii) other good (OG), (ix) education (ED), and (x) other services (OS).

Table 1 shows the changes in the amount of remittances and other modes of transfers over time. As we can see in Column (1), a majority of overseas Filipino workers send remittances to home, and the amount of remittances has more than doubled over a decade. The cash brought home has also grown substantially (Column (4)). Though the proportion of households receiving a cash transfer brought back by overseas Filipino workers is relatively small (Column (3)), the average amount is larger than the other two modes of transfers. The amount of in-kind transfers has not changed as much as other modes of transfers (Column (6)). This table clearly indicates the increasing importance of remittances in the Philippines over time.

Table 2 compares the characteristics of contract overseas Filipino workers against average Filipino workers. The proportion of the overseas contract workers have not changed much between 1993 and 2002 (Column (9)), but their characteristics have changed. The overseas workers are slightly younger than average workers (Columns (1) and (2)). The proportion of female workers has generally increased over time, and this proportion is larger for overseas Filipino workers than other workers (Columns (3) and (4)). One major difference between the contract overseas Filipino workers and average Filipino workers is the level of education. The former is much better educated. Overwhelming majority of the overseas workers have at least high-school diploma, but the corresponding proportion for the average Filipino worker is 50% or less. The difference is even more striking for college graduates. More than one in three overseas workers are a college graduate, but the corresponding proportion is less than one in seven for other workers (Columns (7) and (8)).

Table 3 reports various household characteristics by the relationship of the individuals aged between 10 and 14 with the head of household. We categorize the relationship of those aged between 10 and 14 to the household head into the following four main categories: child, grandchild, other relative and non-relative. For example, child means that the person is either son or daughter of the head of household, and this group accounts for 86.9 percent of the children aged between 10 and 14 in 2003. Those children whose household heads are grand parents account for 8.2 percent, and other relatives—including brother, sister, niece, and nephew— account for 4.3 percent. The group of children under the non-relative category includes boarders and domestic helpers, and they account for 0.6 percent. These proportions are similar in 1997 and 2000.

The reason we restrict the sample to those aged between 10 and 14 is as follows: First, the LFS data do not contain direct observations of school attendance. Thus, we use being a student as defined by the usual occupation over the last twelve months for the schooling outcome variable. Second, the usual occupation is not recorded for individuals under age 10. Thus, we exclude individuals under age 10. Finally, we also exclude observations for individuals above age 14, because older individuals may have completed compulsory education.

The exact definition of being a student is slightly different from year to year due to the design of the LFS survey. For year 1997, student is one of the possible usual occupations, and we use this as the school attendance variable. For years 2000 and 2003, we defined as students those who are not engaging in a gainful activity due to their studies. As a result, some of those who are studying and working simultaneously are included in 1997, but excluded in 2000 and 2003, though the proportion of such people is likely to be small.

It should be noted that the drop of the proportion of students between 1997 and 2000 is not driven by the slight discrepancy in the definition described above. Education statistics also suggest similar drop. According to the World Development Indicators published by the World Bank, the net enrollment ratio for primary education, which measures the proportion of primary-school-age children enrolled in a primary school, has dropped from 92.9% in 1998 to 90.2% in 2001 and the number of out-of-school children has increased by 42% during the same period.ⁱ

As we can see from Table 3, there is a clear pattern between the child's relationship to the household head and the proportion of girls. The proportion of girls is much higher than the national average for "other relative" and "non-relative" groups. This is because many of the girls in these groups work as a domestic helper. This also

explains why the average household expenditure per capita is high for these groups, because only wealthier households can afford to hire domestic helpers.

Table 3 also shows that the share of income transferred from abroad varies with the child's relationship with the head of household. The share is higher for "grandchildren" and "other relative" groups. This is because many of the children in these groups have parents working abroad. Thus, while the remittances parents send for the children may increase the schooling, the fact that they are not taken care of their parents may offset the positive effects for children in these groups.

The bottom part of Table 3 indicates that such negative effect may exist. The proportion of students is on average highest for the "child" and "grandchild" groups. They are followed by the "other relative" and "non-relative" groups. Given that the parents and grandparents are likely to care about (and potentially benefit most from) the education of their children or grandchildren more than other relatives and non-relatives, this observation is not surprising. In what follows, we control for various confounding factors in regression analyses and try to separate the effect of increased remittances from the "guardian" effect, so that we can see whether higher incomes due to remittances outweigh the negative effects of being taken care of by someone other than parents.

Regression Results

We first look at the effects of remittances and guardian on the schooling outcome variable directly. Let S_i be the indicator variable that takes one if individual i (aged between 10 and 14) is a student and zero otherwise. We assume that there is a latent variable S_i^* such that $S_i = \text{Ind}(S_i^* \geq 0)$, where $\text{Ind}(\cdot)$ is the indicator function which takes one if the argument is true and zero otherwise. Further, we assume that S_i^* can be written as $S_i^* = X_i^T \beta + \varepsilon_i$, where X_i a column vector of covariates for individual i , and β is a vector parameters to estimate. With an additional assumption that ε_i has a standard normal distribution, we have the probit model as follows:

$$P(S_i = 1 | X_i) = P(\varepsilon_i \geq -X_i^T \beta | X_i) = E[\varepsilon_i \geq -X_i^T \beta | X_i] = \Phi(-X_i^T \beta),$$

where $\Phi(\cdot)$ is the cumulative distribution function for a standard normal distribution. We estimate β by the maximum likelihood estimation.

The basic regression results are reported in Table 4. These results are based on the merged LFS-FIES data pooled for years 1997, 2000, and 2003. Because of the slight discrepancy in the definitions of being a student across years, we have also run regressions separately year by year (not reported). Since the sample size becomes smaller, some of the coefficients become insignificant. However, most of the results we discuss here are consistent with the year-by-year regression results. We shall highlight the cases where the pooled regression and year-by-year regressions yield noticeable discrepancy.

Column (S1) in Table 4 reports the results for the simplest model with a minimum set of regressors. $LPCOTOT$ is the logarithmic total expenditure per capita in the household. As expected, richer households are more likely to send their children to school, and the marginal impact of the per capita expenditure is decreasing since the coefficient on $LPCOTOT^2$ is negative (and significant). $ABSHARE$ is the share of household income received from abroad. This coefficient is positive and significant, suggesting that the income from abroad (mostly remittances) has a positive impact on schooling of children in the household over and above the impact due to increased income. These findings are consistent with the existing literature and robust with respect to the choice of regressors.

Column (S2) provides the estimation results with household and individual variables and their interaction terms with $ABSHARE$. Columns (S3) to (S5) are the estimation results for the same model except that they include various fixed-effect terms. Column (S3) includes age fixed effects. The age fixed effects are potentially important as children tend to quit school when they get older. Column (S4) includes all the variables in (S3) and region fixed effects. Because the Philippines are heterogeneous across regions, the region fixed effects are also potentially important. Column (S5) includes all the variables in (S4) plus year fixed effects, as various factors may have changed over time.

The coefficient on $ABSHARE$ is positive and significant in all cases in Table 4. Therefore, the remittances do seem to help increase schooling, even after controlling for a number of factors. Notice that there is a potential endogeneity problem here. Those households that receive income from abroad may be the type of households that care about schooling more than other households. Hence, positive coefficient on $ABSHARE$ may reflect, to some degree, the preferences of households, rather than the foreign income effect. As a result, the impacts of the foreign remittance may be exaggerated in these estimations.

The coefficient on $HHFEM$, an indicator variable that the household head is female, is negative and significant. The coefficient on $HHHIGH$, an indicator variable that the household head has graduated from high school, is positive and significant. Thus, other things being equal, the children living in a household headed by a female is less likely to be a student than those in a household with a male head. Also, the children whose household heads have graduated from high school are more likely to be in school than others after controlling for various factors.

The relationship of the individual (child) to the household head also matter. $GRAND$, $OTHREL$ and $NONREL$ are indicator variables that the relationship of the individual to the household head is grandchild, relative other than children or grand children, and non-relative, respectively. Thus, if the individual is a grandchild of the household head, the individual is more likely to be a student, other things being equal. In Column (S2), the coefficient on $GRAND$ is positive and significant at a 10 percent level. However, the results are not robust as the coefficients are not significant in Columns (S3) to (S5).

The coefficients on *OTHEL* and *NONREL* are both negative and significant. This indicates that, other things being equal, the children whose household heads are not a parent or grandparent are less likely to go to school. Further, the absolute value of the estimated coefficient is particularly large for *NONREL*, suggesting that the non-relatives are very unlikely to be sent to school after controlling for other factors.

In Columns (S2) to (S5), the coefficients on *ABSHARE* × *HHFEM* is positive and significant, though only at a 10 percent level. Therefore, women may be more likely to spend the remittance incomes to education. We shall get back to this point later when we discuss the expenditure share equation. On the other hand, the coefficients on *ABSHARE* × *HHHIGH* is not significant except for Column (S4). Hence, the fact that the household is headed by a high school graduate does not appear to change the impact of remittances on child schooling.

The interaction terms between the relationship to the head of household and *ABSHARE* also exhibit interesting patterns. First, *ABSHARE* × *NONREL* is negative and significant as expected. Further, in all cases, the absolute value of the coefficient is higher on the interaction term than the coefficient on *ABSHARE*. This indicates that those children who fall under the non-relative category are unlikely to go to school if their households rely more on remittances. This makes sense as many of them are working as a domestic helper, among others.

Second, *ABSHARE* × *GRAND* is also negative and significant, though only at a 10% level. Therefore, among the households where the guardian of the school-age children is a grandparent, the children are less likely to be a student if the share of income from abroad is larger. However, we are unable to draw strong conclusions as the corresponding coefficients in the year-by-year regressions are not significant. Finally, *ABSHARE* × *OTHREL* is not significant. This indicates that the impacts of remittances may be similar between those children whose household heads are parents and those children whose household heads are other relatives.

The regressions results discussed so far tell us how remittances are related to the student status of children. However, they don't tell us whether the income received from abroad is indeed used for education. Therefore, we also estimate some models of educational spending.

Let w_h be the education expenditure share, or the education expenditure over the total expenditure expressed in percentage. Theoretically, this function depends on prices and total expenditure. In addition, we include additional covariates ξ_h including a constant term. Assuming a linear relationship, we have the following model:

$$w_h = \alpha_0^T p_h + \alpha_1 LPCTOT_h + \alpha_2^T \xi_h,$$

where p_h is a column vector of logarithmic prices, $LPCTOT$ is the logarithm of the total expenditure per capita in the household as before. Since w_h is homogeneous in degree zero in prices and total expenditure, we may drop the price for any single good to (implicitly) impose this constraint. Thus, we drop the price of the other services from the regression.

Table 5 reports the regression results for expenditure shares expressed in percentage. The *LP* variables are the logarithmic prices. For example, LP_{CR} is the logarithmic price for the cereal. *NSCLCHILD* is the number of school-age individuals in the household aged between 6 and 15. *GRAT*, *ORAT* and *NRAT* are the ratio of school-age individuals who are grandchildren, other relatives and non-relatives of the household head to *NSCLCHILD*, respectively. We use these household-level variables because the expenditure shares are measured at that level.

Column (E1) in Table 5 reports the estimation results for a smallest model based on the ordinary least squares (OLS) estimation. The results indicate that richer households tend to spend a larger share of income. For example, a 1 percentage point increase in total expenditure is associated with an approximately 0.02 percentage point increase in the expenditure share. Also, the coefficient on *ABSHARE* is positive and significant. The households with larger share of income coming from abroad tend to spend a larger share of income on education. These observations are consistent with the schooling regressions discussed earlier.

As with the schooling regression model, the interpretation of the coefficient on *ABSHARE* requires some caution. The kind of households that receive a larger share of income from abroad—which may be the kind of households that would take pains to send a household member abroad to finance education—may coincide with the kind of households that spend more share on education due to the preferences of the household. Therefore, our results in part may reflect the preference of households, rather than the causal effect of incomes from abroad.

The coefficient on *NSCLCHILD* is significant and positive, as expected. Households with a larger number of school-age children tend to have a larger education expenditure share. One additional child is associated with about 0.3 percentage point increase in education expenditure share.

In Column (E2), we report the estimation results for a model with additional controls at the household level. While the coefficient on *HHFEM* is very close to zero, suggesting that the gender of the head does not affect the education expenditure share. However, the coefficient on *HHHIGH* is positive and significant. Therefore, when the head of household is a high school graduate, a larger share of expenditure tends to go to education.

The coefficient on *GRAT* is negative and significant. This is unexpected from the schooling regression results. This may reflect the fact that the households in which the school-age members are guarded by their grand parents may have additional needs that do not appear in other households.

Also, the coefficients on *ORAT* and *NRAT* are negative and statistically significant. Therefore, other things being equal, the share of expenditure that goes to the spending on education tends to be smaller when the proportion of school children who are not children or grandchildren of the head of the household is larger. This result is expected from the schooling regression results, because the school-age children who are an other relative or non-relative are less likely to be a student than others.

Column (E3) reports the estimation results for a model that includes all the regressors in Column (E2) and some interaction terms between *ABSHARE* and various household-level variables. This regression tells us whether the way income from abroad is used may be different across different households.

The coefficients on $ABSHARE \times HHFEM$ and $ABSHARE \times HHHIGHT$ are not significant both statistically and economically. Hence, whether the head is a female and whether the head has graduated from high school do not seem to change the way remittances are used.

The coefficients on $ABSHARE \times GRAT$, $ABSHARE \times ORAT$ and $ABSHARE \times NRAT$ are also not statistically significant. However, the point estimates are not small. According to the estimates in Column (E3), one percentage point increase in the share of income from abroad is associated with 0.023 percentage point increase in the share of education spending when the household head is a parent of all the school-age children in the household, whereas the corresponding figures for 0.020, 0.029 and 0.011, when relationship of all the school-age children to the head of household in the households is grandchildren, other relatives, and non-relatives.

Column (E4) reports the regression results for a model that includes both year and region fixed effects. The inclusion of these fixed effects is potentially important, but it does not change the main results that have been discussed so far. One notable difference is that the coefficient on LP_{ED} becomes positive and significant. One explanation for this difference is that prices may have captured in Column (E3) a number of confounding factors that vary across regions or years. Thus, once we control for the region and year as well as other observable characteristics, higher education price is associated with higher expenditure share for education, suggesting that education expenditure may be inelastic.

Columns (E1) to (E4) are based on the OLS estimation. The results are good if the measurement of *LPCTOT* is not subject to errors. However, if it is, the measurement error will also end up in the left-hand-side of the equation, causing the OLS estimate to be biased. Therefore, as a robustness check, it is important to address this potential source of bias.

The standard procedure to deal with this issue is to use the instrument variable (IV) approach. Therefore, we instrument *LPCTOT* by the logarithm of total income per capita in the household. The estimation results due to the IV estimation are reported in Column (E5). As the comparison between Column (E4) and Column (E5) makes clear, the potential bias due to *LPCTOT* is small, if any and it does not change the qualitative nature of the results we have discussed so far. Note that the

Conclusions

Remittances have increasingly become an important driver of development in many developing countries. The Philippines is one notable example of such countries. This study has shed light on how income from abroad is used using schooling and education expenditure share regressions.

We have found that the income from abroad tends to increase both schooling and education expenditure share. This indicates that international remittances tend to help households finance human capital investment, which in turn is likely to help improve the long-term prospect of the country's development, provided that the human capital formed due to the income from abroad stay in the Philippines.

Whether or not international remittances help the development of the Philippines in the long run, our finding does indicate that they are likely to improve the education of school-age children in the Philippines. One qualification that has to be made is that our results may be in part driven by the heterogeneous preferences across households. Previous studies, however, have also found that international remittances are indeed used to finance human capital investment.

One important difference of this study from previous studies is that we explicitly take into account the relationship of the school-age children to the head of household. This is potentially important because it is not uncommon for the Filipino parents to ask other people, including relatives, to look after their school-age children while they are working abroad.

We find that the incomes from abroad do not benefit a small fraction of those school-age individuals who are not related to the head of the household. Otherwise, international remittances do appear to affect the education of school-age children positively. However, the way they affect are different between those individuals who are grandchildren of the head and those who are relatives but not children or grandchildren of the head.

In the absence of incomes from abroad, it is also the case that those school-age individuals who are a relative of but not a child or a grandchild of the head are less likely to be a student than those individuals whose household head is a parent or grandparent. However, when the parents ask their relatives to look after their children to work abroad, remittances could compensate for being an "other relative." This can be seen by the fact that, after controlling for various factors, a larger proportion of the income from abroad goes to the education spending in households with higher shares of other relatives among school-age children (though the coefficient on $ABSHARE \times ORAT$ is not statistically significant).

The question is how large the compensation by international remittances is. To answer this question, let us do a simple calculation with a realistic parameter values. Consider a typical school-age individuals who is a relative of, but not a child or a grandchild of, the head of household. Then, for such a child, $LPCTOT = 10 (\approx \ln 22,0026)$ and $ABSHARE = 0.1$ would be a reasonable choice given the summary statistics reported in Table 3.

Now, consider a counterfactual where the child stayed with his parent. Assume this parent is the same in all aspects as the actual head of household for the child, except that the parent has no income from abroad, so that

$LPCTOT = 9 (= 10 \times (1 - 0.1))$ and $ABSHARE = 0$. While this is obviously a strong assumption, this is not an unreasonable assumption.

By comparing between the actual outcome with this counterfactual, we can measure the impact of emigration and remittances combined on schooling. Taking the estimates from Column (S5) in Table 4, the combined impact on the systematic component ($X\beta$) in the schooling regression is $\Delta X_i^T \beta = 1.774 \cdot (10 - 9) - 0.074 \cdot (100 - 81) + 0.358 \cdot 0.1 - 0.179 \cdot (1 - 0) - 0.001 \cdot (0.1 - 0) = 0.225 > 0$. Thus, the net impact is still positive around the observed averages.

Using similar calculations, we can also see that the negative effect of being an “other relative” on schooling outweighs the positive effect of foreign incomes when $ABSHARE$ is less than 0.049 (assuming $LPCTOT = 10$). Thus, our results indicates that remittances from abroad tends to compensate for the fact that the child is an “other relative,” if a reasonably large amount of income comes from abroad.

The calculations above are essentially based on the assumption that the (potential) senders of remittances have the same characteristics as the receivers. What if we drop this assumption? If the senders are wealthier in the first place, then our results would exaggerate the possibility of compensation. That is, by letting the child be taken care of by a poorer relative, the child may be less likely to go to school, even if remittances may partially compensate for being an “other relative.”

Despite this caveat, it is still the case that international remittances are indeed used for education. Further, if the opportunities abroad are attractive enough, they help improve schooling in the Philippines, even after the potential negative effects of being guarded by non-parent relatives are taken into consideration.

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TABLE 1: REMITTANCES AND OTHER TRANSFERS IN THE PHILIPPINES 1993-2003

Year	Remittance		Cash brought home		In-kind brought home		Total	# Obs
	% positive	Amount	% positive	Amount	% positive	amount	transfer	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1993	71.3	24,365	15.2	36,869	24.1	11,775	25,794	2,280
1994	70.3	25,050	11.7	39,972	21.9	10,752	24,651	2,275
1995	73.4	26,476	9.8	43,111	23.1	15,354	27,229	1,862
1996	70.6	27,513	10.9	37,175	20.7	14,917	26,554	1,992
1997	77.8	27,724	15.4	40,248	28.9	14,178	31,864	2,768
1998	77.4	39,676	19.5	56,767	24.1	14,630	45,285	3,064
1999	74.6	43,903	18.1	50,323	23.4	13,405	44,989	1,994
2000	72.9	47,688	16.6	70,854	20.3	19,052	52,048	3,112
2001	72.7	46,704	17.5	64,101	21.2	15,898	48,545	3,176
2002	71.9	55,334	18.3	77,056	20.9	17,768	57,599	3,128
2003	76.0	58,625	18.0	81,459	19.3	19,553	63,419	2,585

Note: Author's calculation based on SOF data for 1993 to 2003. All the transfer amounts are for the six months period between April and September each year. Amounts are expressed in pesos.

TABLE 2: PROFILE OF CONTRACT FILIPINO WORKERS (COFW) AND AVERAGE FILIPINO WORKERS (AVG) 1993-2003

	Age		Female Ratio		High School		College		% COFW	N
	COFW	AVG	COFW	AVG	COFW	AVG	COFW	AVG		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
1993	33.6	35.9	42.0	36.9	83.1	42.0	27.1	11.9	3.8	47,321
1994	33.4	36.2	45.5	36.7	85.2	42.7	25.5	11.5	3.7	47,818
1995	34.1	36.1	46.5	37.3	83.6	43.9	26.3	11.6	3.4	48,165
1996	34.6	35.6	43.9	37.1	84.4	45.6	28.5	12.9	3.6	48,260
1997	34.3	36.0	45.0	37.7	85.4	46.4	24.1	12.2	3.8	74,807
1998	34.7	36.2	47.1	37.9	85.8	47.5	25.8	12.9	3.9	71,220
1999	35.3	36.7	46.2	38.4	85.2	48.0	26.5	13.2	3.7	45,794
2000	35.2	36.9	47.0	38.1	86.6	49.0	31.3	13.5	3.7	73,106
2001	35.3	36.7	48.1	39.3	90.7	49.8	35.2	14.0	3.3	74,928
2002	35.6	37.1	47.5	39.2	90.5	50.5	35.4	14.2	3.4	71,765
2003	35.2	36.1	49.2	38.3	90.9	51.1	35.5	14.1	2.9	75,459

Note: Author's calculation based on LFS data for the month of October between 1993 and 2003.

TABLE 3: PROFILE OF INDIVIDUALS BETWEEN 10 AND 14 BY RELATIONSHIP TO THE HEAD OF HOUSEHOLD

Relationship with the household head	1997	2000	2003
<i>Female ratio(%)</i>			
Child	48.1	48.3	48.9
Grand child	49.1	47.0	48.9
Other relative	54.6	51.0	55.1
Non-relative	65.4	65.2	65.1
Philippines	48.5	48.4	49.3
<i>Per capita expenditure (pesos)</i>			
Child	14,873	17,161	19,248
Grand child	16,960	19,315	23,083
Other relative	18,241	22,909	27,169
Non-relative	37,824	32,978	41,550
Philippines	15,341	17,700	20,044
<i>Share of incomes from abroad (%)</i>			
Child	4.0	4.1	4.7
Grand child	10.3	9.9	10.6
Other relative	7.6	8.5	10.8
Non-relative	4.4	6.6	8.2
Philippines	4.7	4.9	5.5
<i>Proportion of Students (%)</i>			
Child	92.1	88.6	87.2
Grand child	94.8	89.1	86.6
Other relative	88.6	88.6	85.5
Non-relative	46.5	39.7	54.7
Philippines	91.9	88.4	86.9

Note: Author's calculation based on SOF data for 1997, 2000 and 2003.

TABLE 4: PROBIT REGRESSION OF BEING A STUDENT

Model	(S1)		(S2)		(S3)		(S4)		(S5)	
Variable	Est	S.E.	Est	S.E.	Est	S.E.	Est	S.E.	Est	S.E.
<i>LPCTOT</i>	1.939 ***	(0.188)	1.544 ***	(0.194)	1.618 ***	(0.198)	1.383 ***	(0.206)	1.774 ***	(0.207)
<i>LPCTOT</i> ²	-0.082 ***	(0.010)	-0.063 ***	(0.010)	-0.066 ***	(0.010)	-0.056 ***	(0.011)	-0.074 ***	(0.011)
<i>ABSHARE</i>	0.384 ***	(0.059)	0.454 ***	(0.112)	0.473 ***	(0.115)	0.388 ***	(0.115)	0.358 ***	(0.115)
<i>HHFEM</i>			-0.098 ***	(0.026)	-0.083 ***	(0.026)	-0.104 ***	(0.026)	-0.103 ***	(0.027)
<i>HHHIGH</i>			0.299 ***	(0.018)	0.284 ***	(0.018)	0.307 ***	(0.019)	0.298 ***	(0.019)
<i>GRAND</i>			0.048 *	(0.028)	0.027	(0.029)	0.036	(0.029)	0.035	(0.030)
<i>OTHREL</i>			-0.217 ***	(0.035)	-0.184 ***	(0.035)	-0.164 ***	(0.036)	-0.179 ***	(0.037)
<i>NONREL</i>			-1.635 ***	(0.071)	-1.553 ***	(0.069)	-1.526 ***	(0.069)	-1.584 ***	(0.070)
<i>ABSHARE x HHFEM</i>			0.234 *	(0.123)	0.208 *	(0.125)	0.273 **	(0.126)	0.250 *	(0.127)
<i>ABSHARE x HHHIGH</i>			-0.171	(0.121)	-0.179	(0.123)	-0.216 *	(0.123)	-0.182	(0.124)
<i>ABSHARE x GRAND</i>			-0.300 *	(0.157)	-0.309 *	(0.160)	-0.282 *	(0.162)	-0.295 *	(0.163)
<i>ABSHARE x OTHREL</i>			-0.025	(0.213)	-0.013	(0.214)	-0.001	(0.215)	0.016	(0.217)
<i>ABSHARE x NONREL</i>			-0.768 **	(0.362)	-0.705 **	(0.347)	-0.738 **	(0.346)	-0.661 *	(0.357)
CONSTANT	-9.725 ***	(0.889)	-7.735 ***	(0.918)	-7.953 ***	(0.934)	-6.459 ***	(0.974)	-8.307 ***	(0.978)
Age fixed effect		N		N		Y		Y		Y
Region fixed effect		N		N		N		Y		Y
Year fixed effect		N		N		N		N		Y
Pseudo <i>R</i> ²		0.0418		0.0657		0.0861		0.1143		0.1267
Number of observations		78620		78620		78620		78620		78620

Note: Author's calculation based on the merged FIES-LFS data for 1997, 2000, and 2003. Robust standard errors are reported in the parentheses. *, **, and *** indicate that the coefficient is statistically significant at a 1, 5, and 10 percent, respectively.

TABLE 5: THE REGRESSION RESULTS FOR THE EDUCATION EXPENDITURE SHARE MODEL

Model	(E1)		(E2)		(E3)		(E4)		(E5)	
Variable	Est	S.E.	Est	S.E.	Est	S.E.	Est	S.E.	Est	S.E.
<i>LP_CREAL</i>	-0.14	(0.59)	-0.18	(0.59)	-0.17	(0.59)	-0.30	(0.61)	-0.29	(0.59)
<i>LP_MEAT</i>	-0.92 *	(0.49)	-0.93 *	(0.49)	-0.94 *	(0.49)	0.27	(0.51)	0.27	(0.53)
<i>LP_FRVG</i>	2.92 ***	(0.27)	2.99 ***	(0.27)	2.99 ***	(0.27)	1.15 ***	(0.29)	1.15 ***	(0.27)
<i>LP_OTH</i>	-1.24 ***	(0.38)	-1.35 ***	(0.38)	-1.35 ***	(0.38)	-1.54 ***	(0.43)	-1.55 ***	(0.42)
<i>LP_HOUSE</i>	0.23	(0.17)	0.24	(0.17)	0.24	(0.17)	0.12	(0.18)	0.12	(0.18)
<i>LP_UTIL</i>	1.38 ***	(0.39)	1.47 ***	(0.39)	1.47 ***	(0.39)	-0.23	(0.44)	-0.22	(0.42)
<i>LP_PCHM</i>	-1.19 ***	(0.41)	-1.17 ***	(0.41)	-1.17 ***	(0.41)	-0.42	(0.46)	-0.41	(0.48)
<i>LP_OGD</i>	-4.31 ***	(0.67)	-4.34 ***	(0.66)	-4.34 ***	(0.66)	0.09	(0.80)	0.09	(0.79)
<i>LP_EDU</i>	-0.31	(0.21)	-0.32	(0.21)	-0.32	(0.21)	0.82 ***	(0.24)	0.83 ***	(0.23)
<i>LPCTOT</i>	2.19 ***	(0.04)	2.00 ***	(0.04)	2.00 ***	(0.04)	2.40 ***	(0.05)	2.44 ***	(0.04)
<i>ABSHARE</i>	2.42 ***	(0.20)	2.57 ***	(0.20)	2.53 ***	(0.42)	2.34 ***	(0.41)	2.30 ***	(0.25)
<i>NSCLCHILD</i>	0.30 ***	(0.02)	0.24 ***	(0.02)	0.24 ***	(0.02)	0.28 ***	(0.02)	0.29 ***	(0.02)
<i>HHFEM</i>			0.03	(0.07)	0.01	(0.07)	0.07	(0.07)	0.07	(0.07)
<i>HHHIGH</i>			0.59 ***	(0.05)	0.58 ***	(0.05)	0.58 ***	(0.05)	0.56 ***	(0.05)
<i>GRAT</i>			-0.82 ***	(0.07)	-0.79 ***	(0.07)	-0.79 ***	(0.07)	-0.79 ***	(0.07)
<i>ORAT</i>			-0.36 ***	(0.12)	-0.41 ***	(0.13)	-0.48 ***	(0.13)	-0.48 ***	(0.10)
<i>NRAT</i>			-1.23 ***	(0.34)	-1.16 ***	(0.34)	-1.60 ***	(0.34)	-1.64 ***	(0.25)
<i>ABSHARE x HHFEM</i>					0.08	(0.39)	0.09	(0.39)	0.09	(0.24)
<i>ABSHARE x HHHIGH</i>					0.06	(0.41)	0.13	(0.40)	0.15	(0.25)
<i>ABSHARE x GRAT</i>					-0.35	(0.49)	-0.36	(0.49)	-0.36	(0.32)
<i>ABSHARE x ORAT</i>					0.55	(0.81)	0.61	(0.82)	0.61	(0.46)
<i>ABSHARE x NRAT</i>					-1.02	(2.35)	-1.35	(2.38)	-1.34	(1.30)
Constant	-18.37 ***	(0.36)	-16.59 ***	(0.38)	-16.59 ***	(0.38)	-19.81 ***	(0.44)	-20.20 ***	(0.39)
Year and Region dummy	N		N		N		Y		Y	
R^2	0.1019		0.1077		0.1078		0.122		0.122	
Number of observations	74308		74308		74308		74308		74308	

Note: Author's calculation based on the merged FIES-LFS-CPI data for 1997, 2000, and 2003. Robust standard errors are reported in the parentheses. *, **, and *** indicate that the coefficient is statistically significant at a 1, 5, and 10 percent, respectively.

Religion in the United States: Focusing on Islamic Interest Free Financing idea for The American Market?

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Abstract

Interest free is not a new idea in the Islamic world. There are many laws in most countries that implement interest free banking. The areas of the world that follow this law are the believers of Islamic background. This trend has migrated out of the native area and the idea has traveled into the global markets of many nations. The principles and real world examples as the author proposed: are that interest-free financing constitutes a feasible alternative for the American market. The discipline that it imposes on the individual can be attractive to Americans, whose poor saving habits and paycheck-to-paycheck spending mentality, coupled with an economy whose cycles follow the interest rate, have left many deep in debt. Interest-free banking may be a welcome alternative for individuals seeking a more conservative approach. On a larger scale, it can also help bring more stability to an economy so heavily based on the interest rate. This idea is already infiltrated in the north American market.

Introduction

A Nation in Debt

This has been the view that the age-old American dream begins when through hard work, anyone can succeed in life. This is based on the freedom given by the United States government. Nevertheless, this dream is nothing more than a nightmare as people become victim of poor work ethics and become part of the generation that focuses on buying with credit (Aggarwal and Yousef, 2010; 28).

This change in households' behavior was examined in a paper by Dynan and Kohn of the Federal Reserve Board. Putting aside constraints on borrowing, some of the factors that can contribute to households' decisions to take on more debt include less patience among consumers, less uncertainty in the economy making the need for reserves less urgent, lower cost of debt, increasing house prices, and changes in demographics. Looking at the real world where constraints do exist, in addition to the factors mentioned above, changes in the economy that reduce these constraints can increase the occurrence of borrowing. Presumably as a result of the emergence of a number of the aforementioned factors, American households began to demand more debt to finance their purchases, as will be evidenced by statistics later (Dynan and Kohn, 2007; 376).

Plague of borrowing on Debt

Lenders saw consumers' increasing willingness to borrow as an opportunity to improve their business by focusing less on their traditional role as creditors collecting on debts, and instead on increasing profits by using different tactics to earn as much as possible from each customer. This new behavior of creditor companies, in tandem with consumers' (Morgensen, 2006; 1-3). tendency to think in short-run and borrow as much as possible, has left a large number of American households deep in overwhelming debt. Whether from consumption or mortgages, Americans

over the years accumulated a large amount of debt, and a significant portion of their hard-earned money that goes straight to their creditors (Sukkuk, 2010). As a matter of fact, the ratio of all household debt to disposable personal income, a common measure of indebtedness among groups of people, has grown tremendously since 1952 (see Figure 1), with a value of 108 percent in 2004 (Weinberg, 2006; 178-179). This means that Americans are aggregately spending more than they earn in which many of them indefinitely are stuck paying for things they cannot afford and should never have bought.

Comparing debt service (estimated required payments on outstanding mortgage and consumer debt) to disposable personal income (gross income less income tax) produces the debt service ratio, an estimate by the Federal Reserve Board of the portion of earnings spent on debt relief ("Disposable/Discretionary Income", 2008). As shown in Figure 2, neither the debt service ratio nor the financial obligations ratio, which additionally takes car lease payments, rental payments, etc. into account, has changed significantly since 1980 ("Household Debt Rising Fast in the US", 2007). Figure 3 further illustrates the extent of debt held by American consumers, showing the growth of the ratio of household debt to the value of household assets from 1961 to 2002 (Campbell and Hercowitz, 2006; 20-21). Taking both graphs' statistics together, this indicates that while Americans have been accumulating more debt over the years relative to property and income, they are not paying more out of income to relieve these debts, and so they continue to grow.

Turmoil in the Domestic Economy

In turn, one major side effect of the situation described above is that customers, and thus the economy as a whole, have become highly sensitive to shocks in the economy, since holding more in debt and less in assets puts households in a financially precarious position ("Growing Interest", 2010). Households holding a large amount of debt are less able to adapt to changes in real income or in the real interest rate, while those with less debt have more cash on hand and are as a result less affected by these shocks. The results of this sensitivity to change are not as bad as they may sound. However, since shocks in the interest rate and income level can offset each other (Dyan and Kohn, 2007; 21). But the fact remains that holding a significant amount of debt makes a household's financial position almost as risky as the market itself, which is not a good place for a household. A household is supposed to be a safe haven for its occupants and this includes financial safety. If a household's finances ebb and flow with the state of the economy, it is not properly functioning in this particular area. Under the system in place in the United States, creditor companies are implicitly encouraging consumers to spend their money impulsively and irresponsibly, leaving many households naked in this situation.

Identically, while the current state of the American household may be something of a sob story, it may not quite touch the hearts of those without such troubles. However, the story does not stop at the individual household. The economy as a whole is also beginning to suffer, since more people are defaulting, causing more banks to report losses, which in turn affects shareholders (Morgensen, 2008; 1). Eventually, the financial troubles that the credit system has placed on consumers comes back full-circle, and the economy suffers for it. This phenomenon is also illustrated by the IS/LM model of Keynesian economic theory, an example of which can be found in Figure 4 ("IS/LM Model", 2008). In this model, IS represents all equilibria at which total spending equals total GDP, while LM represents all equilibria between demand and supply for money. The LM curve can be controlled by monetary policy (i.e., the Federal Reserve Board), while the IS curve is influenced by exogenous variables such as government deficits. A shock in the economy that shifts the IS to the right raises both the cost of money (interest rate) and the GDP, affecting one household at a time. Under the traditional interest-charging banking system, credit is a good

thing (Weinberg, 2006;177). and people are encouraged to use as much credit as they can, until they get trapped into an inescapable hole of debt that first hinders their own financial health, and then goes on to affect the economy at large(Shahinpoor, 2009).

Moreover, a more immediate and direct problem inherent in the traditional banking system is that the practices go against some of the principles of certain religions, including Islam, which is currently the second-largest religion in the world, after Christianity, and is growing quite fast (“Islam”, 2008). With a growing market both internationally and within the United States, as immigration and conversion figures have been significant in recent years, it would be prudent to offer services for this group of people domestically rather than letting them take their business outside the country (“Islam in the US”, 2008).This will be discussed further in a later section.

Potential Cure

Above all, the American banking system as it is inadequate, not only because it fails to serve a growing population, but also because of the effects it has on many of its captive customers, and ultimately on the economy at large. Given these problems, Author proposes that American banks add to their service lines the option of interest-free financing, in which loans are more realistically estimated. Author recognizes that there will be difficulty in making a switch, given the habits of American consumers and the scarcity of profit potential by creditors in interest-free financing, but author believes that its potential benefits outweigh the “negative” aspects. By making loans more realistic as to the consumer’s ability to pay, the consumer will be able to live with less debt relative to income or assets owned, and will be more able to satisfy outstanding debt. This, in effect, will benefit the banks by securing more return on debt, which will transfer to the shareholders. Of course profits to creditors may not be quite as high as they are under the current system, but there will be more stability in performance, and much less volatility. As the effect transfers from one party to the next, the implementation of interest-free banking can help to bring more stability to the economy and reduce its cyclical nature due to uncertainty in debt.

Analysis of Comparable Writing

In short, the modern concept of Islamic banking is not particularly old, coming out of a return to the rules by many Muslims (Taylor,2003; 4).There are many aspects of Islamic banking that have been developed to comply with the religious beliefs of Islam(Naser, 1997), but the part that concerns us most at this time is the concept of interest-free financing – what it is, how it works, the pros and cons, and how to implement it if it does indeed suit the American market.

At first it would be useful to know what interest-free financing is and what it entails. Islamic banking focuses on sharing of profits and losses, and the prohibition of charging or paying interest (“Islamic Banking”, 2008).As will be expanded upon later, interest is avoided by use of the main concepts in Islamic banking – profit sharing, safekeeping, joint venture, cost plus, and leasing – each with its own way of lending without charging interest. A study by A.F. Darrat shows empirically that an interest-free banking system is the only one that “offers a reliable short-run link between the monetary aggregate and the policymakers’ goal of price stability” (Darrat, 2000; 806-807).

There are other examples of interest-free financing, in which others have taken the model set forth by Islamic bankers and applied it elsewhere in the world. The best example of this is JAK bank in Sweden, which will

be discussed further below. Of course, with every decision that can be made, there are pros and cons, reasons to go ahead and reasons to pull back. Some of these will be discussed briefly.

To finish, there will be a more detailed strategy on how to successfully bring interest-free financing into the American market as a supplement to the current banking system, followed by a conclusion about what has been outlined here.

The Scope of Today's Market

Banking as usual

Marketing mix. Today, the conventional banking and financial institutions are based entirely on the concept of interest-bearing instruments (Thomas, 2006; 82). Under the Four P's, the *product* traditional banking offers is any kind of financing plan (Perreault, Cannon, and McCarthy, 2008; 35-38). This includes credit cards, mortgages, and car financing, whether for purchasing or leasing. It gives people the ability to purchase items without having all or any of the money at the time of the purchase. However, there is a *price* for borrowing, namely an interest rate charged on all financing plans. Other prices include monetary consequences for late payments, being financially responsible as a co-signer, and the other fees charged for services. A few examples of *places* where these financing plans are offered are campuses, commercial banks, car dealerships, real estate agencies, and even retail locations, whether on-line or in store (Thanasegaran, 2010). These financing plans are *promoted* through television and internet ads, magazines and newspapers, as well as on college campuses through sales promotions. When a person experiences a low interest rate or obtains many perks, word of mouth is the main method of promotion.

Demographics. Traditional banking can best be exemplified in the United States. According to Ebonya Washington, author of "The Impact of Banking and Fringe Banking Regulation on the Number of Unbanked Americans," 10 to 20 percent of Americans do not possess either a savings or a checking account (Washington, 2006; 106). This statistic indicates that many Americans rely on financing plans for consumer spending. Although the United States is in a rough time, consumer spending has grown at an annual rate of about 2.7 percent during the first three quarters in 2007 (Cooper, 2007; 27). Easy access to credit has been the main fuel for this increased spending. Banks and other financial institutions contributed to this easy access to credit because they were willing to lend households ever increasing amounts of money. To these financial institutions, loans to consumers, in the aggregate, were viewed as low-risk and profitable (Mandel, 2007; 57). However, the risk has increased to consumers. The Economic Survey of the United States 2007 reports that household debt has risen "particularly fast over the past decade in the United States". The outstanding amount of household financial liabilities increased from 89 percent of personal disposable income in 1993 to 139 percent in 2006. This is an unusually large rise by historical standards (Business and Finance, 2007). Although household debt in all income ranges has grown, this growth has been the most prevalent among households with medium and low levels of income. In addition, disparities in borrowing behavior continue to exist between minority and nonminority households. However, these disparities have begun to decline (Weinberg, 2006; 179-180).

Banking without interest

Marketing mix. In interest-free banking, the *product* is the same as that of traditional banking, which is any kind of financing plan. However, a person's purchasing power is more limited under interest-free banking because the *price* of borrowing is based on how much one has saved or will save in order to repay the debt. Without the interest as

part of the price, consumers have a better outlook on how to spend their money, giving them more financial security and reliability in their own cognizance. Unfortunately, right now the only places that offer interest-free banking are Islamic countries or other areas where interest is prohibited. However, this concept can also be appealing to people who want to be more responsible in their spending, which leads to *promotion*. Right now, not much promotion is done because interest-free banking is in effect because of religious laws or government regulation. But what authoris advocating in this paper is to promote to those people who want to be more responsible with their money (Aggarwai and Yousef, 2010). This type of banking system is ideal for those people who have been burned by debt before and want more discipline in their spending.

Demographics. In the last two decades, there has been remarkable growth of interest-free banks in many parts of the world. According to Ali F. Darrat, author of “Monetary Stability and Interest-free Banking Revisited,” this is partly due to the recent revival of Islamic values in most Muslim countries and the extensive research in support of the relative efficiency of these interest-free banks (Darrat, 2000; 803). Not only have Muslim countries been taken participation in interest-free banking, certain accommodations have been made for Muslims here in the United States. For example, University Islamic Financial Corporation, a bank based in Ann Arbor, Michigan, has accommodated special concerns of Muslims offers rent-to-own agreements for home buyers, along with savings accounts that offer profit sharing rather than interest (Galst, 2008; 6).

Comparatively, the concept of interest-free banking is also prevalent among Jews and Hindus. The Torah, which contains the first five books of the Old Testament, has two specific verses that forbid the collection of interest. Rabbis of the Talmud have extended these laws, prohibiting the borrower as well as to the lender from using interest (Jacobs, 1995; 3). These rabbis are known as “Talmudic rabbis” because they have contributed to the series of commentator books known as Talmud (Telushkin, 2008). For Hindus, the Vedic texts of Ancient India (2,000-1,400 BC) mention the “usurer” several times. This term has been interpreted as any lender at interest. However, the Sutra texts (700-100 BC) make more frequent and detailed references to interest payment. During the time of the Sutra text, the first sentiments of contempt for usury were expressed (Sukkuk, 2010). For example, Vasishtha, a well known Hindu law-maker of during that time, made a special law which prohibited higher castes of Brahmanas (priests) and Kshatriyas (warriors) from being usurers or lenders at interest (Visser and McIntosh, 1998).

Different Methods to Routine Commerce

Islamic Style of Banking

This alternative method of banking is commonly known as Islamic banking because of its deep roots in the Islamic religion (Thomas, 2006; 82). Islamic banking is not only about prohibiting the receipt and payment of interest, it is also supported by other principles of Islamic doctrine which advocate risk sharing, individuals' rights and duties, property rights, and the sanctity of contracts (Kader, 2010). With this in mind, Islamic banking investments should provide a stimulus to the economy and encourage entrepreneurs to maximize their efforts while maintaining the morals of the communities (Maniam, Bexley, and James, 2000; 22).

For instance, instead of a basis on the payment of interest, the Islamic financial system is based upon the sharing of profit and loss (Darrat, 2000; 803). Risk in business sharing may be allowed but risk in the form of gambling or mere speculation is prohibited by Islamic law. Under Islamic banking, investors should be focused on searching for projects that adhere to the Shari'a. With this in focus, investors should also be willing to share in the

success or failure of the project because all profits or losses are shared by all parties involved and earnings may not be guaranteed or predetermined (DiVanna, 2006).

Furthermore, in all Islamic financial services, compliance with Shari'a law is overseen and assessed by a board of independent Islamic scholars. The Islamic financial system restricts investments in certain business sectors whose products are forbidden by the Shari'a, such as alcohol, pornography, gambling, non-halaal food, and interest-bearing financial activity. This limitation can be extended to those with questionable moral values that may not have been directly stated in the Islamic laws such as tobacco industries, anything harmful to the environment, or genetic experiments such as cloning. These limitations, not directly stated in the Islamic laws, are based on an individual or community's opinion (Maniam, Bexley, and James, 2000; 22). The filtering process also includes acceptable limits on a company's debt level, interest income, accounts receivable and corporate governance levels (Thomas, 2006; 82).

United States Style of Banking

In contrast to Islamic banking, the United States banking has largely become focused on card rather than cash or check payment (Naser, 1997). This includes both credit and debit cards. There has been a steady increase in credit card users over the last two decades (Sappideen, 2007; 124). According to The Country Commerce, the most widely used form of short-term financing in the US is lines of credit at commercial banks (Country Commerce, 2008; 63). The shift from cash to credit cards as the medium of payment has also increased the availability of credit facilities, giving almost anybody who wishes to accept a credit card that option. Because of the growing burden of consumer debt, new challenges must be met. Now, retailers must update their systems for electronic payment. Coupled with, commercial law systems, which were originally designed for paper-based transaction systems, must also be updated (Sappideen, 2007; 120). However, the greater the usage and acceptance of payment cards, the more valuable they are to the consumer, retailer, and the company issuing the card (Sappideen, 2007; 122). With a credit card, the consumer now has the ability to purchase big-ticket items or buy in more quantity. This benefits the retailer because now he or she can generate more profits with the increase in sales (Al-Shams CEO Eyes Promoting, 2010). The company issuing the card also benefits from the interest and late payment fees because the consumer often falls into the trap of buying things he or she cannot afford and paying for it later.

With this in mind, for mid- to large-sized US corporations, commercial paper is a popular tool to use for short-term financing, since it is often cheaper than bank credit. Commercial paper can be described as "essentially an unsecured promissory note that a company issues and sells to investors, generally through investment banks". These corporations benefit because foreign companies pay higher interest than US firms with the same credit ratings, and commercial paper interest rates are usually below the bank prime rate. After all, commercial paper is exempt from the registration requirements of the Securities and Exchange Commission under certain stipulations (County Commerce, 2008; 64).

MARKETING INTEREST-FREE BANKING

In order for Islamic Banking or Interest-Free to become successful within the western world or, more specifically, within the United States, one must prepare a marketing strategy that identifies the target market and the specific marketing mix to be implemented (Perreault, Cannon, and McCarthy, 2008; 33).¹ The target market—a homogenous group of customers—is fairly easy to identify: it consists of the Islamic population in the U.S., which ranges anywhere from 1.1 million to 6.7 million, (these statistics are highly disputed) and other people who have been in debt and want to control their spending and would like some help in doing so (“Islam in the United States”, 2008).² The marketing mix are the controllable variables that financial institutions can put together to satisfy the target group. This mix consists of a product, pricing, place, promotion. Combining the correct strategies together can yield positive results for financial institutions who try to implement an Islamic Banking strategy.

Product

The first element of a proper marketing mix is the product. According to Sudin Haron of Northern University of Malaysia, “financial institution such as commercial banks, investment banks, merchant banks, finance companies, discount houses and insurance (Thanasegaran, 2010) companies that choose to offer products or services without an interest element can be considered as performing business using Islamic banking products” (Haron, 2008; 26). Therefore, any financial product that is interest free may be marketed as in accordance with Islamic principles. Using this as a working definition, author can now identify what products can be offered by analyzing other Shari’-compliant banks. Basically, there are four broad categories that these banks use to classify their products: profit-loss sharing, principles based on fixed charges, principles based on free charges and principles that apply directly or indirectly to the operation of Islamic banks. Author will consider the first three broad categories to understand what they entail (Haron, 2008; 30).

Profit-Loss Sharing

In the Islamic world, two governing principles encapsulate the concept of profit-loss sharing. These are *mudarabah* and *musyarakah*, which mean profit sharing and partnership respectively. In a *mudarabah* or profit sharing arrangement, there is an agreement between at least two parties. One acts as the investor and the other as an entrepreneur. The investor entrusts the money to the entrepreneur who then uses it to derive a profit (Kiva, 2010). The principal and a pre-agreed amount of profit are returned to the investor and the entrepreneur retains the rest (Haron, 2008; 30). The investor bears all the risk if there is no profit.

Alternatively, *musyarakah* or partnership establishes a relationship between the investor and the borrower. However, in this arrangement, both parties put up money for the business and they agree on profit sharing ratio that will be used to distribute earnings (Haron, 2008; 30). In both these principles, the investor acts more like an equity owner receiving dividend distributions based on the performance of the borrower’s operations.

Fixed Charges

In the Islamic principle of *murabaha*, or cost plus financing or financing resale, “the lender buys goods wanted by the borrower for resale to the borrower at a higher price agreed upon by both parties” (Haron, 2008; 31). The borrower is given a period of time to pay off this debt just like any other loan. Some critics have argued that this is just interest by another name such as a finance charge. One banker is quoted as saying, “The whole is, I want to

lend but I don't want to call interest 'interest'" ("Are Finance Charges in Islam's Interest"). Proponents of Murabha claim that the way something is done, although having the same outcome, can make the act good or bad, ethical or unethical. Therefore, even though cost plus financing in essence acts just like interest (Hasan, 1985), it is not considered to be interest because of the way in which these financial instruments are treated.

Free Charges

Finally, there is the *Qard Hassan*, otherwise known as a benevolent loan. This type of loan requires that the borrower return the principal back to the lender. Additionally, the borrower has "the discretion to reward the lender for his loan by paying any sum over the above amount of the principal" (Haron, 2008; 31). Depending on the borrower, the lender can receive little to no additional compensation for the use of his funds.

Having considered these various approaches to financial instruments, it seems that the most viable approach to use in the United States would be that of fixed charges for individuals or businesses and profit-loss sharing for businesses only. Fixed charges for individuals is most like an interest bearing note. Financial institutions have little to do when it comes to converting their products for these religiously inclined individuals. One economist noted, "Un-Islamic elements could be removed from current banking practices to create a system that is both viable and acceptable to Islam." (Gafoor, 1996; 1-86). This clearly is the case with fixed charges that do not bear an interest element. As for profit-loss sharing, this may become a viable business arrangement between lending institutions and the businesses because it creates a closer relationship than conventional loans. In profit-loss sharing you have a partner- partner relationship rather than lender-borrower relationship (Al-Thani, 2010).

Pricing

The second element of a proper marketing mix is the price. At what price should the finance charges be set? Pricing has always been an important factor to consider. If the price is too high, demand will not follow, but if set just right, the quantity demanded will reach an ideal equilibrium. However, pricing is especially sensitive within the context of Islamic banking because if the price is perceived as excessive, then it may not be in harmony with Islamic teachings (Visser and McIntosh, 2008).

Wane A. M. Visser helps us understand this delicate issue by describing usury as unearned income. He wrote:

"In Islam God 'permits trade yet forbids usury': The difference is that profits are the result of initiative, enterprise, and efficiency. They result after a definite value-creating process. Not so with interest ... interest is fixed, profit fluctuates" (Visser and McIntosh, 2008).

Therefore, when making price considerations, one must be careful not to set finance charges too high, and that the return to the investor is not viewed as interest but rather as profit from a "value-creating process."

Place

The third element of the product mix is the place or channels of distribution. This should be a relatively easy variable to control because financial institutions already have the infrastructure in place—networked banks—in which to offer these interest-free products (Rammel, 2007). However, these institutions must determine whether to

market to consumers, businesses or both. This all depends on the location or region of the country the bank plans to sell its product. A careful marketing study of the environment will help with this endeavor.

Promotion

The final element of the product mix is the promotion of the product. This too takes no more special effort than traditional financial product promotions. Just like other products, banks can promote interest-free products by various forms such as: broadcast media and print media. Promotion mix and placement work in tandem with each other; one must find the right mix and know where the best to place these promotions for maximum response. One possible promotion method would be to advertise in popular Islamic focused magazines, or in mass transit areas where there is a high volume of traffic. This will ensure that (1) the right audience is targeted, and (2) the message reaches as many people as possible. This is one of a countless number of possibilities; only through a thorough market study can the ideal promotion mix be achieved.

In any event, having reviewed the four elements of the marketing mix, it seems very possible that financial institutions can transplant interest-free banking within the U.S. The most significant of these endogenous variables is the product itself. One must carefully consider what form of interest-free banking to offer within the confines of the U.S. borders that will be both economical and financially viable.

Findings & Suggestive Discoveries

All things considered above, writer feels that implanting interest-free banking in the U.S. is not only feasible but also attractive to Americans and good for the economy. With this in mind, the following section will help magnify these points.

Feasibility in U.S. markets

Several studies have shown that interest-free financing can be implemented in countries other than Islamic territories (Yousefi, 1997; 869). One such study pointed out “the empirical evidence in support of the efficiency of interest-free banking system may not be country-specific...and perhaps more robust than author thought.” (Darrat, 2000; 806), (“Interest Free Banking”, 2001). Several other sources have shown the level of growth potential in this niche (Shahinpoor, 2009). One report stated that the Islamic finance market has grown 15 percent annually in the last three years, and is approximately a \$700 billion industry. So profitable is this niche that banks such as Citigroup, HSBC and Deutsche Bank have already devoted divisions to Islamic finance (Timewell and DiVanna, 2007), (Wiseman, 2008; B.6).

Furthermore, writer can look at the success that other countries have enjoyed to get an idea of how we in the U.S. might fare. Reports from Turkey, where implementation of Islamic financing was politically motivated, show that special finance houses—banks established to offer interest-free financing—have enjoyed on average two to four percent growth in market share per year (Okumus, 2005; 51). In Malaysia, Islamic banking commands 9.5 percent market share and is expected to reach 20 percent by 2010; with an annual growth rate of 37 percent, this seems very reasonable (Saifuddin, 2004; 1). Looking at the demographics within Malaysia reveals an interesting fact, “seven out of 10 Malaysians who opt for Islamic banking are non-Muslims” (Saifuddin, 2004; 2).

Based on these facts, it seems very feasible to implement an interest-free banking system within the U.S. Writer has seen that this “niche” market is not country specific, has exponential growth, and is not solely dependent on

religious affiliation. Before jumping to any conclusions, we must first consider the pros and cons of implementing riba-free financing.

Implementing in U.S. Markets

Writer has already hinted at, interest free banking has many positive aspects to it that can benefit the U.S. It imposes a discipline on individuals that can be attractive to the American market where poor savings and many other financial burdens have put Americans deep in debt. Nationally, it can help bring a higher level of stability to the economy. Ali F. Darrat, a noted economist on the subject, has said:

“in contrast to the interest-based banking system, the interest-free system displayed a well-behaving velocity of money, had a structurally stable money-demand relationship, exhibited monetary aggregates that are policy-controllable, and finally the interest-free monetary aggregate have a reliable link with the ultimate policy objective (price stability)”(Darrat, 2000; 803).

Clearly, there are many financial and social benefits to implementing a riba-free banking system in the U.S. However, opponents have argued against interest free financing stating that “ it would probably be technically and politically impossible to manipulate rate of spending, taxing, etc., so as to maintain an acceptable degree of economic stability” (Poindexter, 2008; 163)(Rammel, 2007).However, we must interject and cite all the countries that have enjoyed success with interest-free financing for years now. This argument does not hold water in the face of the many affirmative examples of interest-free financing, some of which were described earlier.

CONCLUSIONS

All-in-all, interest-free financing is not a new concept or unique to Islam. What is new is the growth of the global market, which has caused the practice to migrate outside of its native area. Interest-free financing is not only profitable but also socially beneficial. Therefore, it is apparent that interest-free financing is a feasible alternative not only for those with religious convictions that conflict with traditional banking, but also for the U.S. market at large. As long as due care is taken in selecting the proper marketing mix, author has high confidence that the American market can reap the benefits of providing financing interest-free for all.

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Endnotes

1 Taken from Perreault Jr., William D., Joseph P. Cannon, and E. Jerome McCarthy. *Basic Marketing: a Marketing Strategy Planning Approach*. 16th ed. Boston: McGraw-Hill, 2008 page 33.

2 The reason there is a such a large disparity between the numbers is because the US Census Bureau does not collect data on religious identification. See "Islam in the United States." Wikipedia, The Free Encyclopedia. 5 Jul 2008, 06:54 UTC. Wikimedia Foundation, Inc. 21 Jul 2008 <http://en.wikipedia.org/w/index.php?title=Islam_in_the_United_States&oldid=223683222>.

Constituents of Global Mindset Intensity: Empirical Evidence from a Study of Japanese Managers

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Abstract

During the Meiji Era and again in the aftermath of the Pacific War, Japan rapidly established itself on the world stage as a major participant in global business from very adverse and inauspicious beginnings. In the case of the Meiji Era expansion, the dramatic advances have commonly been interpreted as resulting from the herculean efforts of ex-samurai leaders acting as agents of the administration, and in the post war reconstruction period, a larger societal sub-group, Japanese ‘salary men’. With this background in mind, and coming after a period of some two decades of economic decline, the current empirical research study was undertaken for the purpose of establishing an appropriate mindset ‘profile’ for the contemporary global business era. After establishing the constructs by which ‘global mindset intensity’ could be assessed, a questionnaire survey was undertaken with Japanese international managers in western Japan. Based on their findings, the researchers have tentatively suggested that the ideal corporate role model of Japan’s post war reconstruction and growth period, the ‘salary man’, was now effectively redundant, and that the currently accepted ideal profile was more worldly and individualistic, with expertise and ‘global mindset intensity’ drawn from personalized international business experience, reminiscent of established Western business ideals.

Introduction

Japanese industry is renowned for the speed and scale of the recovery made in the decades after the end of the Pacific War, and the way in which it was pivotal to the reconstruction, even the rehabilitation, of the Japanese economy and as a by-product, Japanese civil society. Another way of interpreting this is to acknowledge that Japanese national pride was slowly but surely reinstated by the cumulative international successes of its flagship companies. A long list of particular examples come to mind, such as Sony Corporation, National Panasonic, Seiko, Canon, Mitsubishi Motors, Nissan and Toyota, to cite but a few.

In many cases, very large Japanese companies such as these, as part of vertically or horizontally integrated industrial conglomerations, imported raw materials from around the world and manufactured a wide range of consumer products for domestic and global markets. With their unique approaches to the conduct of government relations, industry structure, corporate management and inventory and production processes, they were highly successful, to the point that they excited protectionist sentiment around the world, and sometimes opposition in foreign markets, although their approaches were also the subject of widespread admiration and emulation by Western managers, and their management techniques were often taught in universities and executive level training courses by Western academics.

Indeed, the analysis of the Japanese approach to business, often broadly characterized as the 'Japanese Management System', was at the heart of a quite polarized debate in academic literature, especially as Japan seemed poised to take over world economic leadership from the United States in the late 1980s. McCormick (2004) has done an excellent job, not so much in taking up the argument from one perspective or another, but in setting out a detailed discussion which showed that the Japanese 'model' had been constructed and debated at factory, company and national levels depending upon the perspectives of the creators of these models. And as with other fairly recent commentators, such as Pudelko and Mendenhall (2007), in the light of the failure of the Japanese economy in the 1990s, and slow economic growth beyond that, McCormick also turned his attention to the evolution of the Japanese management system and the influence upon it of apparently more successful Western approaches. In McCormick's case, he forecast that there might be less homogeneity in the future management systems of Japanese organizations, while Pudelko and Mendenhall suggested that the well established Japanese tradition of adapting foreign ideas and technologies might in the future once again come to the fore, likely resulting in unforeseen and effective innovations.

The Japanese struggle to adapt and shape their formerly ascendant management approaches to new global realities was cast into particular relief by a quite recent article about world management systems in *The Economist* magazine, where comparison was made between the emergence of emerging economy multinationals, primarily based in China and India that were utilizing so-called 'disruptive' innovative technologies and approaches to management, and the dramatic ascension to world leadership of the Japanese motor vehicle industry some three decades earlier that had been based on revolutionary, innovative, contingency driven processes associated with what became known as "lean manufacturing" or lean production (The new masters of management, 2010: 2). As is now well known, Toyota Motor Corporation achieved iconic status in this respect.

Ironically, in this emerging global context, the current trials and tribulations of Toyota Motor Corporation with respect to quality control issues and mass vehicle recalls represent a spectacular fall from grace that must have been a heavy blow to Japanese national self-confidence. Recent media discussion (for example, *The machine that ran too hot*, 2010) suggested that Toyota's difficulties were related to a competitive thrust to become the world's largest automaker (achieved in 2008), in which the legendary focus on quality was compromised, resulting in the recall of hundreds of thousands of motor vehicles around the world and financial losses running into billions of dollars. It has also been recently asserted (*Accelerating into trouble*, 2010) that compounding this situation were management and governance failures that restricted the detection and correction of such problems at an earlier stage, creating obstacles in dealing with authorities in countries outside Japan in relation to the legal and regulatory consequences of the alleged omissions. These particular issues, in combination with the relative stagnation of the Japanese economy since the economic collapse of the late 1980s, inevitably lead to the following questions:

- 1 Did the so-called Japanese Management System cease to adapt to contemporary circumstances after the end of the 1980s?
- 2 Are Japanese multinational corporations in a position to effectively cope with contemporary global challenges?

Essentially, the current study addresses the second of these questions, in terms of the mental preparedness of Japanese international managers based in the Kobe region to effectively engage with the contemporary dynamic global business environment, with all its demands in terms attitudes and values, skills and competencies. In short, the current study focuses on the 'global mindset' of Japanese international managers. The general concept of 'global mindset' is briefly introduced and examined, before the current empirical study is explained.

The Concept of Global Mindset

Globalisation is the process whereby the political, economic, socio-cultural and technological structures and systems of nations around the globe are integrated into the world economy. National and industry level initiatives such as the deregulation of industries, development of foreign direct investment policies and applications to join trading blocs, provide organisations with the necessary impetus and institutional architecture to embrace globalisation (Jeanett, 2000). These initiatives at the national and industry level in turn create a globalised business environment which makes it imperative for organisations with global ambitions to reshape their structures, systems, policies and processes in order to leverage the opportunities associated with

globalisation. In this context, Gupta and Govindarajan (2002) contend that the heightened business intensity facilitated by initiatives linked to globalization necessitates continuous organisational level reform, and a number of researchers have reported that as organisations have been required to deal with a rapidly changing and dynamic complex global economic landscape, a new breed and calibre of multinational manager is required (Beechler, Taylor, Boyacigiller, and Levy, 1999; Gupta and Govindarajan, 2002; Rhinesmith, 1995). It is clearly important for this new breed of managers to develop skills, values and competencies that foster smooth functioning in the dynamic marketplace and contribute to the creation of efficient and effective global organisations. Within this context, a growing body of international management literature has emphasised the importance of the cultivation and development of a ‘global mindset’ (see Table 1.1 below) as one of the critical elements in providing the human resource platform required to develop and nurture an intelligent global organisation (Gupta and Govindarajan, 2002; Murtha, et al. 1998; Rhinesmith, 1992; 1993; 1995).

Table 1.1. Different Conceptualisations of a Global Mindset

Research	Conceptualisation of a Global Mindset
Perlmutter (1969); Heenan and Perlmutter (1979)	Geocentrism is a global systems approach to decision making or state of mind where “...HQ and subsidiaries see themselves as part of an organic worldwide entity...good ideas come from any country and go to any country within the firm” (1979: 21)
Fayerweather (1969); Prahalad and Doz (1987); Bartlett and Ghoshal (1998)	A transnational mentality is the capacity to deliver global integration, national responsiveness, and worldwide learning simultaneously (“a matrix in the minds of managers”).
Calof and Beamish (1994)	Centricity is defined as a person’s attitude towards foreign cultures. Geocentrism can be characterised by the following factors: “...all major decisions are made centrally...substantial co-ordination exists between offices..., and focus is on global systems.”
Kobrin (1994)	Geocentrism defined using Heenan and Perlmutter (1979) above.
Caori, Johnson and Sarnin (1994)	Global mindset is viewed as a cognitive structure or mental map that allows a CEO to comprehend the complexity of a firm’s worldwide environment.
Sambharya (1996)	Study taps into the ‘cognitive state’ or ‘belief and values’ of a top team
Murtha, Lenway and Bagozzi (1998)	Global mindset defined using Fayerweather (1969), Prahalad and Doz (1981; 1987), and Bartlett and Ghoshal (1989).
Rhinesmith (1993); Jeanett (2000)	Global mindset is a state of mind able to understand a business, an industry, or a particular market on a global basis.
Govindarajan and Gupta (2001)	Global mindset is defined as a “...knowledge structure...that combines an openness to an awareness of diversity across cultures and markets with a propensity and ability to synthesise across this diversity.”.
Bouquet (2005)	A behavioural approach to measure global mindset focussing on the actual (and more readily observable) time and effort that top team members devote to making sense of international issues, both for themselves and for the benefit of the multinational enterprise (MNE) overall.

Source: Ananthram (2008); Bouquet (2005)

While many scholars agree that a global mindset is essentially a cognitive structure, and that human beings are highly dependent on cognitive filters to sort otherwise overwhelming complexity in the information environment, there is still considerable argument about the essential constituents of a global mindset and how it might be cultivated and nurtured (Bouquet, 2005; Calof and Beamish, 1994; Dowling and Nagel, 1986; England, Dhingra and Agarwal, 1974; Gupta and Govindarajan, 2002; Jeannet 2000; Murtha, Lenway, and Bagozzi, 1998; Perlmutter, 1969; Rhinesmith, 1992; 1993; 1995; Rokeach, 1973; Sambharya, 1996; Westwood and Posner, 1997). Building on the existing theory in the international management literature, global mindset intensity is defined by the current study as:

The ability and willingness of managers to think, act and transcend boundaries of goals, values and competencies on a global scale.

The primary aim of this study is to identify and test some of the skill sets that are believed to be associated with the development and cultivation of a global mindset in a Japanese setting. The next section identifies these skill sets from the international management literature and develops hypotheses for empirical testing.

Literature Review and Hypotheses Development

Global managers need attitudes and skill sets that facilitate their efficient and effective functioning in the complex and dynamic global business environment. In this context, a number of studies (Beechler, et al. 1999; Gupta and Govinarajan, 2002; Jeanett, 2000; Rhinesmith, 1995) have recommended *managerial* level reform, with particular reference to the cultivation of a global mindset. Murtha, et al. (1998) and Harveston (2000) contend that a critical success factor for any organisation is the level of global mindset orientation amongst its managers.

A number of studies have linked managerial global mindset with certain *individual level* and *organisational level* characteristics (Beechler, et al. 1999; Bouquet, 2005; Murtha, et al. 1998; Harveston, 2000). *Individual level* characteristics are certain innate traits and competencies, which to a certain extent are inherently developed by the managers and contribute towards the cultivation of a global mindset (Beechler, et al. 1999; Kedia and Mukherji, 1999). Managers are expected to possess these *individual level* characteristics, which they bring to the organisation, and are later nurtured within the organisation. These attributes develop as a by-product of upbringing, social interaction, psychological state, economic environment and technological interest and prowess. In addition, the internal and external environment to which an individual is exposed tends to have a strong correlation with the expansion and nurturing of these attributes (Bouquet, 2005).

Research has identified a number of individual level characteristics, three of which include: *knowledge and information* about different cultures and contexts (Kedia and Mukherji, 1999; Rhinesmith, 1992; 1993; 1995), *personal, cultural and professional skills and abilities* to work in multicultural environments (Ali and Horne, 1986; Kedia and Mukherji, 1999; Rhinesmith, 1992; 1993; 1995), and level of *risk tolerance* which is defined as the extent to which managers are willing to make risky decisions about international activities (Covin and Slevin, 1989; Roth, 1992). These traits enable managers to think, act and transcend global boundaries and foster global thought.

These *individual level* characteristics, when supplemented by certain *organisational level* characteristics, enable the reshaping of managerial outlook such that globalisation is embraced. *Organisational level* attributes are skill sets that are instilled in managers with the help of certain actions and plans developed by organisations (Beechler, et al., 1999) often resulting in formal and informal training programs and mechanisms for managers. This training, in turn, enables managers to develop skill sets that are essential for operating successfully in the global marketplace. These *organisational level* skill sets are categorized as *global identity*, *boundary spanning activities* and *level of international experience*. By being privy to numerous global activities, managers derive a psychological advantage, and essentially adopt a global identity (Beechler, et al. 1999). *Boundary spanning activities* can be classified as internal activities (global responsibility designations, global team participation, ad hoc project groups, networks, and shared tasks or jobs across national boundaries) and external activities (international strategic alliances, joint ventures, international mergers, and international supplier agreements and joint marketing plans) (Adler and Bartholomew, 1992; Bartlett and Ghoshal, 1989; 1998; Beechler, et al. 1999) which provide managers the necessary connections and channels to expand the business globally. Lastly, the *level of international experience* is defined as the amount of experience that a manager has accumulated in an international context which includes foreign assignments, education and vacations (Christensen, Da Rocha, and Gertner, 1987; Harveston, 2000; Tung and Miller, 1990). These *organisational level* traits also enable reshaping of global thought. An in-depth understanding of these *individual* and *organisational level* managerial enablers and their relationships with managerial global mindset intensity is presented next.

Individual Level Characteristics of Global Mindset Knowledge and Information

Knowledge as an asset, and knowledge management as a process, has gained tremendous importance especially in a globally competitive environment (Naik and Iyengar, 2003). Managers and subordinates possess a certain level of *knowledge and have access to information* which needs to be utilised appropriately to gain maximum advantage for the organisation. Indeed, organisations realise the importance of knowledge as a valuable resource (Grainger and Miyamoto, 2003; Miller and Wurzburg, 1995; Ortenblad, 2004). The ability of organisations to store and share knowledge through structured processes, often involving technological intervention, is vital to ensure the smooth functioning of operations (Baines, 1998; Gunasekaran, Khalil and Rahman, 2003). In this

context, Chatterjee, (2003: 44) explains that, "...knowledge as an asset has emerged as a paradigm of utmost importance at all levels and in all types of organisations across the world..." The growing importance of knowledge and its management as a strategic tool has been appreciated by multinational organisations across the globe (Milton-Smith, 2003; Stevens, 1996). At the managerial level, knowledge comprises of a number of components that provide better managing outcomes in the global context. Kedia and Mukherji (1999) have identified three dimensions of *knowledge and information*, namely, the appreciation of the existence of socio-political differences, cultural differences and the mastery over technology.

Knowledge of socio-political differences across countries and regions is vital in order to communicate with managers across different international contexts. Indeed, "...multinational companies are particularly vulnerable to multiple political, cultural and economic systems within which they operate..." (Fatehi, 1996: 237). Managers therefore, must have adequate knowledge of counterpart national level economics. In other words, knowledge about the dynamics of the various economies in which the organisation operates or is planning to operate is crucial to the dealings with managers of the host organisations and the ultimate viability and sustainability of organisations engaged in cross-border business activity. In addition, knowledge of political frameworks of the various host governments including government policies and knowledge of societal priorities of the various host economies in which the organisation operates or is planning to operate are also vital for global economic success.

Another vital facet of knowledge as identified by Kedia and Mukherji (1999), is the knowledge of *organisational and societal culture and cross-cultural issues that impact upon organizational management*. Bartlett and Ghoshal (1989) and Hofstede (1990) support the view that a thorough understanding of the host country organisational and societal culture is of paramount importance in order to engage in successful cross border dealings. Hence, a thorough understanding of the cultural protocols underpinning the various divergent national contexts of the environment in which the host organisation operates is also important for managers.

Kedia and Mukherji (1999) highlight the importance of international managers acquainting themselves with *information systems networks facilitated by the information and technological revolution*. Managers operating in a borderless context must understand and be capable of working critical communication channels and networks, as well as with information systems for data storage and retrieval (Baines, 1998; Gunasekaran, et al. 2003). As organisations become more and more dependent on technology for their day to day operations, it has become essential for managers to possess computer and information literacy skills, not only in order to access and disseminate knowledge and information to different areas of the organisation, but also to expedite communication with managers across the globe (Helpman and Rangel, 1999).

Possession of a deeper level of *knowledge and information* at the managerial level enables managers to be able to comprehend the complexity in the economic, socio-cultural, political and technologically dynamic global environment. Furthermore, *knowledge and information* literacy engenders a global perspective and a global outlook (Jeanett, 2000) and has been identified as being related to the *global mindset intensity* of managers (Kedia and Mukherji, 1999; Rhinesmith, 1993). These arguments provide underpinning for the three hypotheses of H1a, H1b and H1c.

H1a. Knowledge of socio-political differences across countries and regions will positively influence global mindset intensity.

H1b. Knowledge of organisational and societal culture and cross cultural issues that impact management will positively influence global mindset intensity.

H1c. Knowledge of information systems networks facilitated by the information and technological revolution will positively influence global mindset intensity.

Skills and Abilities

Skills enable us to put knowledge into practice. Prahalad and Cowin (1983) and Cheney, Hale and Kasper (1990) contend that the effective application of knowledge to periodically reorganise structures, rethink strategies, revamp systems and revise policies at the organisational level is vital to ensure long term survival of organisations engaged in global business. In fact, how managers apply knowledge within organisations has been the subject of considerable discussion in the literature. In has been suggested that along with the possession of knowledge and information, managers need appropriate skillsets to use and apply the acquired knowledge and

information effectively and efficiently (Ali and Horne, 1986; Athanasaw, 2003; Dvorak, 1983; Kedia and Mukherji, 1999; Rhinesmith, 1992; 1993; 1995). These skillsets are engendered as a result of continuous communication and interaction with the internal and external environment in which the individual operates. In this context, Adler (1983) has identified some of the essential *skills and abilities* managers need to possess to work successfully in cross cultural global environments.

The current study explores three categories of *skills and abilities* identified by Adler (1983). These are *professional and managerial skills* which include skills managers need to possess while working in both a domestic and multinational environment, *personal and social skills* which allow managers the ability to manage their relationships with people from different contexts successfully, and *cross cultural and international skills* that are particularly important for managers working in geographically dispersed multicultural environments. Kedia and Mukherji (1999) have developed a theoretical model linking *skills and abilities* of managers with their *global mindset orientations*. These scholars argue that dynamic and competitive environments require diversified managerial skills and abilities, which give managers the necessary competencies to function effectively in the international environment. Stumpf (1989) and Rhinesmith (1993) have argued that managers who are exposed to the multinational environment are able to continually upgrade their skillsets which in turn tends to enhance their global mindset intensity. These arguments support the postulation of the following three hypotheses, H2a, H2b, and H2c.

H2a. Professional and managerial skills will positively influence global mindset intensity.

H2b. Personal and social skills will positively influence global mindset intensity.

H2c. Cross cultural and international skills will positively influence global mindset intensity.

Risk Tolerance

Cross border business dealings are risky given the uncertainty in the political, economic, socio-cultural and technological environments in which internationally oriented organisations operate (Clark and Knowles, 2003; Ricks, 2003; Stiglitz, 2002). While the economic notion of 'higher risk higher return' applies to the context of globalisation, organisations and managers operating in this dynamic marketplace have to understand the potential benefits and costs associated with global business (Bird and Stevens, 2003; Johnson, 2002; Sitkin and Pablo, 1992; Williams and Voon, 1999). Several studies have explored the relationship of *risk tolerance* and globalisation (Ali and Swiercz, 1991; Kedia and Chhokar, 1986; Sullivan and Bauerschmidt, 1990) and found that managers working in multinational companies operating across national borders perceive risk taking as an entrepreneurial opportunity, since a level of risk (business risk, political risk, economic risk, exchange risk, interest rate risk, credit risk) must be taken into account when managers are making the associated decisions.

Diversifying into international markets is more often a strategic decision by organisations depending, amongst other factors, on the availability of resources (Robbins, et al. 2003) and the managerial perception of risk (Roth, 1992). This cognitive involvement in terms of managerial perception relates to *global mindset intensity*. That is, the ability and willingness of international managers to perceive global expansion as an opportunity rather than a threat (Harveston, et al. 1999; Williams and Voon, 1999). Roth (1992) contends that interpreting risk in international business as an opportunity requires a mindset orientation that appreciates globality. Building on existing theory in the international management area, the following hypothesis, H3, is presented.

H3. Risk tolerance will positively influence global mindset intensity.

Organisational Level Characteristics of Global Mindset

Global Identity

Managers working in multinational organisations are perceived as possessing a *global identity* giving them a psychological advantage over managers working in local organisations (Beechler, et al. 1999). *Global identity*, in turn "...encourages managers to think about the firm as a whole and to ignore cultural and other boundaries as appropriate..." (Beechler, et al. 1999: 13). A number of theories have linked *global identity* with *global*

mindset intensity (Beechler, et al. 1999; Cox, 1994; Ziller, 1973). Beecher, et al. (1999: 14) explain that "...the cognitive complexity and learning orientation of global mindset make it possible for managers to grasp the difficult, diverse, high intangled dispersed operations of the firm, and to understand the highly differentiated cultural, political, economic and market conditions in which both affiliates and individuals of the firm operate." In addition, leading researchers contend that the ability and willingness of managers to think, act and transcend boundaries of values and goals on a global scale requires global identity and thinking (Bartlett and Ghosal, 1989; Bouquet, 2005; Kanter, 1994). These contentions provide underpinning for Hypotheses H4.

H4. Global identity will positively influence global mindset intensity.

Boundary Spanning Activities

Boundary spanning activities have been defined as interactions exposing individuals and organisations to external information and social environments, thereby affecting managerial views and strategic behaviour of organisations (Beechler, et al. 1999). The significance of individual *boundary spanning activities* has been recognised in diverse theoretical and empirical literature addressing new institutionalism (Powell and DiMaggio, 1991), managerial elites (Pettigrew, 1992), and inter-organisational relationships and strategic alliances (Oliver, 1990). These latter initiatives, which include international strategic alliances, joint ventures, international mergers and acquisitions, international supplier agreements, global responsibility designations, global team participation, ad hoc project groups, networks, and shared tasks or jobs across national boundaries, are reportedly enabled by increased managerial participation in *boundary spanning activities*. (Adler and Bartholomew, 1992; Bartlett and Ghosal, 1989; 1998; Pucik, 1992).

Beechler, et al. (1999) have reported the relationship between *boundary spanning activities* and *global mindset intensity*, and conceptualize *boundary spanning activities* as structured opportunities to foster global mindset development. Empirical studies by Calori, Johnson and Sarnin (1994) and Kobrin (1994) provide evidence that *boundary spanning activities* help shape the cognitive structures and processes of individuals, that is the *global mindset orientations* of managers, by providing access to diverse sources of cultural, economic and socio-political information. Murtha, et al. (1998), and Kanter (1991) also provide empirical evidence on the linkage between *boundary spanning activities* and the shaping of *global mindset orientations*. The current study tests the relationship between *boundary spanning activities* and managerial *global mindset intensity*. Based on the foregoing, hypotheses H5a and H5b are formulated.

H 5a. Boundary spanning activities (importance) will positively influence global mindset intensity.

H 5b. Boundary spanning activities (involvement) will positively influence global mindset intensity.

Level of International Experience

A number of studies have reported the relationship between managerial *international experience* and globalisation of business activities (Bilkey, 1978; Cavusgil, 1982; Tung and Miller, 1990). These studies contend that managers are likely to develop a deeper level understanding of the context in which their organisation operates when they have first hand experience of living, working and liaising with their business counterparts overseas. In addition, it is expected that managers with international degrees and qualifications would have superior knowledge of foreign market conditions than managers with a local education (Harveston, et al. 1999).

The *level of international experience* also influences the level of *global mindset intensity* (Bloodgood, Sapienza and Almeida, 1997). Researchers contend that knowledge of and exposure to different work practices, policies and procedures in foreign locations provides managers with superior ability to work in a global context by providing a cognitive mind frame that is more receptive to globality (Bouquet, 2005; Jeanett, 2000). Further, senior managers with greater exposure to international activities and a higher *level of international experience* are generally more adept at thinking and acting globally, and hence are in possession of a mindset orientation attuned to the dynamic international environment (Bantel and Jackson, 1989; Hambrick and Phyllis, 1984). With this background in mind, hypothesis H6 is formulated as follows:

H 6. Level of international experience will positively influence global mindset intensity.

Empirical Research Methodology

Research Design

The study was conducted in two major phases. In the first phase a survey questionnaire developed by Ananthram (2008) was translated into Japanese and back translated into English with the collaboration of a professional bi-lingual translator. Meanwhile, professors at a prominent prefectural university in western Japan had accepted an invitation to collaborate in the research project, and part of their role was to mobilize industry networks for the purposes of survey data collection.

In the second phase, two hundred hard copy questionnaires were mailed by the Japanese research collaborators to potential respondent managers employed in globally oriented Japanese organisations in the Hyogo area of western Japan. By the end of a three month period, eighty two questionnaires had been returned (the identity of the managers and organizations were kept anonymous), of which eleven were incomplete and assessed as invalid. The final usable sample was therefore seventy one, which provided a valid response rate of 35.5 percent. A brief description of the demographic characteristics of the respondents is presented in Table 1 below. The data was analysed with various statistical tests utilizing SPSS software.

Demographic Profile of Questionnaire Survey Respondents

Table 1: Demographics (N = 71)

	%		%
Managerial Level		Gender	
Executive	36.6	Female	2.8
Senior	26.8	Male	97.2
Middle	23.9		
Supervisory	12.7		
Age (in years)		Industrial Sector	
Less than 30	2.8	Manufacturing	59.2
30 – 39	8.5	Services	40.8
40 – 49	32.4		
50 and above	56.3	Educational Background	
		Senior High School	7.0
Tenure (in years)		University	93.0
Less than 10	16.9		
10 – 19	19.7	International Dimension in Education	63.4
20 and above	63.4		

The demographic information above indicates that the great majority of survey respondents (and therefore focus group participants) were males above forty years of age who held managerial level posts, evenly divided between manufacturing or service sector industries. Most respondents held university degrees, and the great majority had more than ten years experience in their respective organizations, and therefore in that industry sector.

Measures, Factor and Reliability Analyses

Knowledge and Information

A scale developed by Ananthram (2008) was utilized in the survey as a means of assessing the three dimensions of 'Knowledge and Information'; namely, *knowledge of information systems networks facilitated by the information and technological revolution* ('Knowledge 1'), *knowledge of socio-political differences across countries and regions* ('Knowledge 2'), and *organisational and societal culture and cross cultural issues that impact management* ('Knowledge 3'). Three items were developed for each of the three constructs. Responses were given on a seven point Likert scale (1 = extremely unimportant to 7 = extremely important) to indicate the level of importance each item had in working in the global marketplace. Factor analysis using varimax rotation revealed three constructs, however the three items measuring Knowledge 2 and one item measuring Knowledge 1 were skewed. Subsequently these items were deleted. Knowledge 1 was subsequently using two items with a Cronbach alpha of 0.83 and Knowledge 3 was measured using three items with a Cronbach alpha of 0.81.

Skills and Abilities, and Risk Tolerance

'Skills and Abilities' was measured using an adapted version of a scale initially developed by Adler (1983) and shortened from 27 to 16 statements by Ali and Horne (1986) and later adapted by Ananthram (2008) as a 14 item scale. The scale is linked to three sub-dimensions of the necessary attributes, namely, *professional and managerial skills*, *personal and social skills*, and *cross cultural and international skills*. The three dimensions were assessed by asking four, seven and three questions respectively. Respondents reported their perceptions on the level of importance of the skills and abilities for global business on a seven point Likert scale (1 = extremely unimportant to 7 = extremely important).

'Risk Tolerance' was measured using a scale developed by Covin and Slevin (1989) and later adapted by Roth (1992) and then by Harveston, Kedia and Davis (1999) in their seminal work on the internationalisation of born global and gradual globalising firms. This measure was then adapted by Ananthram (2008). Managerial risk tolerance was assessed through five questions dealing with global activities. Respondents were asked to respond on a seven point Likert scale (1 = extremely unimportant to 7 = extremely important).

The items for skills and abilities and risk tolerance were factor analysed using varimax rotation. Four factors were expected and four obtained. One item measuring skills and abilities and one item measuring risk tolerance were deleted owing to the items leaking over different constructs. Some of the items comprising the three constructs for skills and abilities loaded onto different constructs. This was attributed to the change in context given that the instrument was developed in the West and the current study was being conducted with Japanese managers in the East. After careful review of the items and given that exploratory factor analyses were conducted, the construct *personal and social skills* was renamed as *personal soft skills*. The Cronbach Alpha scores for the three constructs, *cross cultural and international skills*, *personal soft skills* and *professional and managerial skills* were 0.86, 0.74 and 0.71 respectively. The reliability measure for risk tolerance was 0.82.

Global Identity, Level of International Experience and Global Mindset Intensity

An eight item scale developed by Ananthram (2008) was employed to measure 'Global Identity'. Respondents were asked to report on a seven point Likert scale (1 = extremely unimportant to 7 = extremely important) to indicate the level of importance each action had in working in the global marketplace.

'Level of International Experience' was measured using an instrument developed by Harveston (2000) that had been adapted from Harveston, et al. (1999). The adapted instrument was later employed by Ananthram (2008). Level of international experience was assessed through four questions. Respondents were asked to respond on a seven point Likert scale (1 = very rarely to 7 = very extensively) to indicate their level of involvement with each activity.

Following the work of Barham (1987), Cateora (1996), Gray (1997) and Kedia and Chhokar (1986), 'Global Mindset Intensity' was assessed by asking managers a series of questions about their attitude towards globalisation. Questions were adapted from Burpitt and Rondinelli (1998) that was later employed by Ananthram (2008). Respondents were asked to report on a seven point Likert scale (1 = strongly disagree to 7 = strongly agree) to indicate their level of agreement/disagreement with each statement.

The 16 items were subject to factor analysis using varimax option. Three factors were expected and three obtained. One item measuring global identity was deleted owing to its leaking across constructs and hence measured using a seven item scale. The cronbach alpha scores were 0.84, 0.84 and 0.85 respectively for *global identity*, *level of international experience* and *global mindset intensity*.

Boundary Spanning Activities

The study employed a ten item scale developed by Ananthram (2008) and asked respondents to indicate the importance of, and, their frequency of involvement with, the 'Boundary Spanning Activities' identified from the literature. Respondents were asked to respond on a seven point Likert scale (1 = extremely unimportant to 7 = extremely important) to indicate the level of importance each activity had, in working in the global marketplace. Respondents were also asked to report on a seven point Likert scale (1 = very rarely to 7 = very extensively) separately, to indicate their level of involvement with each activity. Factor analysis was not conducted for this variable owing to the fact that boundary spanning activities are reported in the literature to be comprised of independent, mutually exclusive activities enabling convergence of cross border informational boundaries (Murtha, et al. 1997). The reliability assessment reported Cronbach Alpha scores of 0.81 for the *importance of boundary spanning activities* and 0.91 for the *involvement with boundary spanning activities*.

Results

Multiple Regression Analysis

Table 3 presents the multiple regression analysis for the assessed skillsets with *global mindset intensity*. Multiple regression analysis was performed separately for the *individual level* and the *organisational level* skillsets. The results indicated that four of the assessed ten constructs were positively related to *global mindset intensity*; namely, *personal soft skills*, *risk tolerance*, *global identity* and *level of international experience*. Therefore, hypotheses H2b, H3, H4 and H6 were supported.

Table 3. Results of Multiple Regression Analysis

Constructs	Global Mindset Intensity	
	b	T
Individual Level		
H1a - Knowledge of Information Systems Networks Facilitated by the Information and Technological Revolution	.031	.360
H1c - Knowledge of Organisational and Societal Culture and Cross Cultural Issues that Impact Management	.049	.525
H2a – Cross Cultural and International Skills	.018	.171
H2b – Personal Soft Skills	.328	3.208**
H2c – Professional and Managerial Skills	-.011	-.127
H3 – Risk Tolerance	.670	8.024***
R ²	.606	
Adjusted R ²	.569	
F	16.415***	
Organisational Level		
H4 – Global Identity	.296	2.739**
H5a – Boundary Spanning Activities (Importance)	.124	1.007
H5b – Boundary Spanning Activities (Involvement)	.009	.084
H6 – Level of International Experience	.340	2.802**
R ²	.258	
Adjusted R ²	.213	
F	5.738**	

Notes: a. H1b – ‘Knowledge of organisational and societal culture and cross cultural issues that impact management will positively influence global mindset intensity’ was not included in the multiple regression model as the items were deleted during the factor analysis stage.

b. b = beta, t = t value, F = F statistic.

c. *p < 0.05, **p < 0.01, and ***p < 0.001.

Concluding Discussion

This paper began by briefly reflecting on the human efforts that made possible the historic transformation that began in Japan after the middle of the nineteenth century when a domestically focused, essentially agrarian nation became a world industrial power within some fifty years, and again in the second half of the twentieth century when Japan emerged from the chaos and trauma of defeat in the Pacific War to challenge for world economic leadership by the late 1980s. The champions of these herculean efforts were the ex-samurai chosen by the Meiji Administration to lead the initial economic transformation, and the more prosaic Japanese ‘salary men’, whose collective commitment and relentless energy dragged a dispirited Japan into the economic sunlight in the postwar period.

The current research study surveyed Japanese international managers in the contemporary age of globalism, and comes, of course, some two decades after the start of Japan's relative economic decline. After establishing the constructs by which 'global mindset intensity' could be measured, a questionnaire survey was conducted for the purpose of establishing how Japanese international managers conceptualized an appropriate mindset for the global business era. Of eleven constructs offered to them, only four were supported, and these were 'personal soft skills', 'risk tolerance', a 'global identity', and 'international experience'.

By placing this response in its temporal context, the researchers are tentatively suggesting that the most recent ideal business role model, the collectivist 'salary man', is now more or less redundant, and that the ideal is now a more worldly, individualistic, global business man, whose expertise and 'global mindset intensity', is very much based on personalized international business experience, reminiscent of Western business ideals. For Japan, this is a radically different model, and one that might be quite confronting to many middle aged and older Japanese. In making these tentative observations, the authors are very mindful of major limitations of the study, for example the exploratory nature of the research, the fact that the data is really a perceptual 'snapshot', its regional focus, and the very limited size of the sample. Clearly repeated, larger scale and more broadly cast data collection would provide a stronger basis for asserting fundamental change in the nature of perceptions of global mindset intensity in Japanese international managers, but the current study at least provides some signposts for future research efforts.

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Section 5

Financial Markets, Accounting & Regulatory Issues

GO GLOBAL TO JAPAN: ANALYSIS OF INWARD FDI DISTRIBUTION

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Abstract

For many years, Japan has attracted exceptionally low levels of Foreign Direct Investment. This study sets out to provide a better understanding of the activity of foreign affiliates in Japan, and suggests strategies Japanese policy makers may undertake to optimize the potential for positive spillover effects from Foreign Direct Investment in the future. Using firm-level data, the pattern of distribution of capital and labor of foreign affiliates operating in Japan is presented and analysed. From 1999 to 2008, foreign affiliates have grown rapidly in numbers, paid capital and number of employees. Nevertheless, dynamics differ between foreign affiliates depending on their origin, position in relation with international trade flows, the nature of the activity they undertake and their place within the organizational structure of their parent multinational company.

Key words: inward foreign direct investment, multinational company affiliate, Japan.

JEL codes: F23, O32, O33

1. Introduction

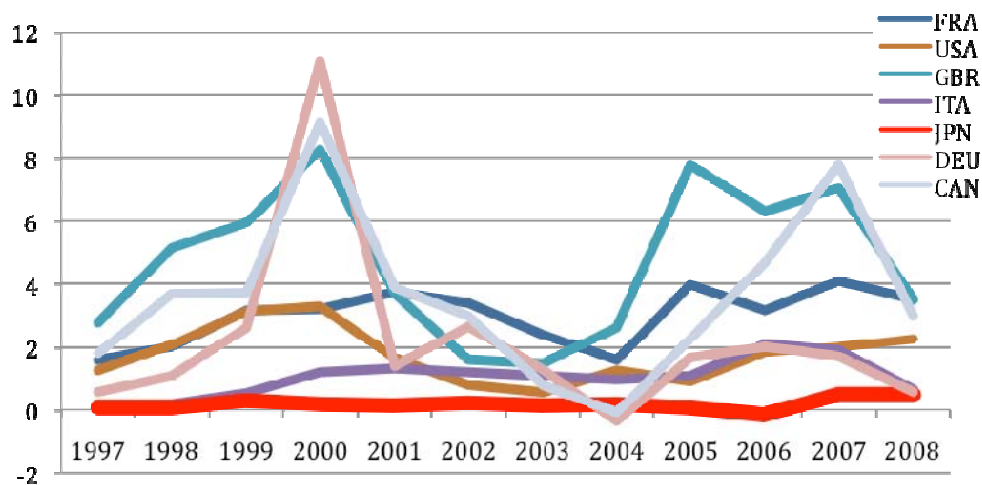
As this is written, *The Economist*¹ magazine trumpets China's achievement in overtaking Japan as the world's second largest economy. Considering the underlying economics behind this fact, it seems safe to predict that, in the very near future, Japan will be overtaken by the other strong and dynamic neighbors. In fact, Japan is already behind countries like Taiwan or Singapore by the level of GDP per capita adjusted by PPP.

How could this happen to Japan, the nation of highly motivated workers and the birthplace of most innovative giants in car making and electronics? The simple answer is that Japan has lost its pace with globalization. As *The Economist* notes, the main signs of Japan's backwardness today are clear: the rate of replacement of old firms with new ones is exceptionally low; entrepreneurial spirit has been shunted aside in favor of an all-out squabble to secure lifetime employment as a salaryman or kaishain. Seniority endorsement is a part of corporate culture in Japan, with promotions going to the older rather than the the most able employees. Such a system fails to provide adequate incentives to the talented, and so the quality of human capital is dropping.

All these facts might have been safely quarantined as 'cultural' peculiarities and shielded from further scrutiny, were it not for the fact that they've come to knock on Japan's economic doors so loudly. One of the indicators of economic interconnectedness with the rest of the world is the flow of Foreign Direct Investment (FDI). As our analysis will show, there is evidence that some of the trends that have sapped Japanese firms of dynamism are at work among MNC affiliates operating in Japan, as well.

The focal feature of FDI inflows into Japan has long been its extraordinarily low level, long near the very bottom in the league table of developed nations. Graph 1 shows this pattern from 1997 to 2008. The positive shift observed from 2006-2008 is outcome of an aggressive policy to attract FDI introduced by prime-minister Koizumi in 2004. While governments efforts and 'pushes' come and go, the level of FDI continues to fluctuates around zero.

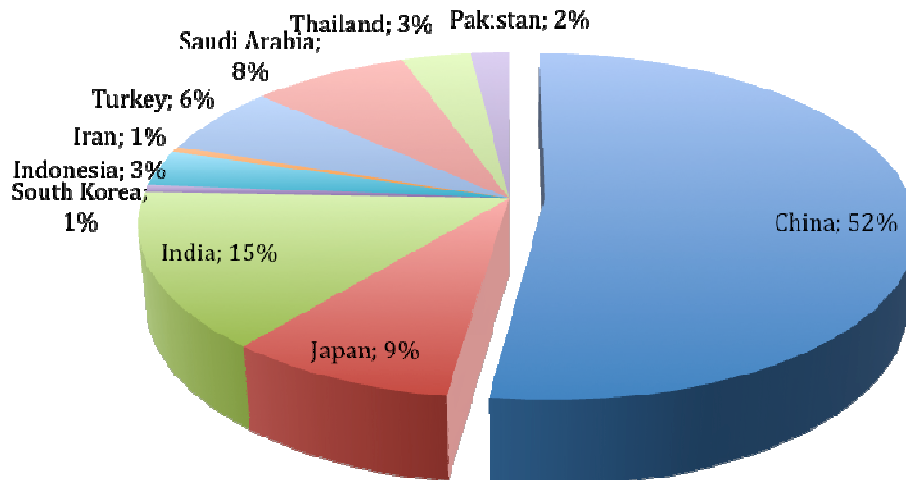
Could it be that Japan is so distinctive because of its geographical position, so remote from the rest of G8 countries? Is it because it is the only Asian country in Graph 1?



Graph 1. Share of FDI inflows in GDP (%) in high-income G8 countries, 1997-2008

Source: World development indicators, 2010

To shed some light on this, we can look at Graph 2, where the level of FDI in the top ten Asian countries is presented.



Graph 2. FDI inflows in GDP level top 10 Asian countries in 2008.

Source: World development indicators, 2010

At first glance, Japan's performance does not look so bad. Among these ten economies Japan comes in third place, behind two much more populous nations, China and India. It bears noting that these FDI inflows are purposefully expressed in absolute terms, not relative to GDP (where Japan would look much worse), or to population.

The marketplace for FDI is a competitive one, where nations fight to attract more advanced technologies, better qualified labor, and enhanced potential for job creation and knowledge transfer. Japan is clearly losing the fight

to attract FDI to more aggressively developing nations, which have a comparative advantage in hosting labor-cost-saving foreign technologies. In this picture, Japan *is* in a league of its own, enjoying the distinctive advantages that accrue to developed economies, such as abundant domestic investment, high levels of social security and strong intellectual property rights protections (Belderbos et al, 2006). These are positive features that help to attract the technology-intensive investment that Japan needs. On the one hand, this type of investments in R&D laboratories and core technology development takes place in the headquarters of the multinational company that it is not “easy to move”. On the other hand, it cannot be a good reason for Japan to be ‘satisfied’ with its low level of FDI, especially if we get back to the graph 1, which shows that developed nations, with similar economic conditions, were far ahead of Japan.

One way to look for an explanation of the relatively low level of FDI in Japan is to analyze the pattern of FDI flows that Japan already hosts. The aggregate data analysis presented above obfuscates key dynamics at the level of the firm, which are left unobserved. Using firm-level data this paper seeks to shed light on questions such as “what kind of FDI does Japan facilitate and what are its main features?” and, “what has changed during the last decade and what are the pattern of FDI behavior that might be observed in the future?” This analysis aims to be useful not only to international economist studying cross-border capital movement, but also to policy-makers.

The rest of the paper is structured as follows: first, the main theoretical concepts are discussed to provide a basis for the main empirical question in section 2; the paper will describe data and methodology in section 3; the results will be discussed in section 4 before concluding in section 5.

2. Literature overview

Although foreign direct investment (FDI) has been widely recognized as a catalyst of economic development, different economies have long adopted dissimilar FDI policies. From a historical perspective, there is no ‘paved road’ in the direction of FDI. It is easy to find parallels to the relative *resistance* and recent *reluctant* attitude towards FDI in *Japan* in the development history of other economies. Examples can range from closed economies, such as USSR and Cuba, to relatively open economies like South Korea in 1980s and India, with its ongoing restriction on FDI in the retail sector today (Sridhar and Prashad, 2007). Where does Japan stand in this picture? Can the history shed light on the currently, exceptionally low level of inward FDI in Japan? And what does recent literature suggest about the ground for structuring future policy with regard to FDI?

When considering the relative restrictiveness towards FDI in Japan today, it is important to keep in mind that not so long ago, during Tokugawa Era (1603-1867), Japan experienced economic isolation at the scale comparable with former USSR or today’s North Korea. Throughout that period, only Chinese and Dutch settlements in Nagasaki Harbor and the outlying islands of Ryukyu (current-day Okinawa) and Hokkaido (the Northern part of Japan) were allowed to trade with China, Korea and Russia and, sporadically, with the Netherlands. During so-called “closed country” (sakoku) policy, it was forbidden to trade and be engaged in trade with foreigners until 1858 (and the launch of the “unequal treaties”ⁱⁱⁱ), when a number of additional ports were opened for international trade (Auslin, 2004). This negative and restrictive attitude towards foreign business in Japan, and therefore FDI, remained the dominant policy framework until 1899.

It is at that time that the Japanese government sought policy guidance from another powerful Empire at that time – Great Britain – and subsequently received the following advice from British Socialist Herbert Spenser (in 1892): “...Apparently you are proposing...to open the whole Empire to foreigners and foreign capital.’ I regret this is a fatal policy....There should be, not only a prohibition of foreign persons to hold property in land, but also a refusal to give them leases, and a permission only to reside as annual tenants....The distribution of commodities brought to Japan from other places may be properly left to the Japanese themselves, and should be denied to foreigners.” (borrowed from Endymion Wilkinson’s book *Japan Versus the West, 1991*). As the history books tell it, Japan pressed on with its reforms regardless and, following the revision of its foreign policy in 1899, allowed many of the “giants” of Japanese economy to be established using foreign capital (Paprzycki and Fukao, 2008). However, in the wake of the rising wave of nationalism of the 1930s and into post-war period, FDI and foreign trade came to experience renewed hostility in Japan.

In more contemporary times, the end of 20th century is characterized by various efforts by the Japanese government to attract FDI. These efforts were temporarily successful during the bubble period, but never led to a sustainably higher level of recurrent inflows. Among the most recent FDI policy undertakings are changes in 2003ⁱⁱⁱ leading to deregulation and opening up several sectors of the Japanese economy to investment by foreign

capital, while also setting up the necessary legal framework to facilitate mergers and acquisitions (M&As). However, inside Japan, this wave of FDI was sometimes considered as a misfortune or even a new generation 'unequal treaty', one forced on the country due to its financial weakness, rather than its military shortcomings as in the 19th century. In effect, FDI inflows were followed by an amplified occurrence of corporate bankruptcies. An increasing number of shares was available in the market due to a fall in cross-shareholding as a result of industrial reorganization. At the same time, the appreciating Yen rendered Japanese assets ever more valuable and attractive to foreign investors.

However difficult it is to change the mindset and attitude of the nation towards FDI, especially when the country encompasses a long history of 'closedness' and economic success built on inward-oriented policy, there is no parallel that can be drawn from the past that could adequately capture the importance of FDI in today's highly globalised world. The transfer and exchange of ideas, knowledge and technologies at unprecedented speed are the central characteristics the modern economy. Often, FDI facilitates this process, which is part of what makes it so vital for any economy. Japan is no exception. With that in mind, some considerations developed in the academic literature on FDI should prove useful to Japanese foreign investment policy:

The role of FDI in the diffusion of technology in a host economy can be seen either through its *direct* or its *indirect* impact. For Japan, with its profusion of domestic investments, the *direct* effect of FDI (transfer of new technology (capital) and organizational skills (labour) to the affiliates) is not necessarily the most relevant aspect. In some cases, when FDI is needed to fill a given technological gap, then it becomes a priority to look at the kind of FDI is attracted. It is especially in these types of cases that the quality, or type, of knowledge that foreign firms transfer to their affiliates becomes an important determinant of the effect of FDI on the host country.

Looking into the *indirect* impact of FDI, that is, at the impact of technology spillovers from more advanced foreign investment enterprises (FIEs) to local or domestically owned enterprises, four main avenues can be identified (Aitken and Harrison, 1994, Blomström and Kokko, 1998). First, there is the pressure of having to compete with the foreign affiliate: this channel operates by stimulating local firms to introduce new products to defend their market share and to adopt new management methods to increase productivity. The level of competitiveness of domestic firms is crucial here (Wang and Blomström, 1992, Glass and Saggi, 1998). Second, spillover effects can take place through *cooperation* between FIEs and upstream suppliers (backward linkages) and downstream customers (forward linkages) by introducing, for example, higher quality standards for both vertically and horizontally linked firms. Since, in many cases, foreign affiliates are export-oriented, local firms might gain via improved *market access*, also known as *export spillovers*, by becoming integrated into new distribution networks, etc. Some studies suggest that the level of embeddedness of foreign affiliates into the domestic market is positively correlated with spillover effect of FDI (Rodríguez-Clare, 1996, Smarzhinska, 2004). Third, *human capital* can spill over from FIEs to other enterprises as skilled labor moves between employers (Haaker, 1999; Fosfuri et al. 2001). And, fourth, geographical proximity of local firms to FIEs can sometimes lead to *demonstration* or *imitation* effect (Das, 1987; Wang and Blomström, 1992). For a firm the benefits of exporting include faster growth of shipments and productivity, risk diversification, increased innovation, better investment opportunities leading to improved survival prospects and gains for workers in terms of higher pay and improved future employment opportunities (Bernard and Jensen, 1999). As a consequence of increasing exposure to trade, the most productive firms are induced to participate in export markets while less productive firms continue to serve the domestic market only. The least productive firms drop out of the market. It follows that trade-induced reallocations towards more efficient firms will eventually lead to aggregate productivity gains^{iv}.

Firms that internationalize have to overcome barriers to exporting, and therefore invest in resources and capabilities (i.e. absorptive capacity) that provide them with the ability to compete effectively in overseas markets. These investments allow them to achieve higher productivity levels as a prelude to exporting (or engaging in outward FDI). In addition to the predominant roles of productivity, general empirical findings show that the determinants of a firm's export decision include trade liberalisation (Baldwin and Gu, 2004), sunk entry costs (Bernard & Jensen 2004b; Girma *et al.*, 2004; Das *et al.*, 2007) and some firm-level characteristics such as size (Aw and Hwang, 1995; Roberts and Tybout, 1997; Bleaney and Wakelin, 2002; Gourley and Seaton, 2004); experience including *ex ante* success (Bernard and Jensen, 1999; Greenaway and Kneller, 2004; Kneller and Pisu, 2007); export spillovers (Aitken *et al.*, 1997; Greenaway *et al.*, 2004); and foreign networks (Sjoholm, 2003).

The FDI literature suggests that firms locate in close proximity to reduce the costs of purchasing from suppliers, or shipping to downstream customers. Co-location is also likely if there is a large, common pool of labour; and/or to obtain knowledge spillovers that occur when similar firms engage in, say, R&D to solve similar or related problems. The need for close physical proximity (and density) is mainly predicated on the notion that a significant part of knowledge that affects economic growth is tacit and therefore difficult to codify. Such knowledge does not move readily from place to place as it is embedded in individuals and firms and the organizational systems of different places (Cooke and Morgan, 1998; Gertler, 2003).^v That is, geographic boundaries are important since spillover affects are limited by distance.

A greater range of activities (e.g. R&D, business services, cultural and lifestyle amenities, and the overall quality of the public infrastructure – cf Florida, 2002; Glaeser *et. al.*, 2001) leads to inter-industry spillovers. Multinational firms tend to locate their head office management and R&D functions in urban agglomerations. Thus these agglomerations not only tend to generate more product innovations, but there is more likelihood of yielding spin-offs and/or start-ups, which creates a thicker entrepreneurial culture. This is an important consideration for Japan as most foreign affiliates are located within the Tokyo area. Potentially, these firms can benefit from urbanisation externalities due to the size and heterogeneity (or diversity) of an urban agglomeration. In the FDI literature, this effect is labelled Jacobian spillovers (Jacobs, 1970, 1986), which emphasises the importance of benefits from economies of scope rather than scale.

A second theme in the literature investigates the effects of subsidiary-headquarter relationships in the creation of motives for entry. The role of multinational company (MNC) strategy and subsidiary-headquarter relations has mainly been discussed in the international business literature, often around the idea of “autonomy”. Starting with White and Poynter (1984), it is possible to distinguish between different types of affiliates depending on their role in the MNCs’ international production network. The simplest type of affiliate is the *marketing satellite*, which sells the parent’s products in the host country, perhaps providing customer services as well, but without engaging in local production. The *miniature replica* affiliate manufactures a range of the parent MNC’s products in the host country mainly for sale in the host country’s market. In the economics literature, this type is referred to as a horizontal affiliate and is typically motivated by potential savings related to transport and trade costs (e.g. tariffs).

Horizontal affiliates are distinct from vertical investments, which are based on the geographical separation of the different links in the production chain, where cost considerations and cross-country differences in factor prices determine the location of affiliates. In the categorization presented by White and Poynter (1984), there are three vertical affiliate types. One is the *rationalized manufacturer*, which produces in the host country but sells to the world market. Another is the *product specialist*, which has comprehensive responsibility for developing and manufacturing products for the MNC’s worldwide network as well as for the world market. Finally, the most advanced affiliates are the *strategic independent unit*, which has the freedom to establish new product lines and to develop new markets. While the strategic independent unit is often part of a vertical production chain, it is also possible that some may be entirely disconnected from the other activities of MNC. One motive for such investments could be diversification.

The opportunity for a subsidiary to move from the simplest type to more advanced forms typically takes the subsidiary through a creative transition (Papanastassiou and Pearce, 1994) and involves higher affiliate autonomy as well as higher innovative capability. The emergence of “technological-creativity-based independence” at the subsidiary level provides enormous potential for MNC localized competences (technological, managerial and marketing), but at the same time this should not be “disruptive and undermine the synergistic value of existing attributes” of the current collective scope of the MNC (Pearce, 1999). In his study Pearce (1999) pointed out that the attempt on the part of creative subsidiaries to enrich their knowledge scope should be balanced within the MNC collective technological trajectory through logical product evolution. One example of creative transition is the shift from ‘miniature replicas’ to ‘rationalized manufacturers’. On the one hand, it is reasonable to assume that rationalized manufacturers require different technical skills from those of the parent, since they are vertically differentiated from it. This suggests a relatively high level of capability on the part of rationalized manufacturers. However, the technologies used by affiliates are often older and more standardized than those employed in the parent company’s own operations, as described in product life-cycle models. This tends to reduce the need for independent capability (Vernon 1966). Moreover, vertical affiliates are strategically important in the production networks of MNCs and it is likely that rationalized manufacturers are tightly controlled by their parent to avoid delays, quality problems and other complications that might affect the entire production chain. Similarly, it is unclear exactly what innovative capability is required by horizontal

affiliates. They produce goods similar to the parent company, which implies relatively high capability, but their technologies are not necessarily of the latest vintage and they are rarely involved in product and technology development. Hence it is hard to predict which of these two affiliate types has the higher innovative capability. The multinational faces costs of transferring its know-how that are increasing with technological complexity. The role of the cost of technology transfer has been included in the theoretical model of multinational behavior and empirically tested by Keller and Yeaple (2008). They find that technology transfer gives rise to increasing marginal costs of serving foreign markets, which explains why multinational firms are often relatively more successful in their home market than in foreign markets. The model predicts that as the costs of technology transfer between multinational parent and affiliate increase, firms with complex production technologies find it relatively more difficult to substitute local production for imports from the parent. The empirical evidence also confirms that as the costs of technology transfer from the home market increase, affiliates concentrate their imports from the parent on technologically more complex intermediates.

It should also be pointed out that not all types of FDI lead to 'positive' spillovers. In some cases, FDI can limit domestic producers to low value-added activities or eliminate them altogether by relying on foreign suppliers (Dunning, 1994). FDI can also lead to a decline in the overall growth rate of the host economy by reducing competition or 'crowding out' local producers.

For a developed and advanced economy, like Japan, given the relative ease with which foreign technology can be bought transferred to Japan, FDI policy should rather aim at maximizing the *indirect* or spillover effect of FDI. To summarize the existing literature on FDI, the following characteristics of foreign affiliates are considered to be important for FDI spillovers: the position of the affiliate within MNC organizational structure, because it influences the level of autonomy of the affiliate to enhance its technological capability; the level of technological advance of the MNC in the domestic market (nationality or the origin of the MNC), the level of integration/embeddings into host economy, the prospect for the affiliate itself to benefit from externalities such as geographical location and the level of industrial concentration.

In this paper, we examine and systemize the depicted characteristics of foreign affiliates operating in Japan in 1999 and 2008. Data availability and methodology is presented in the next section.

3. Data Description and Methodology

The dataset used in the present research contains information on foreign affiliates operating in Japan in 1999 and 2008. It comes from the *Toyo Keizai's micro-data*. Toyo Keizai conducts its own surveys for this database and obtained some of the best coverage available of Japanese affiliates of foreign firms –*Kaigai Shinshutsu Kigyo Database* (see Ito and Fukao, 2005 for the description of the earlier version of the dataset). For comparability purposes all monetary variables have been denominated using purchasing power parity (PPP) from World Development Indicators (WDI) database.

The data contains information on the date of establishment of the affiliate, number of employees, paid in capital, foreign share in capital, industry at 2-digit level for manufacturing and services, export and import share, listed and non-listed status as well as full address and contact details of the affiliate.

The information on the mother company includes the nationality, number of shareholders and their participation in the company. Based on the nationality of the mother company six geo-economic groups have been formed to control for the origin of the capital: Europe and USA are the two largest and most distinctive groups. FDI from such emerging markets as Brazil, Chile, China, Egypt, Hungary India, Indonesia, Malaysia, Pakistan, Philippines, Russia, Thailand and United Arab Emirates (UAE) have been present in Japan and form the third group. The East Asian Tigers (South Korea, Hong Kong, Singapore and Taiwan) make up the fourth group, while the rest of Asia and the rest of the Americas are respectively the fifth and sixth groups.

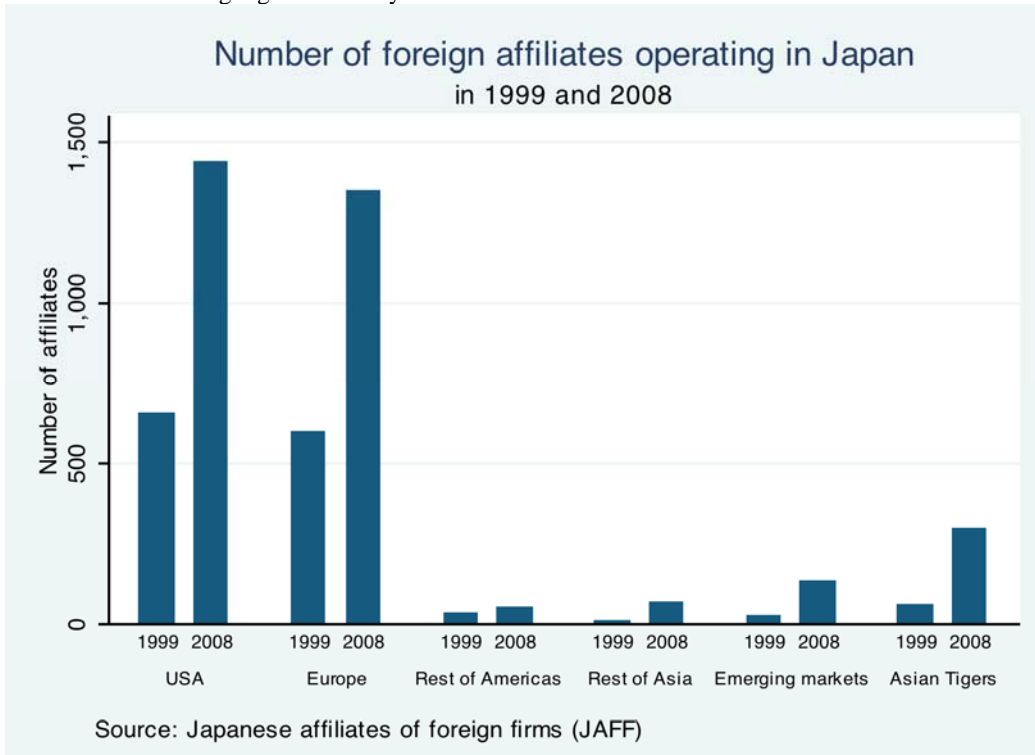
The data on the nationality of the mother company is mostly missing in 1999. Accounting for non-missing observations, the distribution of the foreign affiliates operating in Japan by the country of origin is presented in Graph 3.

Table 3. Determinants of the Capital and Labour distribution in foreign affiliates operating in Japan, 1999 and 2008

	KL		sure KL		sure manuf		sure service	
	ln_KL_ratio	ln_paid_in_c apital	ln_employee s number	ln_paid_in_ capital	ln_employee s number	ln_paid_in_c apital	ln_employee s number	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Age	-0.16*** (-3.29)	0.09 (1.63)	0.41*** (8.40)	0.16* (1.76)	0.57*** (7.21)	0.05 (0.74)	0.33*** (5.33)	
Number of shareholders	0.15*** (6.00)	0.32*** (11.04)	0.21*** (8.39)	0.25*** (6.71)	0.18*** (5.20)	0.40*** (8.57)	0.23*** (5.73)	
Foreign share	0.08 (0.87)	0.33*** (3.05)	0.35*** (3.78)	0.80*** (4.04)	0.70*** (5.24)	0.17 (1.10)	0.10 (0.76)	
Affiliate of MNC from Europe	0.17*** (2.83)	-0.08 (-1.14)	-0.36*** (-5.99)	-0.22** (-2.07)	-0.40*** (-4.22)	0.03 (0.30)	-0.29*** (-3.81)	
Affiliate of MNC from the Americas	0.19 (0.79)	0.19 (0.69)	-0.14 (-0.57)	0.64 (1.21)	0.86* (1.82)	0.13 (0.40)	-0.46* (-1.67)	
Affiliate of MNC from Australia, New Zealand or the rest of Asia	0.32 (0.97)	-0.38 (-0.99)	-1.30*** (-3.92)	-0.49 (-0.83)	-0.93* (-1.74)	-0.39 (-0.79)	-1.60*** (-3.86)	
Affiliate of MNC from Emerging markets' country	-0.10 (-0.33)	-0.77** (-2.22)	-1.04*** (-3.48)	-0.32 (-0.36)	-0.89 (-1.11)	-0.81** (-2.17)	-1.11*** (-3.50)	
Affiliate of MNC from Asian Tigers' country	0.43*** (2.92)	-0.24 (-1.41)	-0.99*** (-6.72)	-0.87** (-2.27)	-1.65*** (-4.81)	0.04 (0.20)	-0.73*** (-4.49)	
Micro (<10 employees)	2.08*** (17.29)							
Small (>10 and <50 employees)	1.11*** (15.70)							
Medium (>50 and <100 employees)	0.52*** (6.46)							
Manufacturing	0.50*** (7.08)	0.78*** (9.50)	0.48*** (6.83)					
Vertically integrated	-0.01 (-0.11)	-0.24*** (-3.36)	-0.32*** (-5.02)	-0.28** (-2.57)	-0.14 (-1.40)	-0.24** (-2.50)	-0.44*** (-5.43)	
Exporter	0.07 (0.93)	-0.10 (-1.13)	-0.31*** (-3.90)	0.34*** (2.74)	0.09 (0.82)	-0.53*** (-3.90)	-0.80*** (-6.98)	
Importer	-0.21*** (-3.08)	-0.45*** (-5.79)	-0.39*** (-5.88)	-0.79*** (-6.43)	-0.55*** (-5.00)	-0.27*** (-2.68)	-0.26*** (-3.08)	
Tokyo-based	0.11 (1.62)	0.14* (1.80)	0.04 (0.57)	0.20* (1.85)	-0.05 (-0.56)	0.09 (0.78)	0.13 (1.35)	
Listed	0.37 (1.25)	0.42 (1.22)	0.02 (0.07)	1.11** (2.34)	0.89 (1.64)	-0.39 (-0.75)	-0.49 (-1.12)	
Dummy for year 2008	0.22*** (3.72)	0.27*** (3.83)	0.05 (0.88)	0.17 (1.50)	-0.07 (-0.73)	0.33*** (3.67)	0.12 (1.54)	
Constant	-4.04*** (-8.55)	-1.29** (-2.38)	0.97** (2.06)	-1.95** (-2.51)	-0.97 (-1.39)	-0.47 (-0.62)	2.51*** (3.95)	
Number of observations	2,377	2,377		919		1,458		
R2	0.203							
note: *** p<0.01, ** p<0.05, * p<0.1. The t-statistics is provided in the brackets underneath the coefficient.								
Breusch-Pagan test		chi2(1)=625.5, Pr= 0			chi2(1) = 358.4, Pr=0		chi2(1) = 273.8, Pr = 0	
The base line in geo-economic grouping is USA.								
The rest of countries grouped as follows: Europe: {Sweden; Belgium; Czech Republic; Denmark; Finland; France; Germany; Greece; Iceland; Ireland; Italia; Lichtenstein; Luxemburg; Netherlands; Norway; Spain; Switzerland; UK; Israel}								
Americas: {Canada; Cayman Islands (UK); Virgin Islands (UK); Bermuda; Brazil; Ecuador; Jamaica; Papua New Guinea}								
Australia, New Zealand and the rest of Asia: {Fiji; Australia; New Zealand; Iran; Kuwait; Saudi Arabia; Sri Lanka}								
Emerging markets: {Brazil, Chile, China, Egypt, Hungary India, Indonesia, Malaysia, Pakistan, Philippines, Russia, Thailand and United Arab Emirates (UAE)}								
Asian Tigers {South Korea; Hong Kong; Singapore; Taiwan}								

As it can clearly be seen from the Graph that the number of affiliates has increased between 1999 and 2008, especially due to the increase in the population of affiliates from the USA and Europe, which has doubled during the period. At the same time, the number of affiliates from the neighboring Asian Tigers' countries has increased five-fold from 58 in 1999 to 292 in 2008. During this period, the population of foreign affiliates from emerging markets has increased from 23 to 131. Observing this pattern of dynamics during 1999-2008 it will be interesting to see if this increase in population leads to a similar developments in terms of the capital and the number of jobs these affiliates bring to Japan.

To test the hypothesis of the determinant factors influencing the size of foreign affiliate, a number of independent variables have been created. To capture the importance of the Jacobian spillover effect, a city-dummy has been created as binary variable equal to “unity” for affiliates that are in Tokyo and “zero” elsewhere. The majority of affiliates are based in Tokyo (more than 75% in the whole sample), while the number of affiliates increased in both Tokyo and non-Tokyo area from 1999 to 2008. In graph 4 geographical distribution of foreign affiliates operating in 2008 in Japan is mapped. As the graph shows, foreign affiliates tend to choose location in big cities. Nevertheless, almost every prefecture in Japan has a foreign affiliate. How significant the role of location on the amount of capital and labor attracted by different foreign affiliates in Japan will be revealed later using regression analysis.



Involvement in trade is based on the information on the extent of affiliates involvements in export and import activities. Four size groups have been assigned in accordance with international classification, as follows: micro – fewer than 10 employees, small – fewer than 50 employees, medium – fewer than 100 and big defined as 100 employees or over.

Table 1 presents the distribution of foreign affiliates in manufacturing and service sectors among different size-groups. As more affiliates are created in service sectors (5037 out of 6632) the majority of *manufacturing* foreign affiliates are big non-SME plants (48.28), while the largest share of *service* affiliates are small (36.17%).

Table 1. Descriptive statistics on the distribution of foreign affiliates operating in Japan in year 1999 and 2008

Groups/Industry type	Services		Manufacture		Total
	Number of affiliates	Share in total number	Number of affiliates	Share in total number	
non-SME	1,522	30.22%	770	48.28%	2,292
micro	1,118	22.20%	176	11.03%	1,294
small	1,822	36.17%	404	25.33%	2,226
medium	575	11.42%	245	15.36%	820
Total	5,037	100%	1,595	100%	6,632

To explore the structure of this relatively large dataset and characterize the variability among observed variables in terms of a potentially lower number of unobserved variables (called factors) *factor analysis* is used. Each component's *eigenvector* or *characteristic vector* is defined. Based on the Keizer rule, the number of factors with an eigenvalue greater than unity will be left to perform the principal component analysis and rotation of the matrix. The identified underlying groups of factors are grouped into an empirical model, which can be presented as follows:

$$\begin{Bmatrix} \text{Number of employees} \\ \text{Paid in capital} \end{Bmatrix}_{i,c,t} = f(\text{Affiliates Characteristics}, \text{Headquarter Characteristics}) \cdot \epsilon_{i,c,t}$$

where subscript i, c, t refer to respectively industry, country and year. The dependent and independent variables are entered in logarithmic terms.

To estimate the empirical model, a seemingly unrelated regression (SURE or SUR) has been used. SURE regression is characterized by joint estimation of several regression models, each related because the error term of each regression may be correlated. Estimating a SURE regression for the three dependent variables together - productivity, number of affiliates and returns on patents and license –allows the error term ϵ_1, ϵ_2 and ϵ_3 to be correlated and the full variance-covariance matrix of the coefficients is estimated using the asymptotically efficient, feasible, generalized least-squares algorithm described in Green (2003, pp. 340-362) and in the STATA Manual (2007, pp.337-344).

The Breusch-Pagan test of independence suggests that we can reject the hypothesis that the correlation of the residuals in the three regressions is zero^{vi}. This result motivates the choice of the SURE model over the main alternative: independent panel regressions.

4. Results discussion

To study the patterns of relationship among variables, with the goal of exploring the nature of the variables, we first turn to factor analysis. The results of principal-component factor analysis are presented in table 2.

Table 2. Results of Factor analysis/correlation: Eigen value and Rotated factor loadings (pattern matrix) and unique variances

Variables	Eigenvalue	Factor1	Factor2	Factor3	Factor4	Factor5	Uniqueness
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age	3.06	0.32	0.18	-0.1	0.56	-0.09	0.54
Paid-in capital	1.75	0.68	0.28	-0.16	-0.07	-0.05	0.43
Number of shareholders	1.56	0.18	0.9	-0.04	0.02	-0.06	0.16
Foreign share	1.18	0.08	-0.65	0.33	0.08	-0.26	0.38
Number of employees	1.03	0.91	0.12	-0.09	-0.04	0.04	0.14
Listed	0.92	0.14	0.79	0.13	-0.02	-0.12	0.33
Tokyo based	0.80	0.12	-0.04	0.48	-0.11	-0.43	0.56
Manufacturing	0.73	0.19	0.07	-0.8	0.19	0.08	0.28
Exporter	0.58	-0.07	0.05	-0.26	0.76	0.03	0.35
Importer	0.50	-0.19	-0.16	0.14	0.77	0.05	0.33
Vertically integrated	0.46	-0.2	0.04	0.68	0.13	0.36	0.35
Affiliated from developed country	0.26	0.18	-0.08	0.07	0.01	0.79	0.34
Non-SME	0.18	0.87	0.03	-0.06	-0.04	0.08	0.24

Note: model is estimated using principal-component factors

The first column of Table 2 presents the results of the first step of the factor analysis, which estimates the eigenvalue of each variable. Based on this information, the number of factors chosen for further analysis is based on the Keizer rule, which specifies that those factors with an eigenvalue greater than unity should be preferred. In our case, five factors have been chosen and the results of the rotated matrix are presented in Columns 3-8.

The first group of factors is formed by such variables as paid-in capital, number of employees and SME category indicator and relates to the size of foreign affiliates. Since there is no other indication of the value of FDI in terms of R&D or patterns in the analysed dataset, this group of factors will be used as a proxy for the activity of foreign affiliates operating in Japan. These variables form the core of FDI policy, in terms of government's orientation towards maximizing the capital, technology and skills embedded in employees. In the next step, these variables will form a dependent variable and the model described earlier will be estimated, using the simultaneously unrelated regression analysis discussed previously.

The level of foreign share and status of the firm (whether it is listed or not listed) form the second, financial, group of factors. In column 5, the third group of factors underlying the organizational structure of the foreign affiliates was significant – vertical affiliation (whether affiliate operating in Japan is in the same industry as the mother company abroad) and the geographical location. The fourth group of factors were those related to trade: the share of exports and imports in total sales. This group of factors scored high. And the final, fifth, group is somewhat vaguer, related as it is to geography. It focuses on the country of origin of the parent company, (whether the FDI comes from the developed or the developing world,) and the location of the affiliate (whether the foreign affiliate is based inside or outside of Tokyo).

In the first step, the determinants of the capital/labour ratio are examined. The results are presented in Column 2 of Table 3. The results suggest that the capital/labour ratio in foreign affiliates operating in Japan is higher in the smaller establishments as dummies for all three types of SMEs (micro, small and medium) are positive (relative to the non-SMEs, which are used as a base line here) and highly significant. Affiliate age has a negative impact on capital intensity. At the same time dummy variable for the year 2008 is positive and significant, implying that in 2008 foreign affiliates had a higher capital labour ratio than in 1999. This controversy is partially explained by the next set of regressions, where the effects on capital and labour have been separated into two regressions. These results imply that foreign affiliates operating in Japan tend to become less capital intensive with age and, as they grow in terms of number of employees, they attract less capital relative to the labour force. In other words, the number of employees relative to the capital is higher. These results may be a reflection of the policy of lifetime employment so widespread in Japan. As long as a foreign affiliate is new and employs an efficient amount of workers, capital/labour ratios remains relatively

high. But over time, the establishment finds it difficult to react adequately to changes in market conditions by reshuffling the skills of its workers: e.g. by dismissing obsolete labour and taking on employees with the relevant skills needed. Instead, the foreign affiliate is forced to keep the old employees and hire new ones at the expense of a more efficient balance of capital and labour. The policy of a lifetime employment has been discussed by many other researchers before (see Ito and Fukao, 2004) and the results of our research suggests that foreign affiliates operating in Japan are not immune to the economic consequences of this policy, either.

Interestingly, the capital/labour ratio is significantly higher for affiliates originated from Europe and the East Asian Tigers (South Korea, Hong Kong, Singapore and Taiwan). This is especially important, as the number of affiliates from these two groups plus the USA have been growing significantly from 1999 to 2008, as has been shown in Graph 3. At the same time, it is not clear from the first model whether the determinants (independent variables) are specific to the capital/labor ratio distribution (dependent variable) or differ for capital and labor distribution. Keeping this point in mind, regression analysis has been applied for the amount of capital and labor as dependent variables, using the seemingly unrelated regression equations (SURE) model. The results in Columns 3 and 4 of Table 3 support the previous findings that older establishments tend to hire significantly more employees. The amount of capital attracted by foreign affiliates in 2008 is statistically significantly higher than it had been in 1999.

Interestingly, foreign affiliates from Europe, emerging economies and the East Asian Tigers are smaller in terms of number of employees than American affiliates. It is striking that, as noted before, the affiliates from Europe and South Korea, Hong Kong, Singapore and Taiwan tend to be smaller in size but have statistically higher capital/labor ratios than their American counterparts. These results suggest that the neighboring Asian countries, which have experienced very rapid and dynamic development, have expended the bulk of their capital recently. For Japan, this can be viewed as a reliable source of high-quality investment and the prospects for further cooperation at the regional level should become a policy objective in the near future. Among the trade indicators, the coefficient for imports suggests that the more foreign affiliates rely on imports, the lower the capital intensity is and, since this result holds strongly through the rest of the regressions where capital and labor have been used separately as dependant variables, the lower amount of capital and labor is attracted by foreign affiliate. One of the reasons for this outcome is that the import intensity of the foreign affiliate might indicate strong ties with the traditional suppliers instead of installing vertical and horizontal linkages with local producers. This feature of foreign affiliates activity in Japan is not surprising, as widespread *keiretsu* style relationships with suppliers and customers can be hard for foreign firms to break into. On the other hand, the barriers to foreign affiliates seeking to integrate themselves with the Japanese economy, whether those barriers be cultural or economic, have a negative impact on the Japanese economy, reducing the potential spillover effect of FDI. The positive role of linkages with local firms has been widely discussed in the FDI literature (see Rodríguez-Clare, 1996, Smarzhinska, 2004). The necessity of tightly embedding foreign affiliates within the host economy stems from the role linkages play as channels for knowledge exchange via the introduction of new standards and the learning involved in the process of technology adjustment to the needs of production.

The trade behavior of foreign affiliate is an aspect of the organizational structure of the MNC. As was pointed out in the literature review (White and Poynter 1984), it is possible to distinguish between different types of affiliates depending on their role in the MNCs' international production networks. In the case of foreign affiliates operating in Japan, it was possible to distinguish between vertical and horizontal foreign affiliates. For Japan as a host country seeking to maximize spillover effects from FDI, the ideal scenario would be for foreign affiliates to go through a creative transition - shifting from 'miniature replicas' to 'rationalized manufacturers'. Rationalized manufacturers require different technical skills from those of the parent MNC, since they are vertically differentiated from it, which implies a relatively high level of capabilities on the part of the rationalized manufacturers (see the literature review above).

However, testing the hypothesis that vertically integrated foreign affiliates have higher technological capabilities leads to negative results. Contrary to expectations, regression analysis suggest that vertically integrated affiliates in both service and manufacturing firms tend to have significantly less capital and fewer employees than their horizontally integrated counterparts.

These results have to be treated with extra caution, as the value of capital and the sheer number of employees is far from been an optimal proxy for the technological capabilities of affiliates. Further analysis on innovative activity and productivity performance of foreign affiliates is needed before definitive conclusions can be drawn.

Moreover, the currently available data on foreign affiliates in Japan does not allow us to distinguish between different types of affiliates within the broad categorization into those with vertical and horizontal organizational structures. Additional data would shed more light on the nature of the relationship between headquarters and the extent of autonomy that foreign affiliates operating in Japan have. Given the presently available data, we can go no further in interpreting these results than to point out that, compared with horizontal affiliates, their vertical counterparts do not possess more capital and employees, likely due to some as yet unobserved difference between different types of horizontal and vertical foreign affiliates. Even though foreign share does not play a significantly positive role in the capital/labor ratio of affiliates (column 2) it is significant for the amount of capital the parent MNC brings into Japan and for the number of employees at work in the foreign affiliates (Columns 3 and 4). This result is mainly driven by manufacturing affiliates (Columns 5 and 6). The number of shareholders also plays a significant positive role for both services and manufacturing foreign affiliates, but whether or not a company is listed is not significant in most of the models, apart from column 5, where it plays a significant positive role in the amount of capital of manufacturing foreign affiliates have. These results suggest that foreign affiliates operating in Japan tend to be bigger in terms of capital and number of employees with the higher number of shareholders and greater foreign share, especially so in the manufacturing sector, where firms with higher amounts of paid-in capital tend to be listed in the stock exchange as well.

Furthermore, in this first set of regressions the Manufacturing dummy, an indicator that the foreign affiliate belongs to the manufacturing industry (leaving services as a base for comparison), scores positively and significantly, indicating that the establishments in manufacturing industries have higher capital intensity as well as employing more capital and labor. This result motivated the further division of the sample into subsamples of manufacturing foreign affiliates and their counterparts operating in service sectors as comparison of the pattern of two distinctive groups can shed light on otherwise unobserved relationships.

The difference can be observed by comparing Columns 5 and 6 (subsample of manufacturing firms) with Columns 7 and 8 (subsample of firms service sectors). The age of the foreign affiliate is positively related to the size of the foreign affiliate both in service and manufacturing sectors. Nevertheless, age is not significant for capital formation in the service sectors (Column 7) and the dummy for 2008 in the subsample of foreign affiliates operating in the service sectors is significantly high. This indicates that significantly (statistically) more capital has been attracted by the service sector foreign affiliates in 2008 than in 1999, while no significant difference is observed among manufacturing affiliates.

An interesting distinction can be observed in the role of exports, with manufacturing exporters tending to have higher capital, while foreign affiliates involved in export activity in the service sector are relatively smaller both in terms of capital and number of employees.

For Japan, FDI in both the manufacturing and service sectors are important due to the boost in competition they bring, and due to other sources of the potential spillover effects (see Aitken and Harrison, 1994, Blomström and Kokko, 1998). The government has historically supported export activity of firms operating in Japan and the positive role of export activity has been recognized on many levels. At the same time, our findings suggest that different mechanism are involved in the export activity of foreign affiliates in the service and manufacturing sectors. While younger and more dynamic small firms tend to be more competitive than their larger counterparts within the service sector, older and more capital-intensive firms in the manufacturing sectors tend to break export barriers more easily in Japan. Some of the foreign affiliates are established in Japan specifically for the purpose of exporting - so called "born to be global" affiliates - and therefore often carry the legacy of strong technological and organizational back-up from the experienced mother company. Exports have been recognized as one channel for the spillover of organizational and technological knowledge (Bernard et al., 2005, Aitken *et al.*, 1997; Greenaway *et al.*, 2004, Aw et al., 2007, 2008, 2009) to the domestic firms. Therefore, the international activity of foreign affiliate in connection with productivity of domestic firms needs to be studied further.

5. Conclusions

While government efforts and 'pushes' come and go, the level of FDI inflows into Japan fluctuates around zero and has remained at the very bottom of international comparisons among developed nations for many years. Among many others, one way to look for an explanation for the low level of FDI is to analyze the pattern of FDI that Japan has already been hosting.

As our data suggests, the number of foreign affiliates in Japan has increased from 1999 to 2008, especially due to the increase in the population of affiliates from the USA and Europe, which has doubled during these years. At the same time, the number of affiliates from the neighboring East Asian Tigers has increased five-fold, alongside the population of foreign affiliates from emerging markets, which has likewise grown rapidly. In order to identify the pattern of FDI behavior that might be observed in the future, firm-level data has been used to test whether the pattern of increasing population of foreign affiliates is similar the pattern of developments in terms of the capital and the number of jobs these affiliates bring to Japan.

In the first step, we examined the determinants of the capital/labour ratio, with the results suggesting that the capital/labour ratio of foreign affiliates operating in Japan is higher in smaller establishments relative to non-SMEs. The age of the establishment has a negative effect on capital intensity, implying that foreign affiliates operating in Japan tend to become less capital intensive over time and that, as they grow in terms of number of employees, they attract less capital relative to the size of the labour force. These results may be a reflection of the policy of lifetime employment so widespread in Japan. With time, the establishment finds it ever more difficult to adapt to the changes in the market by changing the mix of skills among its employees. Instead, the foreign affiliate is forced to keep its legacy employees as it hires new, leaving it with an inefficient capital/labour ratio. Lifetime employment has long been a controversial topic in Japan (see Ito and Fukao, 2004). Our results suggest signs that foreign affiliates operating in Japan are not immune to the economic consequences of this policy.

While the age of foreign affiliates is positively related to the size of the foreign affiliate, both in service and manufacturing sectors, age is not significantly related to capital formation in the service sectors. Our results also indicate that statistically more capital has been attracted to the foreign affiliates in 2008 than in 1999 in the service sectors, while no significant difference is observed in manufacturing affiliates.

An interesting distinction can be made with regard to the role of international trade in the distribution of foreign capital. Manufacturing exporters tend to have more capital, while foreign affiliates in the service sectors involved in export activities are relatively smaller both in terms of capital and of number of employees. The results suggest that the more foreign affiliates rely on imports, the lower their capital intensity is and the less capital and labor they attract. One of the reasons for this outcome may be that the import intensity of the foreign affiliate indicates strong ties with the traditional suppliers in place of vertical and horizontal linkages with local producers within Japan.

While the existing data on the activity of foreign affiliates in Japan does not allow us to distinguishing between different types within vertical and horizontal organizational structure, our analysis is limited to the interpretation of the vertical vs. horizontal status of the affiliate. One of our findings suggests that, compared with horizontal affiliates, their vertical counterparts do not possess more capital or employees. Due to the inability to observe key differences within affiliates' organizations and in terms of the level of autonomy they enjoy within their respective MNCs, further studies on the importance of organizational structure on the performance of foreign affiliates are needed.

It is interesting to note that the capital/labour ratio is significantly higher for affiliates originating from Europe and the East Asian Tigers (South Korea, Hong Kong, Singapore and Taiwan). This is especially important, as the number of affiliates from these two groups, plus the USA, grew sharply between 1999 and 2008 (see Graph 3).

For Japan, the recent expansion of Asian capital abroad can be viewed as a reliable source of high-quality investment. The search for prospects for further cooperation on the regional level should become a key objective for Japan in the near future.

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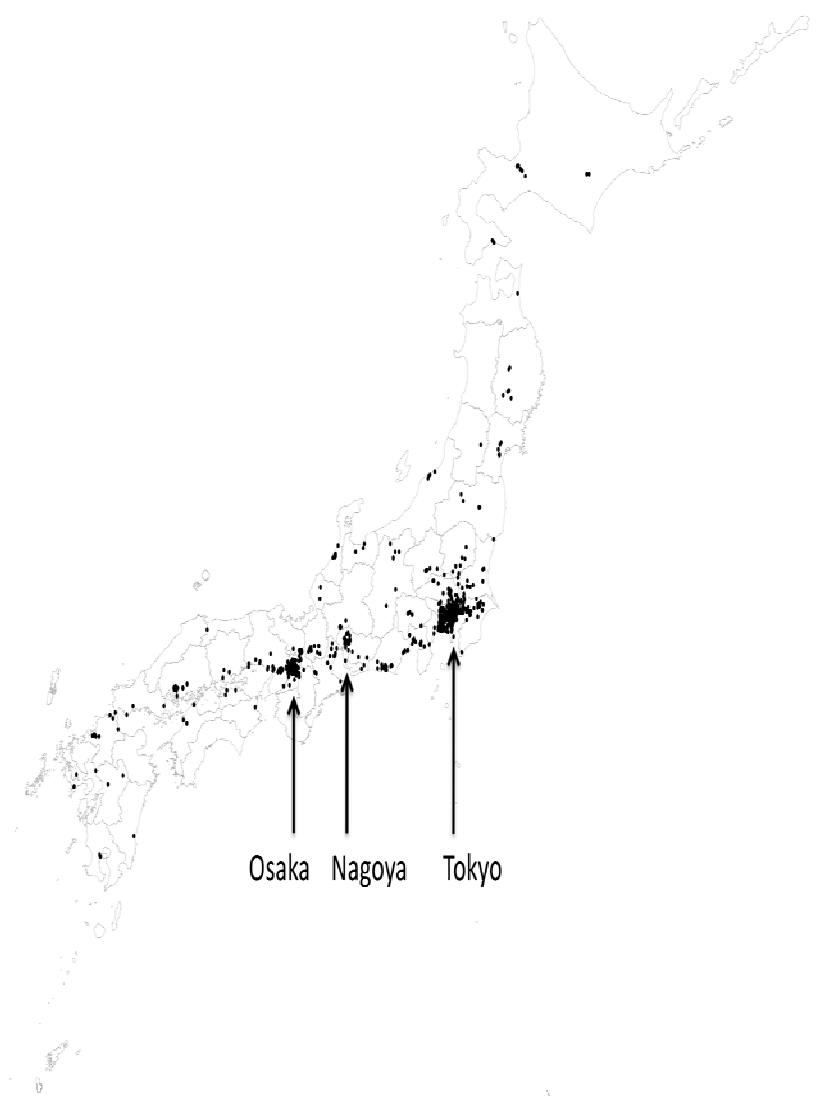


Figure 4: Geographical Distribution of Foreign Affiliates operating in Japan

End Notes

i "Japan as number three. Watching China whizz by" *The Economist*, Aug 19th 2010

ii When the Commodore of the United States Matthew Perry forced open Japan in 1854, the country was soon prompted to sign the "Ansei Treaties" (1858). The series of treaties between East Asian countries and the West was called 'unequal' largely due to the fact that they were signed in the wake of various military failures and effectively forced their rulers to abandon the monopoly on trade. For example, the most important points of these "Ansei Treaties" (which was a series of treaties between Japan and five nations – Holland, England, France, Russia and US) are: opening such cities as Edo, Kobe, Nagasaki, Niigata, and Yokohama's as ports to foreign trade; fixed low import-export duties, subject to international control that deprived the Japanese government control of foreign trade and protection of national industries; ability of foreign citizens to live and trade at will in those ports (with the exception of the opium trade, which was successfully resisted); it also forced Japan to exchange diplomatic agents and accept a system of providing protection and responsibility over foreign residents to the laws of their own consular courts, rather than the Japanese court system (Auslin, 2004).

iii In January 2003, for example, Prime Minister Koizumi announced a goal to double the stock of FDI in Japan by 2008.

iv Other more recent international trade models incorporating firm-level heterogeneity also include Bernard *et al.* (2003) based on Ricardian differences in technological efficiency; Helpman *et al.* (2004) explicitly comparing exporting and outward FDI as alternative modes of entry; Yeaple (2005) focusing on heterogeneous competing technologies, trade costs and labour skills; Bernard *et al.* (2007) drawing on heterogeneous productivity; and Aw *et al.* (2007, 2008, 2009) adding a new dimension of R&D to the export-productivity debate.

v For evidence and more discussion on spillovers being spatially bounded, see Thornton and Flynne (2003); Bottazzi and Peri (2003); and Baldwin *et al.* (2008). Recently, Peri (2005) used patent data for a panel of 113 European and North American regions over 22 years, finding that the externally accessible stock of R&D had a positive impact on firm innovation but that only about 20 percent of average knowledge is learned outside the region of origin and only 10 percent outside the country of origin. In contrast, Lehto (2007) used R&D data for Finnish firms and found that only when other firms' R&D is located in the same sub-region is there any positive spillover effect. On this evidence, R&D spillovers appear to be localised. However, there are also studies that find stronger support for international knowledge spillovers, rather than localised spillovers. These emphasise transmission through international trade, FDI, international technology transfer, and other forms of internationalisation (e.g. Gong and Keller, 2003; Niosi and Zhegu, 2005)

vi It was also confirmed that the correlation of the residuals of the regression on the returns on patents has lowest correlation with the residuals from the other two models. Nevertheless, running this regression independently reduces the overall r-squared and therefore the joint SURE model has been preferred.

Stock volatility and pension funds' holdings in an individual capitalization-based system

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Abstract

The aim of this article is to discuss the empirical relation between volatility and pension fund holdings in Chile, a pioneer of an individual capitalization-based pension system. Specifically, we test for the feed-back effect between pension funds and stock return volatility by means of Granger causality and Arellano-Bond regressions for a dynamic panel. Discussion of this topic has been provided for the United States and other economies from the mid 1990's onwards (e.g., Sias 1996; Del Guercio 1996; Eakins, Stansell, and Wertheim 1997; Faugère and Shawky 2003; Binay 2005; Nagel 2005).

To this end, we gathered data on pension fund holdings for 42 firms which actively traded on the Santiago Stock Exchange between December 2002 and July 2008. Such holdings were computed based on information gathered by the Superintendencia of Pension Funds on multi-funds A, B, C, and D, established in Chile in September 2002.

Our estimation shows that there are feed-back effects in both directions. Specifically, our results show that an increase in pension funds' stock holdings translates into more stock return volatility. This finding is congruent with Sias (1996)'s. The feedback sign from volatility to pension funds' holdings found in the data is less clear-cut, as it may be either positive or negative. Our evidence, however, suggests that it is more likely that an increase in volatility leads to a decrease in pension funds' holdings. This would be indicative of pension funds' preference for safer stocks, as previously reported by Faugère and Shawky (2003) for a market decline.

Keywords: pension funds, stock return volatility

Introduction

Over the past twenty years, pension funds have played an increasingly important role in Chile's financial market. Indeed, in November 1980 the pension system in force in Chile at that time was reformed by Decree-law (D.L.) No. 3,500, establishing a new pension system for elderly retirement, invalidity and survival based on individual capitalization. The Chilean Pension System was essentially designed to ensure retirees a stable income, which is related to the immediately past salary they earned during their working lives. The Pension System is managed by private entities, known as Pension Fund Administrators (AFP). These institutions are limited companies, whose sole purpose is the administration of a pension fund and other activities strictly related to pension management, in addition to granting and administering provisions and benefits established by law.

Nowadays, pension funds are authorized to invest their funds on securities issued by the Central Bank of Chile, Retirement-adequacy Bonds (*Bonos de Reconocimiento*) issued by Chile's Treasury; instruments issued by domestic financial institutions, such as deposits, mortgage notes, bonds and equity securities; bonds of public and private companies; shares of listed companies, shares of listed real-estate companies, shares of investment and mutual funds; short-term debt instruments; and, foreign financial assets. The later include foreign debt obligations issued or guaranteed by foreign states, foreign central banks, foreign banks or banking institutions; bonds of foreign companies; shares of foreign companies and banks; shares issued by mutual funds and foreign investment funds; short-term debt obligations issued by urban districts, regional states or local governments; bonds convertible into shares issued by foreign companies; structured notes issued by foreign entities, among others.

Law No. 19,795, dated February 28, 2002, introduced a system of five multi-funds (A-E), which differ primarily in the proportion of their financial resources invested on fixed-income securities. Fund type A has the smallest share of resources allocated to such securities, which gradually increases in Funds B, C, D and E. To

illustrate, as of December, 31, 2009, the share of domestic and foreign fixed-income securities in funds A, B, C, D, and E was 19.8, 39.0, 59.1, 79.4, and 98.4 percent respectively.

In general, funds A and B involve a higher risk-return relationship, relative to funds C, D, and E, given that more resources are allocated to equity. However, both funds aim at maintaining adequate diversification to mitigate the borne risk. In particular, the share of domestic and foreign equity in fund A ranges between 60 and 80 percent, whereas in fund B, it ranges between 40 and 60 percent. By contrast, the upper bound for equity in fund E is merely 5 percent. Multi funds also differ in their share of foreign assets. As of December, 31, 2009, the share of foreign securities in funds A, B, C, D, and E was 70.8, 52.5, 35.0, 25.0, and 3.6 percent, respectively.

One issue analyzed by the extant literature on portfolio asset allocation of institutional investors is whether they are attracted to less-risky assets. In particular, some articles have focused on testing the prudent man hypothesis in the U.S. market. The prudent man rule is drawn from the standard of reasonable care of the traditional trust law, which requires that a fiduciaryⁱ behaves faithfully and discreetly, based on his/her observation of how men of prudence, discretion and intelligence handle their own affairs involving the permanent disposition of their funds (e.g., Droms 1992). Some examples of this line of research are Del Guercio (1996), Sias (1996), Eakins, Stansell, and Wertheim (1998), Gompers and Metrick (2001), and Faugère and Shawy (2003).

The aim of this article is to study the feed-back effect between stock return volatility and pension funds' stock holdings in Chile, which pioneered private capitalization of retirement funds in the early 1980's. To this end, we gathered data on pension funds' holdings of 42 firms which actively traded on the Santiago Stock Exchange during the December 2002-July 2008 period. Such holdings were computed based on information of multi-funds A, B, C, and D, established in Chile in September 2002, and supplied by the Superintendence of Pension Funds. In addition, and in order to provide some background information on the multi.-fund system, we processed and present some figures on the portfolio composition of multi-funds by instrument type, financial sector, and economic sector for the May 2001-June 2008 period.

Our work contributes to the extant literature in two ways. Firstly, to our knowledge, this is the first study of its kind for an emerging country, which, in addition, was the first one to introduce an individual capitalization-based system, as opposed to a pay-as-you-go one, two decades ago. Secondly, our empirical work is based on Arellano-Bond's panel data technique, which allows us modeling properly the feed-back effects between stock volatility and pension funds' holdings in a dynamic setting.

This article is organized as follows. Section 2 presents a literature review of the main articles devoted to study the relation between stock market volatility and pension funds' holdings. Section 3 in turn reports some statistics of the Chilean multi-fund system in what regards to average portfolio composition of multi-funds by financial instruments and economic sector. Section 4 presents an empirical analysis of the relation between pension funds' stock holdings and stock volatility in Chile based on our sample of 42 firms. Finally, Section 5 summarizes our main findings.

Literature review

As previously mentioned, one strand of the literature has focused on testing the prudent man hypothesis in the U.S. market (e.g., Del Guercio 1996, Sias 1996, Eakins, Stansell, and Wertheim 1998, Gompers and Metrick 2001, and Faugere and Shawy 2003).

In particular, Sias (1996) conjectured three reasons why institutional investors might be attracted to less-risky assets. First, many of them are subject to the prudent man's rule. Second, institutional investors' information gathering may be less costly and less subject to processing errors. Third, institutional investors may be more rational and, hence, less susceptible to fads or noise trading. To his surprise, Sias found that institutional investors are associated with riskier securities. Sias interpreted his finding of a contemporaneous and positive co-movement between volatility and institutional holdings as congruent with two hypotheses. One of them is that institutional investors may be attracted to riskier assets because they think such assets may outperform market benchmarks in the future. The other hypothesis is that institutional investors may play a destabilizing role in that an increase in institutional holdings may result in an increase in market volatility. Sias found support for the latter.

Sias gathered weekly returns, annual institutional holdings, and annual market capitalization for all securities listed on the NYSE from 1977 to 1991. In order to test whether more volatility attracts institutional investors, Sias regressed the fraction of shares held by institutional investors in year t on the fraction of shares held in $(t-1)$, the return over $(t-1)$, and the change in the natural logarithm of volatility from $(t-2)$ to $(t-1)$:

$$\text{Inst. Own}_t = \beta_1 + \beta_2 \times \ln(\text{volatility}_{t-1}) + \beta_3 \times (\text{Inst. Own}_{t-1}) + \beta_4 \times \text{return}_{t-1} + \varepsilon_t \quad (1)$$

Sias concluded that, in eight out of the fifteen sampled years, β_3 was negative and statistically significant, which gave little support to the first hypothesis.

In order to test the second hypothesis, Sias estimated the following regression model:

$$\ln(\text{volatility}_t) = \beta_1 + \beta_2 \times \ln(\text{volatility}_{t-1}) + \beta_3 \times (\Delta \text{Inst. Own}_{t-1}) + \beta_4 \times \text{return}_{t-1} + \varepsilon_t \quad (2)$$

He found that the coefficient on the lagged change in institutional holdings, β_3 , was positive and statistically significant in every sampled year. Therefore, the evidence favored the hypothesis that an increase in institutional holdings induces an increase in volatility.

Eakins, Stansell, and Wertheim (1998) in turn investigated the relation between the level of institutional ownership and some firm specific factors: beta, the current ratio (CRNT), debt to asset ratio (DTOA), a dummy variable that takes on the value of 1 if the firm pays dividends (DIVDUMMY), the market value of outstanding shares (MRKVL), the price/earnings ratio (PE), a dummy variable that takes on the value of 1 if the firm is ranked by S&P (RANKED), the return on assets (ROA), the total asset turnover (TAT), and the turnover ratio (TRNOVR)—i.e., common shares traded annually/shares outstanding.ⁱⁱ

Eakins et al. speculated on the corresponding sign each coefficient should have. Regarding beta, they claim that it is unclear whether institutional investors should prefer low or high betas. Indeed, some empirical evidence shows that institutional investors are attracted to higher risk firms. However, such finding would be inconsistent with institutional investors' prudence. Therefore, in their view, the sign on beta is ambiguous. Regarding CRNT, if institutional investors act according to the prudent man hypothesis, there should be a positive relation between this firm factor and institutional ownership. DTOA in turn represents another risk measure and, similarly to beta, its sign can be either positive or negative. If institutional investors are concerned with return, more leverage will be appealing; otherwise, if institutional investors are guided by prudence, they should prefer firms with low debt ratios. Regarding DIVDUMMY, the literature suggests that dividends may be a vehicle to mitigate agency problems. In addition, dividend-paying firms are usually more mature and older, attributes that institutional investors would find desirable. Therefore, DIVDUMMY should be positively correlated with institutional ownership.

In turn, larger firms are usually perceived as less risky, as they have more analysts' coverage and better access to capital markets. Therefore, institutional investors should prefer larger firms. The price/earnings ratio in turn is determined in part by the stock riskiness and the firm's growth opportunities. Specifically, the P/E ratio is greater for less-risky stocks and/or firms with more growth prospects. Eakins and et al. conjecture that institutional investors will prefer firms with average P/E. As to RANKED, ROA, TAT, and TRNOVER, Eakins et al. argue that they should be positively associated with institutional ownership. In particular, ranked firms are subject to periodic assessment by outside analysts; a high ROA is indicative of greater operating efficiency and more effective management; a high TAT suggests that a firm assets are utilized efficiently; finally, a high TRNOVER will attract institutional investors because it will be generally associated with larger firms. And, the latter are usually acceptable to most investors. In addition, as institutional investors try to avoid exerting price pressure when trading, they will prefer firms with high turnover ratios.

Based on a sample of firms listed on the NYSE, the AMEX, and the NASDAQ, Eakins et al. conducted quintile regression analysis to determine the degree of co-movement of institutional ownership and the above-mentioned financial indicators. Their empirical results suggest that institutional investors prefer mid-range values of betas, CRNT, DTOA, MRKVL, ROA, TAT, and TRNOVR. Econometric estimation for the full sample

indicated that institutional ownership was positively associated with DIVDUMMY and RANKED, although rather weakly with the former. PE by contrast did not exhibit any explanatory power.

In a more recent study, Gompers and Metrick (2001) examined institutional investors' demand for firm characteristics in a sample covering the 1980-1996 period. Specifically, in the vein of Eakins et al. (1996) and Del Guercio (1996), they regressed institutional ownership on size (i.e., market capitalization), book-to-market, dividend yield, price per share, a dummy variable indicating whether the firm is included in the S&P 500, volatility of monthly returns, firm age, momentum, and turnover. The authors found that institutional investors prefer stocks with high liquidity and greater market capitalization. In particular, institutional investors' tilting towards large companies would explain the partial disappearance of the small-firm stock premium over time. Gompers and Metrick, however, did not find empirical support for the prudent-man rule as to the existence of an inverse and statistically significant relation between institutional ownership and return volatility.ⁱⁱⁱ

A study on the association between institutional ownership under market stress was conducted by Faugère and Shawky (2003). They found that, during the NASDAQ decline occurred between March and November of 2000, institutional investors preferred holding less-volatile stocks. Such finding would be indicative of institutional investors' greater sensitivity to downside risk relative to individual investors. In Faugère and Shawky's viewpoint, a more conservative attitude towards risk from institutional investors' side may be attributed to their fiduciary responsibilities.

Faugère and Shawky's empirical findings were based on two cross-sectional regressions for individual securities (i) in the NASDAQ and securities in the NYSE, which were used as a control group:

$$\text{Mean return}_i = \alpha_0 + \alpha_1 \times \text{Inst. Own.}_i + \alpha_2 \times \text{turnover ratio}_i + \varepsilon_i \quad (3)$$

$$\text{Std. dev.}_i = \beta_0 + \beta_1 \times \text{Inst. Own.}_i + \beta_2 \times \text{turnover ratio}_i + u_i \quad (4)$$

The reason for using the NYSE securities as a control group is as follows. During the 2000 sizeable market decline on NASDAQ, those stocks largely owned by institutional investors exhibited higher mean returns with lower standard deviations. Such regularity was not observed for the stocks listed on the NYSE. Therefore, Faugère and Shawky conjectured that institutional investors may be more able to handle downside risk than individual investors. Based on that observation, they fitted equations (3) and (4) to the NASDAQ and NYSE stocks for two sub-periods: March 29-July 31, 2000 and August 1-November 30, 2000. For the NASDAQ securities and for both sub-periods, Faugère and Shawky found a positive and statistically significant association between mean returns and institutional ownership and a negative and statistically significant association between standard deviation and institutional ownership. For the control group, by contrast, Faugère and Shawky did not observe a consistent and highly significant relation between institutional ownership and mean returns or standard deviation.

More recent literature on institutional investor holdings is provided, among others, by Binay (2005), who assessed the risk-adjusted equity investment of all institutional investors in the United States during 1981-2002; Nagel (2005), who analyzed short-sale constraints on institutional ownership; and, Chen and Hong (2006), who studied the association between institutional ownership changes and security returns around analysts' earnings forecast.

An overview of the Chilean multi-fund system in figures

Tables 1 and 2, and Figures 1 and 2 shed some light on the portfolio composition of the previously described funds A through E for the period May 2001-June 2008. The sample excludes the most recent global economic crisis, due to its impact on worldwide financial markets.

In particular, Table 1 shows that, on average, during May 2001-June 2008, fund C, the largest fund in terms of monetary holdings, held the greatest shares of financial instruments issued by domestic state-owned (i.e., The Central Bank of Chile, the Treasury, and *Instituto de Normalización Previsional* (INP)^{iv}, financial, and corporate financial institutions (64.71, 56.8, and 53.9 percent, respectively), and foreign institutions (41 percent) among all funds. The second fund in size, B, with USD 16,147 million administered, concentrated 21.1 percent of the

resources allocated to the domestic corporate sector (i.e., stocks and bonds), and 26.7 percent of the funds allocated to foreign assets.

Table 2 exhibits the share of domestic stocks and bonds in the multi-funds by economic sector. On average, 9 percent of fund A was allocated to stocks of the electric power sector during September 2002-June 2008. In turn, nearly 15 percent of fund E was invested on the service sector bonds during May 2001-June 2002. Overall, the fund invested primarily on domestic shares, and to the least extent on domestic bonds, was A (i.e., 35.5 and 3.29 percent, respectively, of the whole fund), while E exhibited exactly the opposite pattern (0 and 25.5 percent of the fund allocated to domestic stocks and bonds, respectively).

In contrast to Table 1, which shows the share of each fund by issuer type with respect to all funds, Figure 1 depicts the average portfolio composition of each individual fund for the sample period. For instance, funds A and E held, respectively, the greatest and smallest share of foreign assets (nearly 53 and 3.5 percent, respectively). In turn, funds A, B, and C maintained shares of over 20 percent in the corporate sector's stock and bonds, while fund E held about 44 percent of its overall investment in safe fixed-income securities issued by state-owned institutions.

Figure 2, Panels (a)-(e), provides more disaggregate information on the financial instruments that made up the alternative portfolio funds over the sample period. For instance, about 15 percent of fund E was invested on mortgage-backed securities, while such percentage only reached to 1.42 for fund A (Panel (a)). On the other hand, corporate stocks and mutual shares issued by foreign institution had more weight in fund A, followed by fund B. The investment allocated to commercial bank deposits, however, tended to be more even across funds, as Panel (e) shows.

Pension funds' holding and stock volatility: An empirical analysis

The data

In this section, we first concentrate on some statistics of the pension funds' holding of domestic stocks over the period December 2002-July 2008. Stock pension funds' ownership of a given stock, in a given month, is computed as the ratio of the amount of money invested by pension funds on such a stock to its market capitalization. The sampled firms are reported in Table 3. The first column shows the firm mnemonic, the second one provides the economic sector each firm belongs to, according to Economatica database^v classification, and the third column gives the Superintendence of Pension Fund Administrator (SAPF)'s sector classification. The latter is quite broad, so the second column is also included in order to rely on more information about the economic sector of each firm. For instance, AntarChile S.A is classified within the natural resources area by the SAPF, but it is indeed a holding company which invests on forestry and industrial companies.

The 42 firms were chosen so that their stocks were traded, at least, 50 percent of the business days within a month. Such a choice allowed us to rely on at least 10 observations to compute the monthly return volatility for each stock. Table 4 presents the mean, minimum, maximum, and standard deviation of the overall pension funds' ownership of the sampled firms.

As we can see, in terms of average ownership over December 2002-July 2008, the firms CTC-A and Entel (Telecommunications), Endesa (Electric power), Cristales, Concha & Toro and San Pedro (Industrial) stood out as the ones with shares of over 20 percent. By contrast, pension funds' ownership of Almendral and AntartChile (holding companies with investments on telecommunications and Natural resources, respectively), Santander Bank and LAN airline (services), and Gener (electric power) averaged figures of less than 2 percent.

For further illustration, Figure 3 depicts the evolution of pension funds' ownership of three firms over the sample period: Concha & Toro, LAN, and Vapores. As we see from Panel (a), pension funds' ownership of the former remained relatively stable, around its sample average of 22 percent. Panel (b) shows in turn that pension funds' holding of LAN exhibited an increasing trend from August 2006 approximately, to reach 6 percent by the end of the sample period. A very small percentage of pension funds' holding, prior to August 2006, explains the small sample average ownership of 1.5 percent. Finally, Panel (c) shows that pension funds' ownership of Vapores increased noticeably over the sample period, from 2 to 12 percent approximately.

Granger causality test

We next focus on the relation between stock return volatility and pension funds' holdings. As mentioned in the Literature review section, Sias (1996) examined the relation between institutional holdings and volatility, and found that institutional investors are associated with riskier securities.

As a preliminary approach, we plotted the contemporaneous stock return volatility against the one-month lagged pension funds' holdings for the panel of 42 firms previously described. As Figure 4 shows, there is some evidence of a positive correlation between the two variables. (The pair-wise Pearson correlation coefficient for the whole sample is 0.12). However, such a positive association may be somehow driven by the presence of some outlying observations.

In order to examine the causality between the two above-mentioned variables, we utilized the Granger-causality tool for a panel data set devised by following Hoffmann, Lee, Ramasamy, and Yeung (2005)'s approach. In particular, we considered four different estimators: pooled ordinary least squares (OLS), fixed effects (FE), pooled least absolute deviations (LAD)^{vi}, and Kim-Maddala (1992)'s random-effect (RE) model, discussed by Fernandez (2006). Fixed effects have the advantage of accommodating for omitted variables, but they are biased under a dynamic specification. Therefore, the Granger causality tests based on FE should be taken cautiously. Pooled OLS, pooled LAD, and Kim-Maddala's FE are consistent, provided that the equation error term is uncorrelated over time.

Table 5 reports pair-wise Granger causality tests. As we see, we reject the null hypothesis that pension fund holdings do not affect stock return volatility, but we cannot reject the null hypothesis conversely. In other words, based on Granger causality, we do not find support for the hypothesis of pension funds' preference for riskier stocks. That is to say, our evidence goes in line with Sias' findings.

Arellano-Bond regressions

In this section, we take a closer look at the relation between volatility and pension funds' holding by using Arellano-Bond (1991)'s dynamic approach to panel data modeling. In doing so, we also control for market capitalization (e. g., Faugère and Shawky 2003). We fit various regressions aimed at gauging the feed-back effect between market volatility and pension funds' holdings. Specifically, we concentrate on the whole sample and two economic sectors which gather a relative large number of sampled firms: Industrial and Services. We divide the whole sample and the two economic sectors into deciles when analyzing the feed-back between holdings and volatility. The decile segmentation allows us to calibrate the feed-back extent across firms of different sizes, as measured by market capitalization. Our results are reported in Tables 6 through 9. The figures in the tables are the p-value associated to each explanatory variable. The entries highlighted in grey indicate p-value less than or equal to 10 percent.

As can be seen, when using Arellano-Bond's technique and controlling for market capitalization, it becomes apparent the effect of volatility on pension funds' holdings. This is disagreement with our findings from Granger causality, which failed to detect a feed-back effect from volatility to pension funds' holdings. For instance, when focusing on the whole sample (Table 6 a)-b)), we find a contemporaneous or instantaneous effect of return volatility on pension funds' holdings in deciles 1 through 3 and deciles 8 and 10. There is also a lagged effect of volatility in deciles 2, 6, and 8 through 10. Conversely, when looking at the feed-back from holdings to volatility in the whole sample, we find a contemporaneous effect only in deciles 1, 6, and 10. Lagged effects are observed at deciles 1, 3, 4, 6, 9, and 10.

For the two economic sectors under consideration, we observe that the feed-back effect between volatility and pension funds' holdings is rather weak for the Industrial sector, whereas for Services, the statistical significance pattern resembles more closely that of the whole sample (Tables 7 and 8, respectively).

When looking at the sign of the estimated regression coefficients, our results show that for the whole sample an increase in pension funds' holdings translates into more stock return volatility, as documented by Sias (1996). The feedback sign from volatility to pension funds' holdings found in the data is less clear-cut, given that it may be positive or negative. The evidence, however, suggests that it is more likely that an increase in lagged volatility leads to a decrease in pension funds' current stock holdings. This pattern would be indicative of pension funds' preference for safer stocks, which is in agreement with Faugère and Shawky's evidence.

In other words, our results highlight that, in spite of their preference for low-risk stocks, pension funds may play a destabilizing role as being the source of more stock return volatility.

Conclusions

The aim of this article was to discuss the empirical relation between volatility and pension funds' holdings in Chile, a pioneer of an individual capitalization-based pension system. To this end, we gathered data on pension fund holdings for 42 firms, which actively traded on the Santiago Stock Exchange during December 2002 and July 2008. Such holdings were computed based on information of multi-funds A, B, C, and D, established in Chile in September 2002, and supplied by the Superintendence of Pension Funds.

Specifically, we tested for the feed-back effect between pension funds and stock return volatility by means of Granger causality and Arellano-Bond regressions for dynamic panels. Our results showed that there are feed-back effects in both directions. Specifically, we conclude that an increase in pension funds' holdings translates into more stock return volatility. The feedback sign from volatility to pension funds' holdings found in the data is less clear-cut. The evidence, however, suggests an inverse relation between the two variables, which would be indicative of pension funds' preference for safer stocks.

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Table 1 Average portfolio composition of multi-funds: May 2001-June 2008

(a) Figures in millions of December 2008 USD

Fund	State-owned institutions	Financial institutions	Corporate sector	Foreign assets	Current assets	Total fund
A	371.8	2,028.0	2,503.1	5,979.6	16.4	10,898.8
B	1,659.1	4,325.3	4,101.3	6,033.6	27.4	16,146.7
C	9,847.3	13,777.2	10,467.0	9,262.7	89.6	43,443.7
D	2,636.1	3,462.0	2,073.1	1,236.4	24.8	9,432.3
E	702.5	664.6	260.2	87.9	6.0	1,721.2

(b) Percentage shares

Fund	State-owned institutions	Financial institutions	Corporate sector	Foreign assets	Current assets	Total fund
A	2.44%	8.36%	12.90%	26.46%	10.00%	13.35%
B	10.90%	17.83%	21.14%	26.70%	16.67%	19.78%
C	64.71%	56.80%	53.94%	40.99%	54.58%	53.21%
D	17.32%	14.27%	10.68%	5.47%	15.08%	11.55%
E	4.62%	2.74%	1.34%	0.39%	3.66%	2.11%
Total	100%	100%	100%	100%	100%	100%

Notes: (1) The figures were originally deflated by the Chilean CPI taking as a basis December 2008. Then they were transformed into US dollars by means of the average monthly exchange rate (CLP/USD) of December 2008. (2) Statistics for funds A, B, and D are available only from September 2002 onwards.

Table 2 Average percentage share of domestic stocks and bonds in total assets: May 2001-June 2008

Fund	Economic sector											
	Electric power		Telecommunications		Services		Industrial		Natural resources		All sectors	
	Stocks	Bonds	Stocks	Bonds	Stocks	Bonds	Stocks	Bonds	Stocks	Bonds	Stocks	Bonds
A	9.04%	0.60%	4.74%	0.08%	7.82%	2.07%	5.21%	0.13%	8.66%	0.41%	35.46%	3.29%
B	7.91%	1.49%	4.19%	0.18%	7.03%	4.91%	4.34%	0.38%	8.46%	1.15%	31.93%	8.11%
C	6.38%	2.98%	3.38%	0.49%	5.00%	7.73%	3.05%	0.79%	6.85%	1.97%	24.66%	13.96%
D	5.33%	3.44%	2.26%	0.54%	3.14%	10.29%	2.21%	0.96%	5.04%	2.51%	17.97%	17.73%
E	0.00%	5.15%	0.00%	0.82%	0.00%	14.95%	0.00%	1.57%	0.00%	3.03%	0.00%	25.52%

Note (1) Statistics for funds A, B, and D are available only from September 2002 onwards.

Table 3 Sampled firms

	Firm	Economic sector ⁽¹⁾	SAPF classification
1	AGUAS-A	Water, Sewage and Other Systems	Services
2	ALMENDRAL	Finance and Insurance	Telecommunications
3	ANDINA-A	Beverage Manufacturing	Industrial
4	ANDINA-B	Beverage Manufacturing	Industrial
5	ANTARCHILE	Other Financial Investment Activities	Natural resources
6	BANMEDICA	Offices of Physicians	Services
7	BANVIDA	Other Investment Pools and Funds	Services
8	BCI	Banks	Services
9	BSANTANDER	Banks	Services
10	CAP	Iron and Steel Mills and Ferroalloy Manufacturing	Natural resources
11	CCT	Tobacco Manufacturing	Industrial
12	CCU	Beverage Manufacturing	Industrial
13	CEMENTOS	Cement and Concrete Product Manufacturing	Industrial
14	CGE	Electric Power Generation, Transmission and Distribution	Electric power
15	CHILE	Banks	Services
16	CINTAC	Forging and Stamping	Industrial
17	CMPC	Pulp, Paper, and Paperboard Mills	Natural resources
18	COLBUN	Electric Power Generation, Transmission and Distribution	Electric power
19	CONCHATORO	Beverage Manufacturing	Industrial
20	COPEC	Gasoline Stations	Natural resources
21	CORPBANCA	Banks	Services
22	CRISTALES	Glass and Glass Product Manufacturing	Industrial
23	CTC-A	Telecommunications	Telecommunications
24	CTC-B	Telecommunications	Telecommunications
25	D&S	Other General Merchandise Stores	Services
26	ENDESA	Electric Power Generation, Transmission and Distribution	Electric power
27	ENERSIS	Electric Power Generation, Transmission and Distribution	Electric power
28	ENTEL	Telecommunications	Telecommunications
29	FALABELLA	Department Stores	Services
30	FASA	Health and Personal Care Stores	Services
31	GASCO	Natural Gas Distribution	Services
32	GENER	Electric Power Generation, Transmission and Distribution	Electric power
33	IANSA	Sugar and Confectionery Product Manufacturing	Industrial
34	INFORSA	Converted Paper Product Manufacturing	Natural resources
35	LAN	Scheduled Air Transportation	Services
36	MADECO	Steel Product Manufacturing from Purchased Steel	Industrial
37	PARAUCO	Real estate lessors	Services
38	QUINENCO	Other Investment Pools and Funds	Industrial
39	SAN PEDRO	Beverage Manufacturing	Industrial
40	SECURITY	Management of Companies and Enterprises	Services
41	SQM-B	Nonmetallic Mineral Mining and Quarrying	Natural resources
42	VAPORES	Deep Sea, Coastal, and Great Lakes Water Transportation	Services

Note: (1) Classification taken from *Economica*.

Table 4 Percentage of firm ownership by domestic pension funds: December 2002-July 2008

Firm	Mean	Std. Dev.	Min	Max
AGUAS-A	5.51%	0.66%	4.03%	6.35%
ALMENDRAL	1.11%	0.95%	0.05%	4.06%
ANDINA-A	8.45%	1.11%	6.43%	10.02%
ANDINA-B	2.56%	0.69%	1.74%	3.91%
ANTARCHILE	1.14%	0.56%	0.07%	2.22%
BANMEDICA	2.79%	0.22%	2.40%	3.24%
BANVIDA	1.37%	0.26%	0.92%	1.77%
BCI	10.80%	0.79%	8.49%	12.04%
BSANTANDER	1.70%	0.34%	0.99%	2.73%
CAP	19.25%	0.92%	17.06%	21.35%
CCT	1.48%	0.35%	0.97%	1.82%
CCU	9.32%	2.23%	3.59%	12.21%
CEMENTOS	11.17%	3.49%	5.99%	16.13%
CGE	6.18%	1.71%	3.23%	8.21%
CHILE	3.36%	0.60%	2.53%	4.56%
CINTAC	21.86%	1.39%	19.83%	27.36%
CMPC	16.85%	0.96%	14.26%	18.47%
COLBUN	11.33%	2.40%	7.91%	16.07%
CONCHATORO	21.74%	0.82%	19.70%	22.94%
COPEC	8.75%	0.37%	7.64%	9.39%
CORPBANCA	8.01%	1.25%	5.00%	9.44%
CRISTALES	23.09%	1.24%	20.12%	25.48%
CTC-A	22.70%	1.51%	18.60%	25.08%
CTC-B	2.09%	0.08%	1.93%	2.29%
D&S	10.54%	2.80%	4.72%	14.96%
ENDESA	20.27%	0.85%	17.91%	21.50%
ENERSIS	16.39%	2.36%	4.04%	18.99%
ENTEL	24.98%	0.73%	22.87%	26.57%
FALABELLA	4.64%	0.39%	3.61%	5.22%
FASA	12.99%	2.05%	8.06%	15.70%
GASCO	7.44%	1.12%	4.99%	9.03%
GENER	1.26%	1.55%	0.00%	3.76%
IANSА	16.84%	1.93%	12.20%	21.03%
INFORSA	3.85%	0.40%	2.12%	4.24%
LAN	1.46%	1.51%	0.28%	5.55%
MADECO	10.59%	7.92%	0.69%	24.47%
PARAUCO	10.75%	2.18%	8.93%	18.51%
QUINENCO	1.25%	0.37%	0.89%	2.05%
SAN_PEDRO	20.87%	3.32%	15.67%	26.93%
SECURITY	3.30%	0.82%	2.16%	4.48%
SQM-B	13.52%	2.47%	7.36%	17.30%
VAPORES	7.21%	3.55%	1.59%	12.51%

Table 5 Granger causality tests

Null hypothesis	Pooled OLS	FE	Pooled LAD	RE
Pension fund holdings do not cause volatility	26.70 [0.00]	6.17 [0.05]	52.43 [0.00]	26.37 [0.00]
Volatility does not cause Pension fund holdings	1.55 [0.46]	4.17 [0.12]	0.22 [0.90]	4.07 [0.13]

Notes: (1) Number of lags=2; (2) The test statistic corresponds with a likelihood ratio test, whose asymptotic distribution is chi-square with degrees of freedom equal to the number of excluded regressors. (3) P-values between brackets. (4) The random-effect (RE) specification is discussed in Fernandez (2006).

Table 6 Arellano-Bond regressions for AFP stock holdings and return volatility: Whole sample

(a) Deciles: Log(holding_t) as the dependent variable

	Decile										All
	1	2	3	4	5	6	7	8	9	10	
Log(holding _{t-1})	0.157	0.017	0.574	0.594	0.146	0.668	0.130	0.000	0.696	0.000	0.420
Log(holding _{t-2})	0.512	0.073	0.200	0.620	0.001	0.607	0.273	0.000	0.607	0.014	0.260
Log(market cap _t)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Log(market cap _{t-1})	0.885	0.183	0.107	0.582	0.364	0.442	0.038	0.005	0.731	0.250	0.710
Log(market cap _{t-2})	0.871	0.565	0.199	0.972	0.000	0.154	0.004	0.000	0.031	0.040	0.013
Std. dev _t	0.091	0.006	0.064	0.623	0.580	0.294	0.372	0.083	0.458	0.000	0.752
Std. dev _{t-1}	0.448	0.049	0.811	0.234	0.583	0.653	0.870	0.032	0.211	0.023	0.091
Std. dev _{t-2}	0.463	0.333	0.862	0.510	0.298	0.017	0.623	0.017	0.021	0.543	0.046

(b) Deciles: Std. dev_t as the dependent variable

	Decile										All
	1	2	3	4	5	6	7	8	9	10	
Log(holding _t)	0.049	0.830	0.767	0.686	0.535	0.001	0.325	0.165	0.696	0.003	0.540
Log(holding _{t-1})	0.079	0.923	0.663	0.097	0.944	0.012	0.235	0.282	0.024	0.000	0.001
Log(holding _{t-2})	0.778	0.790	0.037	0.677	0.669	0.147	0.229	0.193	0.158	0.018	0.653
Log(market cap _t)	0.028	0.950	0.793	0.304	0.464	0.127	0.670	0.915	0.090	0.000	0.382
Log(market cap _{t-1})	0.618	0.085	0.721	0.799	0.556	0.141	0.820	0.423	0.397	0.340	0.880
Log(market cap _{t-2})	0.713	0.848	0.027	0.514	0.886	0.028	0.538	0.215	0.010	0.054	0.709
Std. dev _{t-1}	0.630	0.044	0.867	0.419	0.007	0.364	0.642	0.570	0.844	0.376	0.674
Std. dev _{t-2}	0.608	0.608	0.242	0.150	0.119	0.808	0.425	0.016	0.518	0.683	0.203

Table 7 Arellano-Bond regressions for AFP stock holdings and return volatility: Industrial sector

(a) Deciles: Log(holding_t) as the dependent variable

	Decile										All
	1	2	3	4	5	6	7	8	9	10	
Log(holding _{t-1})	0.882	0.345	0.224	0.485	0.079	0.169	0.004	0.010	0.019	0.000	0.625
Log(holding _{t-2})	0.123	0.469	0.604	0.916	0.090	0.436	0.025	0.047	0.809	0.057	0.336
Log(market cap _t)	0.000	0.000	0.000	0.000	0.767	0.000	0.000	0.000	0.000	0.000	0.000
Log(market cap _{t-1})	0.960	0.961	0.547	0.529	0.393	0.474	0.428	0.749	0.185	0.006	0.175
Log(market cap _{t-2})	0.174	0.227	0.795	0.106	0.032	0.920	0.022	0.285	0.799	0.024	0.070
Std. dev _t	0.829	0.887	0.350	0.415	0.012	0.767	0.014	0.905	0.726	0.011	0.123
Std. dev _{t-1}	0.100	0.264	0.342	0.695	0.253	0.854	0.791	0.193	0.120	0.244	0.971
Std. dev _{t-2}	0.583	0.984	0.693	0.526	0.096	0.912	0.566	0.636	0.835	0.394	0.028

(b) Deciles: Std. dev_t as the dependent variable

	Decile										All
	1	2	3	4	5	6	7	8	9	10	
Log(holding _t)	0.184	0.382	0.614	0.284	0.665	0.154	0.027	0.961	0.665	0.186	0.883
Log(holding _{t-1})	0.870	0.227	0.987	0.104	0.703	0.986	0.654	0.080	0.001	0.712	0.175
Log(holding _{t-2})	0.495	0.781	0.240	0.726	0.606	0.740	0.854	0.304	0.823	0.146	0.440
Log(market cap _t)	0.089	0.913	0.657	0.188	0.422	0.246	0.885	0.499	0.656	0.820	0.846
Log(market cap _{t-1})	0.648	0.840	0.295	0.980	0.301	0.630	0.868	0.551	0.841	0.002	0.537
Log(market cap _{t-2})	0.608	0.876	0.367	0.234	0.557	0.847	0.875	0.478	0.203	0.615	0.614
Std. dev _{t-1}	0.209	0.078	0.981	0.260	0.932	0.558	0.336	0.695	0.377	0.413	0.179
Std. dev _{t-2}	0.940	0.733	0.895	0.541	0.365	0.519	0.744	0.294	0.210	0.164	0.930

Table 8 Arellano-Bond regressions for AFP stock holdings and return volatility: Services

(a) Deciles: Log(holding_t) as the dependent variable

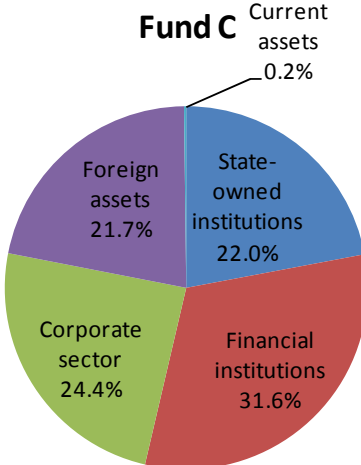
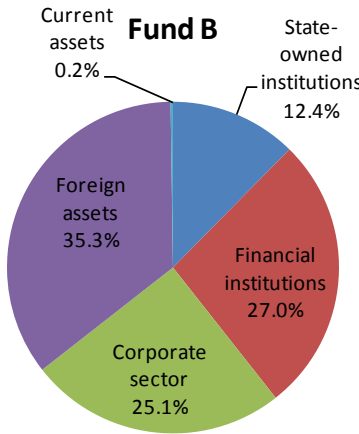
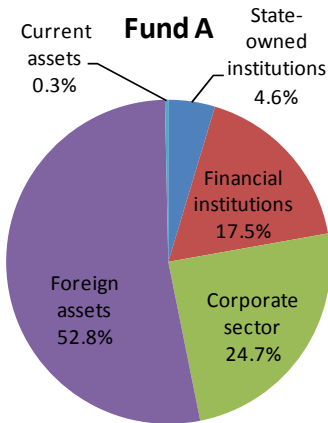
	Decile										All
	1	2	3	4	5	6	7	8	9	10	
Log(holding _{t-1})	0.442	0.000	0.199	0.209	0.831	0.324	0.157	0.959	0.760	0.000	0.545
Log(holding _{t-2})	0.409	0.573	0.000	0.054	0.079	0.455	0.030	0.569	0.830	0.023	0.244
Log(market cap _t)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Log(market cap _{t-1})	0.186	0.598	0.160	0.655	0.642	0.453	0.089	0.703	0.588	0.289	0.873
Log(market cap _{t-2})	0.536	0.313	0.209	0.491	0.650	0.505	0.000	0.985	0.527	0.031	0.000
Std. dev _t	0.603	0.980	0.975	0.942	0.769	0.893	0.634	0.078	0.004	0.026	0.723
Std. dev _{t-1}	0.012	0.210	0.238	0.097	0.836	0.055	0.464	0.981	0.796	0.914	0.002
Std. dev _{t-2}	0.050	0.703	0.390	0.525	0.063	0.330	0.118	0.199	0.048	0.329	0.194

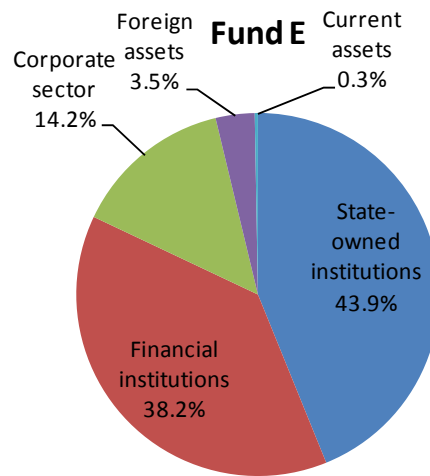
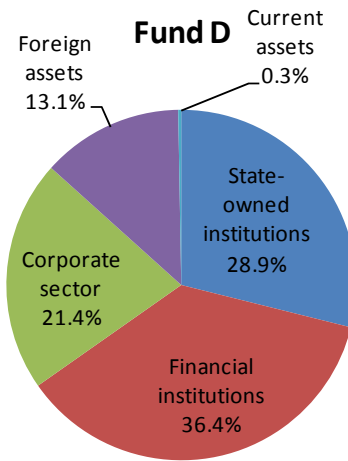
(b) Deciles: Std. dev_t as the dependent variable

	Decile										All
	1	2	3	4	5	6	7	8	9	10	
Log(holding _t)	0.017	0.400	0.435	0.836	0.991	0.030	0.628	0.885	0.008	0.033	0.718
Log(holding _{t-1})	0.181	0.832	0.791	0.346	0.084	0.572	0.105	0.041	0.000	0.043	0.003
Log(holding _{t-2})	0.444	0.907	0.157	0.285	0.413	0.440	0.747	0.850	0.101	0.489	0.746
Log(market cap _t)	0.032	0.433	0.846	0.638	0.288	0.429	0.055	0.723	0.112	0.031	0.141
Log(market cap _{t-1})	0.897	0.593	0.453	0.663	0.049	0.772	0.238	0.306	0.299	0.408	0.396
Log(market cap _{t-2})	0.357	0.854	0.873	0.947	0.710	0.033	0.450	0.792	0.138	0.628	0.638
Std. dev _{t-1}	0.117	0.059	0.800	0.594	0.819	0.522	0.087	0.149	0.407	0.644	0.218
Std. dev _{t-2}	0.173	0.194	0.448	0.092	0.158	0.878	0.122	0.908	0.222	0.915	0.232

Figure 1

Average portfolio investment by fund type: May 2001-June 2008

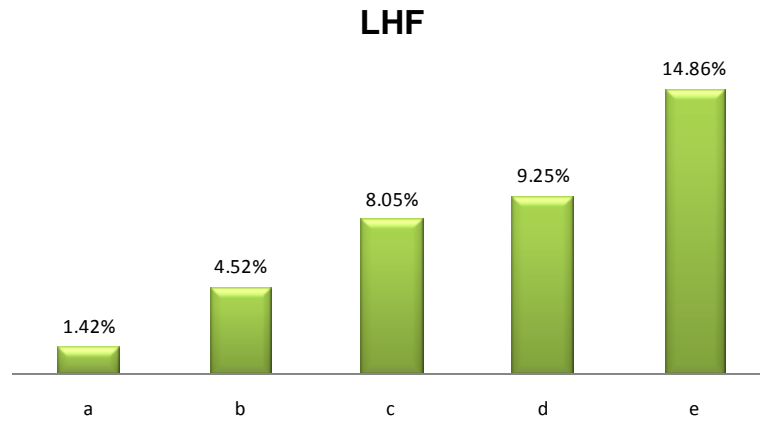




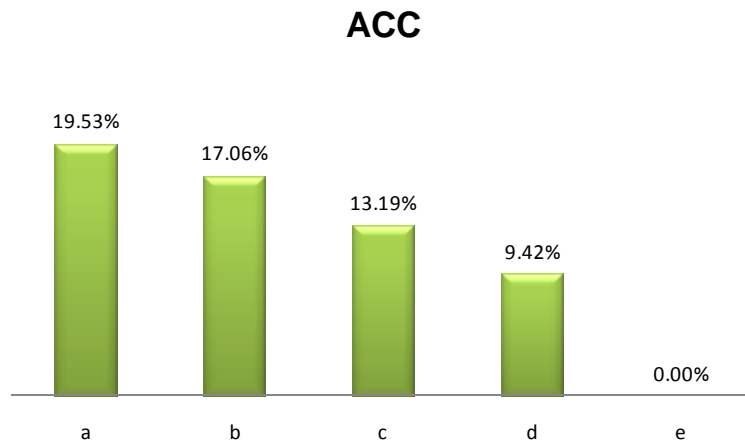
Note: Funds A, B, and D: average figures over September 2002-June 2008; Funds C and E: average figures over May 2001-June 2008.

Figure 2 Average percentage share of selected financial instruments by fund type: May 2001-June 2008

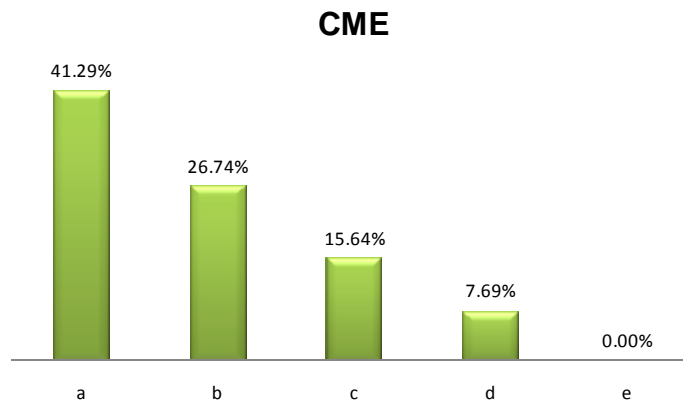
(a) Mortgage-backed securities (LHF)



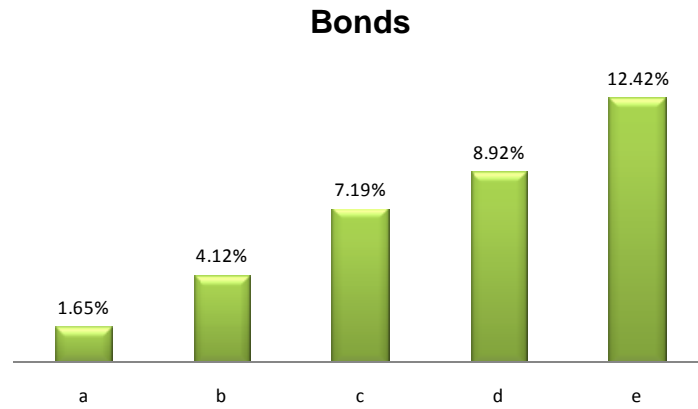
(b) Corporate stocks (ACC)



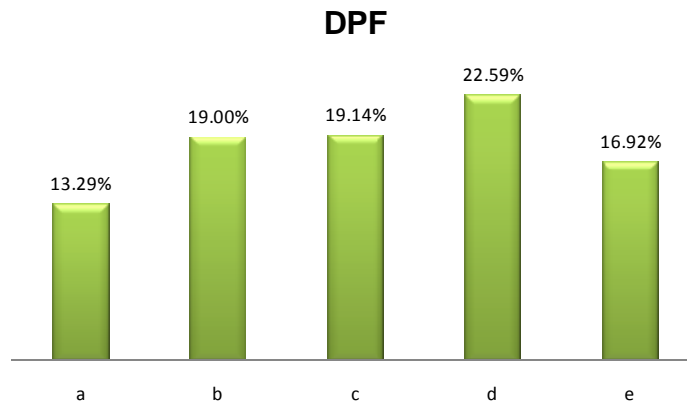
(c) Mutual fund shares issued by foreign institutions (CME)



(d) Bonds issued by domestic corporate and state-owned institutions



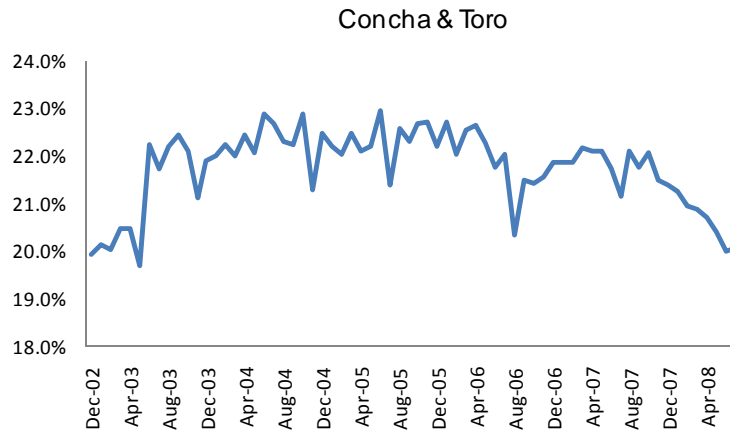
(e) Commercial bank deposits (DPF)



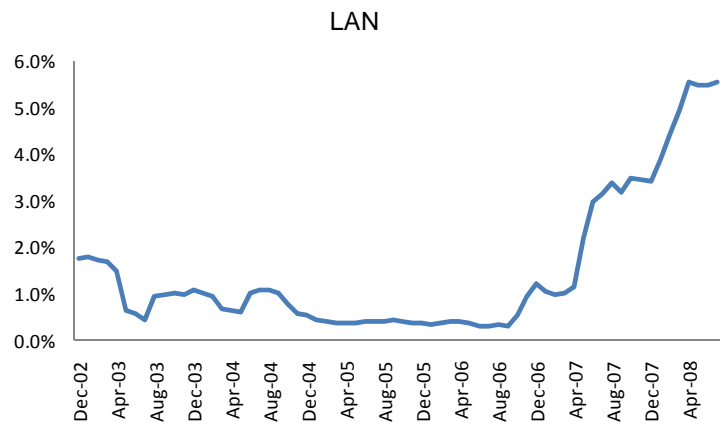
Notes: (1) Funds A, B, and D: average figures over September 2002-June 2008; Funds C and E: average figures over May 2001-June 2008. (2) The acronyms of the financial instruments in panels (a)-(c) and (e) correspond with those utilized by the SAFP.

Figure 3 Evolution of Pension funds' firm ownership

(a)



(b)



(c)

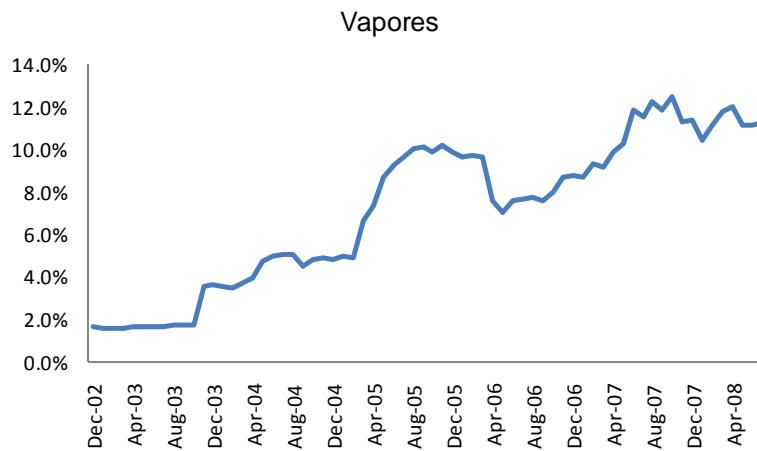
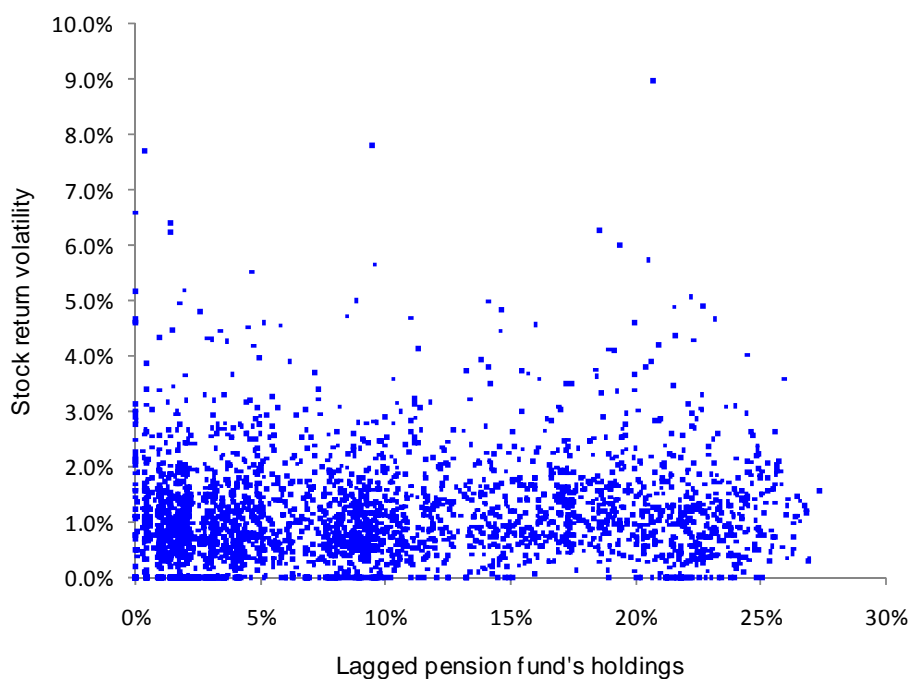


Figure 4 Stock return volatility and pension funds' holdings



Endnotes

ⁱ A fiduciary is defined as a person who holds assets in trust for a beneficiary (www.wordreference.com)

ⁱⁱ Some of these explanatory variables were used in a previous study by Del Guercio (1996), who investigated the effect on prudent-man laws on the behavior of institutional investors. She concluded that banks managers choose the composition of their portfolio in such a way that stocks which are viewed as prudent and high-quality by courts received a much greater weight. The opposite was empirically observed for mutual funds. Del Guercio points out that this finding could explain why banks and mutual funds portfolios have performed differently over time. In addition, she found that banks' tilting toward S&P highly-ranked stocks translated into a higher demand for large-capitalization and low book-to-market ratio stocks. Such finding could be a driving force behind the role of firm size and the book-to-market ratio as risk factors, in addition to beta.

ⁱⁱⁱ Some weak evidence in favor of an inverse association between the two variables is reported in Table 5 of their article.

^{iv} Currently, *Instituto de Prevision Social*, IPS (i.e., Institute of Social Security).

^v Economatica is a subscription-based service that includes information on publicly traded companies in the United States, Brazil, Argentina, Chile, Mexico, Peru, Colombia, and Venezuela (www.economatica.com).

^{vi} LAD is more robust than OLS in the presence of outliers.

Credit quality and economic development in China

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Abstract

China's economy has had significant growth rates in recent years: the banking system has been the main source of financing this process.

From a space viewpoint, the economic organization of China is described as a de facto federalism, in which each region can be considered as an autonomous economic entity: in China 59.7% of gross domestic product (GDP) is produced in the Eastern region, 23.2% is due to the Central region and 17.1% in the Western region.

There are significant differences also in the contribution of different sectors to national economic growth (tertiary sector accounts for 40% of GDP).

The aim of this research is to investigate the relationship between Chinese economic growth and bank loans, by regions and sectors, from 2003 to 2009.

The assumption is that the distribution and the quality of loans by banking system reflect the differences in development by regions and sectors in China.

In literature, the main contributions about the link between enterprises and banking system pay particular attention to the transformation of China since the '70s and the gradual systematic and institutional change from planned economy to market economy.

The methodology adopted is a linear regression analysis. Following the voluminous literature on economic growth, we make use of: as dependent variable, per capita gross domestic product; as independent variables, the ratio between loans and population, the ratio between the number of graduates in Regular Senior Secondary Schools and population. Besides, with the aim to consider the impact of credit quality on economic growth, we include in the set of independent variables even the ratio between non performing loans on total loans. Finally, to evaluate the phenomenon over time, we also introduced some dummy variables. All variables are on a provincial basis.

Data will be from National Supervisors and Bureau of Statistics publications.

Introduction

During a shutdown period for economic development and a global financial crisis, which was considered more serious than the crisis of 1929, China has continued to grow at rates of 9.5%, despite many internal contradictions and a financial system that, only recently, has undergone structural and regulatory changes.

The aim of this research is to investigate the relationship between Chinese economic growth and bank loans, by regions and sectors, during the period 2006-2008ⁱ. The economic growth experienced by China in recent years has affected all the three regions of the country, although the eastern one has grown at a rate much above the others. There are significant differences also in the contribution of the three economic sectors to national economic growth: the most productive economic sector is the secondary one, even if, all sectors contribute in supporting economic growth with an increasing level of productivity. The contextual assessment of the amount of loans granted by banking intermediaries shows, however, a greater weight of credit to the tertiary sector and to the eastern region. The quality of credit granted is improved in the last three years: the percentage of non-performing loans on total loans shows a significant reduction, in accordance with the policies of the Chinese Government. The assumption is that the distribution and the quality of loans by banking system reflect the differences in development by regions and sectors in China. So, we analyze the influence of bank loans on the formation of gross national product in the thirty-one Chinese provinces. In particular, we focused on credit quality, in terms of non-performing loans, assuming that,

in normal conditions of economic growth, if the level of non-performing loans is higher, than banks will be less willing to make new loans and this could impact on economic growth. However, in the case of China, which has a very high growth rate, it is reasonable to expect that the support to the country's economic growth by the banking system takes place through the granting of more loans that will be physiologically associated with even higher levels of risk. We also introduce a second variable: the level of education, because we believe that, in presence of higher levels of education, the degree of entrepreneurship and, therefore, the demand for credit and the local gross product increase.

The work is organized as follows: the next paragraph gives a brief account of the literature; then, the following paragraph is devoted to empirical verification. The last paragraph contains, finally, some reflections based on evidences obtained from research.

Literature review

It's possible to ideally divide into two periods the history of the economic development in China: a first phase, until the early '70s, marked by a so-called "*forced growth*"ⁱⁱ, in line with the dictates of Maoist economic conception (Kornai 1972), and a second phase, called "*export and investment – led*" (Charles & Karouni 2008), which began at the end of the '70s and still in progress.

In literature, the main contributions analyze the link between enterprises and banking system, with particular attention to the transformation of China since the '70s and the gradual systematic and institutional change (Charles & Karouni 2008) from planned economy to market economy (Chiarlone & Amighini 2007).

As an alternative to the interpretative key of the economic development strategy of China represented by the "*export and investment – led*", it was identified an approach of financial growth.

The role of financial institutions in China has proven difficult to assess. Checks on China were conducted using two main approaches: through the analysis of the causal relationship between finance and developmentⁱ and through cross-section surveys (Sanacuore 2008). Studies related to the first approach were on the basis of financial deepening indicators or using so-called "unconventional" approach, which pay attention to political and cultural factors (Iannini 2008). The cross-sectional surveys have, instead, based on the assumption that the economic organization of China, from a space viewpoint, is described as a *de facto* federalism, in which each region can be considered as an autonomous economic entity (Boyreau-Debray 2003). The finance-development nexus testing has led, in most cases, to conclude that China is a "counterexample" to evidences of substantial literature on the topic: despite the inadequate financial system and regulatory framework, in fact, China economic growth size is surprising (Allen 2005)ⁱⁱⁱ. Xiaoqiang Cheng & Degryse (2007), employing data for 27 Chinese provinces over the period 1995–2003, argue that banks have had a larger impact than non-banks on local economic growth as they benefited earlier and more profoundly from China's financial reforms than their non-bank counterparts. Some observers contend the Chinese legal system and formal financial sector are too weak to enforce sound governance, so the nexus of law, finance, and growth cannot hold (e.g. Allen, Qian & Qian 2005; Boyreau-Debray 2003). Others propose that banks in China, despite their relative weakness, contribute to growth (e.g. Hasan, Wachtel & Zhou 2006; Ayyagari, Demirgüç-Kunt & Maksimovic 2007): Liu & Li (2001) find that growth of provincial aggregate output is positively related to the growth in lending of the largest banks and self-raised funds; Baizhu Chen & Phillips (2004) find that provinces with more bank deposit to gross domestic product (hereinafter GDP) ratios tend to experience higher economic growth. The ownership structure of the banking system is one of the central elements in the relationship between banks and economic development in China. Through a soft control on state banks, China has been successful in financing public owned company, avoiding the collapse of many industries, with implications, however, adverse to the quality of loans (Boyreau-Debray 2003; Iannini 2008). The empirical results suggest that the credit disbursed by banking sector to the public one had a negative impact on economic growth, attributable to the obligation to support state-matrix enterprises, characterized by low profile of efficiency and

productivity (e.g. Firth, Lin Chen & Wong 2008; Phillips & Kunrong 2005). About the critical factors that affect the quality of financial intermediation, Démurger, Sachs, Woo, Bao, Chang & Mellinger (2003) and Iannini (2008) analyze the state of banking and financial regulatory systems, still far from the standards of advanced countries and the destination of flows from banking sector, markedly influenced by government authorities.

Although some authors question about the applicability of the concept of allocative efficiency in a transition country (Maswana 2005), there is no doubt that the privileged destination of bank credit to finance public companies has influenced the role of banking sector in supporting Chinese economic growth, as to bringing it closer to a political function (Iannini 2008). The braking effect of granting credit to public enterprises is also confirmed by cross-section investigations (Boyreau-Debray 2003).

At present, the banking system is the main source of financing in China (Ferri & Chiarlone 2007; Tong Li 2008), partly due to the limited development of alternative solutions (Hansakul 2006): the liquidity of the system and, therefore, the availability of resources to be allocated to credit, however, are assured by high levels of domestic savings, not pursued through an efficient management of intermediaries. The size of bank credit could become an endogenous source of weakness for the country (Moreno 2002): a structure of companies' accounts affected by the weight of financial costs and, on the other hand, banks' exposure to them could, in fact, trigger dangerous phenomena of "credit crunch" (Iannini 2008).

Following the studies focusing on the relationship between economic growth and banking sector in China, this paper is to address the topic on a regional and sectoral level.

Empirical analysis

The empirical analysis is divided into two parts: the first one, using a multivariate linear regression, looks at the influence on GDP exerted by the quantity and quality of bank loans and by the educational level of the population for the thirty-one Chinese provinces, during the three years from 2006 to 2008; the second one presents a descriptive analysis of the contribution of the three economic sectors to GDP formation.

Data and description of variables

The main purpose of our empirical research is to investigate whether the level of financial sector development and education influence the economic growth in China's regions.

Following the voluminous literature on economic growth, we make use of: as indicator of economic growth, per capita GDP in every province (gdp); as indicator of financial sector development, the ratio between loans and population per province (loans); as measure of the influence of human capital on growth we use the ratio between the number of graduates in Regular Senior Secondary Schools and population by province (scol). Besides, with the aim to consider the impact of credit quality on economic growth, we include even the ratio between non performing loans on total loans by province (npls).

The analysis refers to 31 China's administrative provinces for the period 2006-2008. The data is compiled from the China Statistical Year Book (2007-2009) and China Banking Regulatory Commission Annual Report (2007-2009). All monetary values are considered at current prices.

Model specification

This section presents the specification of our empirical model.

The equation of linear multiple regression is as follows:

$$\mathbf{y} = \alpha + \beta_i \mathbf{X}_i + \varepsilon \quad (1)$$

Where \mathbf{y} represents per capita gdp for each province, and \mathbf{X} is the vector of independent variables, in which we introduced two dummy variables (d2007; d2006), with the aim to analyze the phenomenon in three years:

- $x_1 = loans = \text{total loans/population}$;
- $x_2 = scol = \text{graduated in regular senior secondary school/population}$;
- $x_3 = npls = \text{non performing loans/total loans}$;
- $x_4 = d2007 = \text{dummy variable} = 1 \text{ if year} = 2007, \text{ else} = 0$;
- $x_5 = d2006 = \text{dummy variable} = 1 \text{ if year} = 2006, \text{ else} = 0$.

Table 1 presents summary statistics of the variables used in this paper. N refers to province-year observations, 31 administrative provinces (3 regions) during the period 2006-2008. gdp is expressed in thousands Rmb^{iv} per capita gdp per province; loans are in thousands Rmb per capita loans per province; scol is in thousands persons per province; finally, npls are in percentages of loans. The explanatory variables show a great deal of variation; the range indicates that there are some outliers (Beijing, Shanghai). However, in our opinion, these provinces are so important to the Chinese economy that cannot be excluded from the analysis. Table 1 shows a consistent difference among provinces, in terms of contribution of different provinces to national economic growth, and also in terms of education and dynamics of bank loans.

TABLE 1: SIMPLE STATISTICS

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
gdp	93	22.13876	13.91061	2059	6.07370	72.53609
loans	93	16.27639	19.52517	1514	0.05516	93.14954
scol	93	597.45987	154.55867	55564	284.80036	1600
npls	93	0.16397	0.83587	15.24930	0.01070	8.12000

Table 2 indicates a strong correlation between gdp and loans, while the correlation between gdp and scol is modest; npls is negatively correlated with gdp but, also in this case, the value is low. This fact means that, when non-performing loans increase, then GDP decreased (albeit modestly). This behaviour is contrary to our expectations for a country with a growth as high as China. However, it should be noted that the country has undergone a major redevelopment of credit due to the high level of non-performing loans in banks' balance sheets. Therefore, this correlation is probably more the result of government policy than the actual degree of risk aversion/attitude by banking system. The independent variables are poorly correlated among themselves.

TABLE 2: CORRELATION MATRIX

Pearson Correlation Coefficients, N = 93; Prob > r under H0: Rho=0							
	gdp	loans	scol	npls	year	d2007	d2006
gdp	1.00000						
loans	0.90764	1.00000					
	<.0001						
scol	0.09186	-0.09593	1.00000				
	0.3812	0.3603					
npls	-0.12156	-0.11392	-0.12769	1.00000			
	0.2457	0.2769	0.2225				
year	0.22481	0.02540	0.26647	-0.16295	1.00000		
	0.0303	0.8091	0.0098	0.1186			

Our model presents an R-square of 0.8823 and an Adjusted R-square of 0.8756 (Table 3); the F-test is significant. Overall, the model results are in line with our expectations. Parameter estimates present positive values for all variables, excluding for the two dummies which, in line with expectations, have negative values: this means that going forward over the years the GDP grows (Table 4). Even the coefficient for npls is positive, according with our

expectations, but the t-value is not significant. For this reason, we built the model also without the variable npls: the results show a slight decrease of R-square (0.8815) and a simultaneous slight increase of R-adjusted (0.8761), so we can conclude that the variable in question does not help to explain the model (Table 5 and 6).

TABLE 3: THE REG PROCEDURE (including npls variable)

Dependent Variable: gdp; Number of Observations 93					
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	15708	3141.50402	130.46	<.0001
Error	87	2094.95886	24.07999		
Corrected Total	92	17802			
Root MSE	4.90714		R-Square	0.8823	
Dependent Mean	22.13876		Adj R-Sq	0.8756	
Coeff Var	22.16536				

TABLE 4: PARAMETER ESTIMATES

Variable	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	6.68139	2.51991	2.65	0.0095
loans	0.65563	0.02658	24.67	<.0001
scol	0.01251	0.00347	3.60	0.0005
npls	0.48437	0.62862	0.77	0.4431
d2007	-2.57689	1.26443	-2.04	0.0446
d2006	-5.73211	1.30596	-4.39	<.0001

TABLE 5: THE REG PROCEDURE (excluding npls variable)

Dependent Variable: gdp; Number of Observations 93					
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	15693	3923.30593	163.68	<.0001
Error	88	2109.25527	23.96881		
Corrected Total	92	17802			
Root MSE	4.89580		R-Square	0.8815	
Dependent Mean	22.13876		Adj R-Sq	0.8761	
Coeff Var	22.11413				

TABLE 6: PARAMETER ESTIMATES

Variable	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	6.91959	2.49509	2.77	0.0068
loans	0.65309	0.02631	24.82	<.0001
scol	0.01224	0.00345	3.55	0.0006
d2007	-2.56222	1.26136	-2.03	0.0452
d2006	-5.60226	1.29205	-4.34	<.0001

The second part of this work takes into account data on the contribution of primary, secondary and tertiary sectors of economy to the formation of gross domestic product, in every province of China. The analysis is conducted using descriptive assessments, because the number of observations does not permit application of regression analysis, as in the previous case.

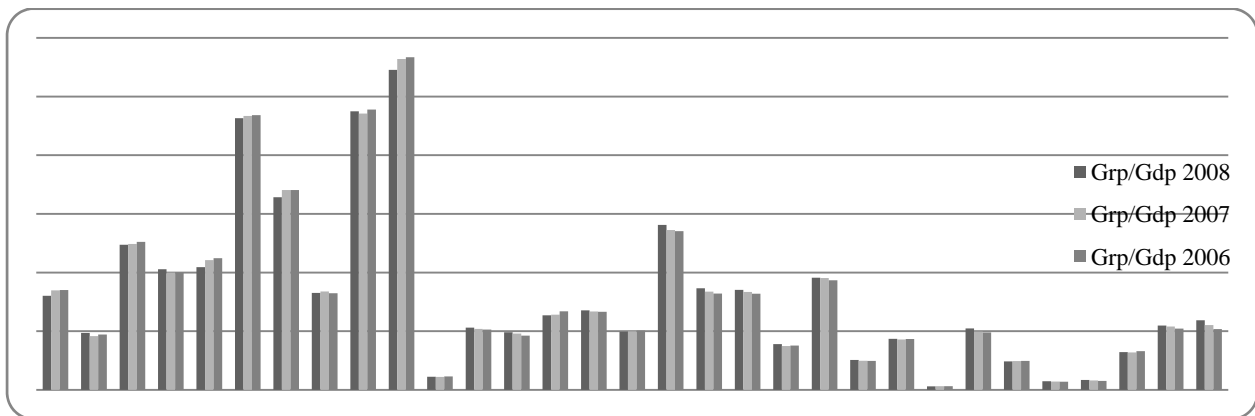
Graph 1 shows the percentages of gross regional product for each province (hereinafter: grp) on Chinese gross domestic product during the period 2006-2008. The Eastern region has the greatest impact on GDP in all the

three years. The most productive provinces are Guangdong, Shandong and Jiangsu. Provinces such as Beijing and Shanghai have a lower impact than expected: such data may be justified by the local presence of legal and administrative headquarters of many companies, whose manufacturing plant are located in other provinces. Less productive provinces are located in Western China: Tibet, Qinghai, Ningxia. These provinces are characterized by socio-political tensions or they are prevalently mountainous provinces inhabited by ethnic minorities and with an economy mainly based on agriculture.

Graph 2 points out that the distribution of gross regional product among the three strata of industries^v remains essentially stable for the three years in every region; this fact applies, in particular, to the secondary and tertiary sectors, while the primary sector follows a more different pattern across the regions: in the Eastern region, it increased in 2008, while it recorded a decrease in the Western region in the same year.

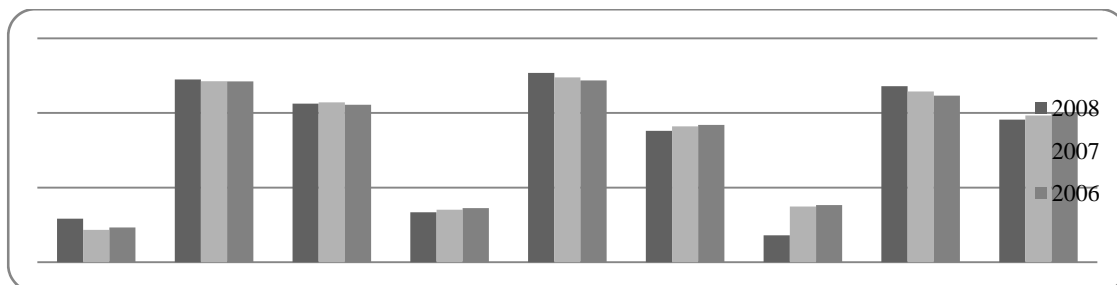
Table 7 presents summary statistics on grp by sectors during the period 2006-2008. The first column, for any year, shows that, on average, each province is eligible for the production of GDP to 3.23%, but with significant differences in every province, as shown by the minimum and maximum values (0.12 % and 10.91% in 2008); the standard deviation, in fact, has a value ranging between 2.71% and 2.78% in three years. This trend is confirmed in all the three years. The analysis by sector shows the contribution of each economic sector to the production of GDP by province: the greatest contribution, on average, is provided by the secondary sector, which is increased in the three years, while the primary and tertiary sectors reduced their contribution in three years (in average, by province).

GRAPH 1: PERCENTAGES OF GRP ON GDP, 2006-2008



Source: Our elaborations on data by National Bureau of Statistics of China.

GRAPH 2: CONTRIBUTION OF ECONOMIC SECTORS TO GRP FORMATION, 2006-2008



Source: Our elaborations on data by National Bureau of Statistics of China.

TABLE 7: SUMMARY STATISTICS ON GRP BY SECTOR, 2006-2008

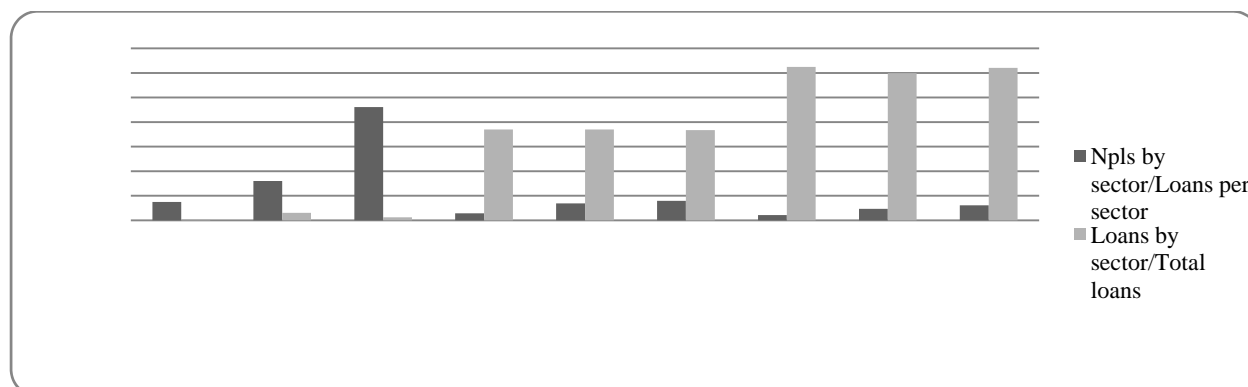
	2008				2007				2006			
	Grp/GDP	PI/Grp	SI/Grp	TI/Grp	Grp/GDP	PI/Grp	SI/Grp	TI/Grp	Grp/GDP	PI/Grp	SI/Grp	TI/Grp
Mean	3,23%	10,38%	48,73%	38,96%	3,23%	12,48%	47,69%	39,82%	3,23%	12,98%	47,06%	39,97%
Min	0,12%	0,58%	25,68%	28,63%	0,12%	0,84%	26,83%	30,05%	0,13%	0,90%	27,34%	29,78%
Max	10,91%	28,63%	61,48%	73,25%	11,28%	29,52%	59,98%	72,09%	11,34%	32,72%	57,83%	70,91%
StDev	2,71%	7,82%	8,61%	8,47%	2,76%	6,21%	8,14%	7,88%	2,78%	6,49%	8,27%	7,54%

Source: Our elaborations on data by National Bureau of Statistics of China.

Graph 3 shows the level of loans by economic sector in relation to total loans and the proportion of non performing loans to total loans by economic sector. It is clear that, in this case, although in all economic sectors non-performing loans have declined over the three years, the primary sector has the highest level of non-performing loans and it is also the sector that, in all three geographic regions, contributes less to the production of grp.

The tertiary sector has a higher level of loans and a lower rate of non-performing loans compared to the secondary one, but contributes less to the formation of grp. This could be explained by the ability of Chinese companies to finance themselves, mainly through exports.

GRAPH 3: LOANS AND NON-PERFORMING LOANS BY SECTOR, 2006-2008



Source: Our elaborations on data by China Banking Regulatory Commission.

Conclusion

In this paper we analyze the influence of bank loans and educational level on the formation of gross national product, distinguishing the analysis among the different administrative provinces of China. In particular, for bank loans we focused on credit quality, in terms of npls, assuming that, in the case of China, which has a very high growth rate, it is reasonable to expect that the support to the country's economic growth by the banking system takes place through the granting of more loans that will be physiologically associated with even higher levels of risk. The idea behind the introduction of a variable on the level of education, instead, is that in presence of higher levels of education also the degree of entrepreneurship increases. The statistical model shows good overall results and the analysis of individual parameters meets our expectations, with the exception of the variable npls, that doesn't help to explain the phenomenon. Regression analysis performed on provincial data confirm our expectations with regard to credit quality, but it demonstrates that the quality of bank credit is not a significant variable in explaining the

evolution of GDP, while the amount of credit and the educational level are statistically significant. A possible explanation could be found in the long-established presence of non-performing loans in Chinese economy, mainly because of the widespread practice among banks to extend credit to public enterprises without adequate analysis of creditworthiness. Recently, in addition, government policies have facilitated the reduction of non-performing loans. These two factors may have influenced banks' behaviour and, accordingly, the results of the survey. Possible further research could, therefore, consider the years to come: it is plausible that the weight of bad loans will be and the consideration, that intermediaries will have of them, will increase. Besides, the relationship between the variables could also be tested in other countries.

The second part of this work takes into account data on the contribution of primary, secondary and tertiary sectors of economy to the formation of gross domestic product, in every province of China. The distribution of gross regional product among the three strata of industries remains essentially stable for the three years in every region; this fact applies, in particular, to the secondary and tertiary sectors, while the primary sector follows a more different pattern across the regions. The primary sector has the highest level of non-performing loans and it is also the sector that, in all three geographic regions, contributes less to the production of grp. The tertiary sector has a higher level of loans and a lower rate of non-performing loans compared to the secondary one, but it contributes a little bit less to the formation of grp. This could be explained by the ability of Chinese companies to finance themselves, mainly through exports.

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ⁱ In the first phase of this research, we decided to analyze a longer time period 2003-2009; however, due to the lack of some data, (particularly data of loans per provinces), we have fallen back on a shorter period, 2006-2008; besides, data for 2009 gross national product will be available by local authorities only since the spring of 2011: for that reason, this analysis will be subsequently updated. Finally, the statistical model chosen, in which two dummy variables were introduced to take into account the years, it would be overly complex without great advantages in terms of statistical significance.

ⁱⁱ The concept of "forced growth" is linked to that one of sacrifice, as a conscious renouncing a certain level of consumption in order to reap benefits for the future. Sacrificing consumption, in fact, it would be possible to increase profitable investments and thus support growth in the future.

ⁱⁱⁱ There were, however, appropriate specifications of this general result: Allen (2005) distinguishes players of Chinese economy among state-owned enterprises, listed companies and private sector, noting that while the finance-growth nexus would be checked for state-owned enterprises and listed companies, it doesn't remain valid for the private sector.

^{iv} It is the national currency of China.

^v In Graph 2, *PI/grp* stays for: Gross Regional Product from Primary Industry/Total Gross Regional Product; *SI/grp* stays for: Gross Regional Product from Secondary Industry/Total Gross Regional Product; *TI/grp* stays for: Gross Regional Product from Tertiary Industry/Total Gross Regional Product.

Differentiating Actors from Non-Actors: The Case of Fraudulent Financial Reporting

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We have a passion - make the law
Too false to guide us or control!
And for the law itself we fight
In bitterness of soul.

“And puzzled, blinded thus, we lose
Distinctions that are plain and few:
These find I graven on my heart:
That tells me what to do.

Rob Roy's Grave by William Wordsworth

Abstract

Using Eastern metaphysical concepts as a guide, this study presents a theory for an interpretation of the role of human disposition in fraudulent financial reporting (FFR). The theory proposed has two major components, the TRS framework and the LAG cycle. The TRS framework incorporates constituent qualities of a person which drive behavioral tendencies of the person. The Lust-Anger-Greed (LAG) cycle shows how these tendencies operate, in consonance with an attachment, in an act of fraud. The theory has the potential to provide a holistic understanding FFR as a human act. In a predictive manner, it demonstrates how to differentiate actors (of fraud) from non-actors. The theory presents a systemic understanding of the root drivers of fraud and allows for a re-interpretation of the fraud triangle. To promote further research based on the theory, the study provides a series of propositions and certain potentially relevant measurements.

Introduction

Whereas considerable time and efforts have been devoted to study the two pre-conditions – pressure and opportunities – that could lead to fraudulent financial reporting (FFR), the magnitude of investigation about rationalizations, the third side of the fraud triangle, thus far has been very limited. While the amount of past research efforts have been limited in this area, there is even greater paucity of insightful research outcomes that could lead to further enhancements in both research and practice to mitigate fraud risks. In part, this may be due to not just the paucity of research attempts, but also the locus of research questions, data, and methodology. Compounding the difficulty in breaking new grounds is the absence of an overriding framework of behavioral disposition that could potentially provide a holistic understanding of underlying variables leading to fraudulent acts.

This paper presents a comprehensive attempt to articulate a framework of behavioral disposition, which is then applied to the human act of fraud. We address the ever intriguing question – why ordinary decent human beings commit fraud? – as we propose a theory of human predisposition and its relationship to fraud. This foundational work potentially offers three other benefits. First, a series of testable propositions have been outlined for further work in this area. Because such work will stem from the proposed theory, the collective insights from such efforts will likely lead to a sort of convergence in the comprehension of disposition of actors (of fraud). Second, we attempt to frame selected known findings within the proposed theory, which permits a degree of assimilation and validation of what we already know. Finally, while almost all efforts in the past have focused on the actors and the anatomy of their acts, for a complete understanding of pertinent issues, we need to know the non-actors as well. The efforts to separate past (and potential prospective) actors from the non-actors will allow us to also learn about the characteristics of non-actors. Such knowledge can be helpful in proactive solutions to the ever rising crime of FFR. After all, despite many years of conscious efforts to detect pressure points and plug opportunities, cases of FFR continue. There is every reason to hope that a well-defined framework of behavioral

disposition will lead to new energies and more productive results in our pursuits to find natural and reliable antidotes.

There are reasons to believe that a reconsideration of behavioral disposition at a fundamental level is important. First, while Cressey's (1953) study to find the drivers of financial fraud ultimately led to the development of the fraud triangle, the rationalization dimension of the triangle still remains ambiguous in terms of definition, interpretation, and application. We argue that even the name, rationalization, may be non-descriptive, or at least not helpful, in grasping the total scope of human predisposition. Second, any insights on disposition will likely lead us to interpret more effectively the other two dimensions, pressures and opportunities, for they are impacted by human disposition as well. Third, we postulate that there is an overcrowding of red flags that need to be pruned in order to improve audit efficiency while at the same time improving the odds of detecting fraudulent acts. The theory articulated here could play a significant role in this regard. Finally, only a better comprehension of behavioral predisposition will allow us to improve our understanding of ways in which actors are different from non-actors, or when a non-actor could turn into an actor of fraud. Pressures and opportunities appear inadequate in finding reliable answers to questions concerning FFR.

In this research, we focus on human disposition, its characteristics, and its sources. Using key lessons from Eastern metaphysics, we build a model that sets the foundation for new thinking on FFR, especially in the context of human disposition. Our attempt here is to develop a theory and set out several propositions for consideration for investigation. Toward this aim, we rely mainly on two major threads rooted in Eastern metaphysics, further develop each, and link the two. First, we present in the following section the TRS framework as the basis for classifying human predispositions. We then use the framework to describe how dispositions of actors play a role in FFR. Second, we introduce a model, called the LAG cycle; this model explains why people commit fraudulent acts. Third, the theory is completed by linking evaluative judgments dependent upon human predisposition (drawn from the TRS framework) with the behavior triggered by the LAG cycle.

The TRS Framework

According to Eastern metaphysics, the quality of being drives the psychological action in a human. Broadly interpreted, this is the *shraddha* (faith) that drives a human being to pursuits of his or her choice. In Aurobindo's words (1996, 492), "The soul's faith, not mere intellectual belief, but its concordant will to know, to see, to believe and to do and be according to its vision and knowledge, is that which determines by its knowledge and power the measure of our possibilities of becoming . . ." Once determined by the quality of being, these actions are visible as outer quantitative dispositions of the person. A comprehension of the quality of a being permits an informed interpretation of the person's outer quantitative dispositions, which are based on his *inner* state. As Aurobindo aptly puts it, "It is the inner state, motive or direction which gives their value to our works, and not merely the apparent outer direction, . . . or even the sincere intellectual belief which seems to justify us in the performance" (1996, 486-87). Three dominant inner states are: nescient, or people who suffer from ignorance (inertia) of action and knowledge; subscent, or people who suffer from ignorance (inertia) of knowledge, but not action; and coscient, people free from either type of inertia. Nescients are indolent, subscent are suffering from attachment to yet unprocessed objects of desire, and coscient are active, but non-attached.

Corresponding to the inner states, three dominant types of disposition have been articulated in Eastern metaphysics. These are extensively narrated in the *Bhagavad Gita*¹ and interpreted by many, including Aurobindo (1996), Radhakrishnan (1979), and Tilak (2004). Comparable types also exist in various Eastern religions, including

¹ See chapters and stanzas, 2(45), 3(27-29), 7(12,13), 14(5-25), 16(1-17), 17(2-22), and 18(7-9).

Buddhism, Jainism, and Sikhism.² Identified here in a notational form, T, R, and S represent three dominant psyches of humans.³ Figure 1 presents an overview of the TRS framework.

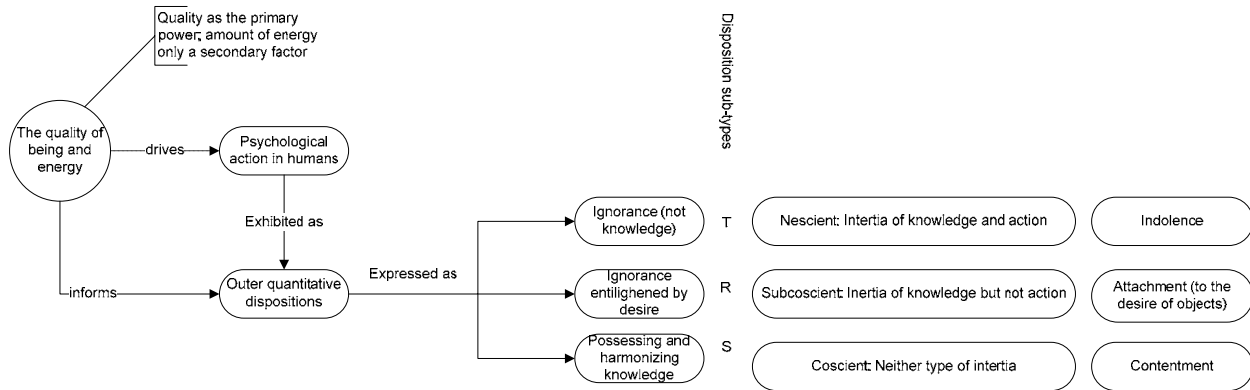


FIGURE 1: AN OVERVIEW OF THE TRS FRAMEWORK

Type T exhibits indolence or inertia. People expressing T tendencies are incapacitated or negligent, and when they work, they are prone to error, inattention, and misunderstanding. Because they have unsteady Reason, they have a tendency to lie or cheat and deprive others of their rights and resources. They can be harmful. Lack of any direction or goal, ignorance, dullness, inactivity, too much sleep – these are some of the signs of T tendencies. A compulsive gambler, an obsessive drinker, and a person who threatens his family – they all exhibit an overwhelming presence of T qualities. Ts are self-destructive. Within the context of the agency theory, in a principal-agent relationship, they undoubtedly are not qualified to serve as an agent. Investors in a company are likely to lose when their CEO’s disposition is of Type T, for the Ts don’t know right from wrong, nor can they act with energy and passion.

Type R exhibits liking and longing, constantly exhibiting desire for unprocessed satisfaction. Action in pursuit of unprocessed satisfaction is a very visible trait of Rs. Passion to seek whatever appeals to them indicates the dominant presence of the constituent quality R. Unrest, fever, excitement – these are all behavioral descriptors of Type R. People expressing R tendencies exhibit a kind of passion that drives them to announce their worldly hopes and dreams and to passionately work toward them. In Jeffery Skilling’s words, “I’ve never been not successful in business or work – ever.”

The type S tendencies bring out the goodness in us. The goal of a Type S person is to search for lasting happiness; they believe in action and equally, they are seekers of knowledge. They exhibit not only contentment resulting from an inner quality of satisfied Will, but also delight and content produced by harmony between the Soul and the surrounding *Matrix*. Being a Big Brother to someone, mentoring a youngster, working in the soup kitchen of a center for the homeless, helping build a home for the Habitat for Humanity – these are all likely expressions of S quality. Other-centered in their focus, Ss seek altruistic motives. They constantly think of their duty toward others. They can be trusted agents of others. Because they are other-centric and outward looking, of the three disposition types, they are the least likely to be the victims of ego attachment. Intuitively, Ss belong to the universe of non-actors.

² Eastern religions focus on defining and guiding a way of living. Toward this purpose, an understanding of one’s predisposition plays a key role.

³ In Sanskrit, the three subtypes are: *Tamsik*, *Rajsik*, and *Sattvik*. Notational symbols T, R, and S represent these subtypes, respectively.

Figure 2 presents the behavior concordant with the disposition of a person. The disposition driven by constituent elements should be recognized as a sphere; each sphere drives the human choice; a complete repertoire of choices one would make in each sphere is not possible to articulate, nor absolutely necessary. Tendencies are more important to recognize; the particular nature of behavior emerging from these tendencies would vary and may at times appear outwardly different depending on the circumstances.

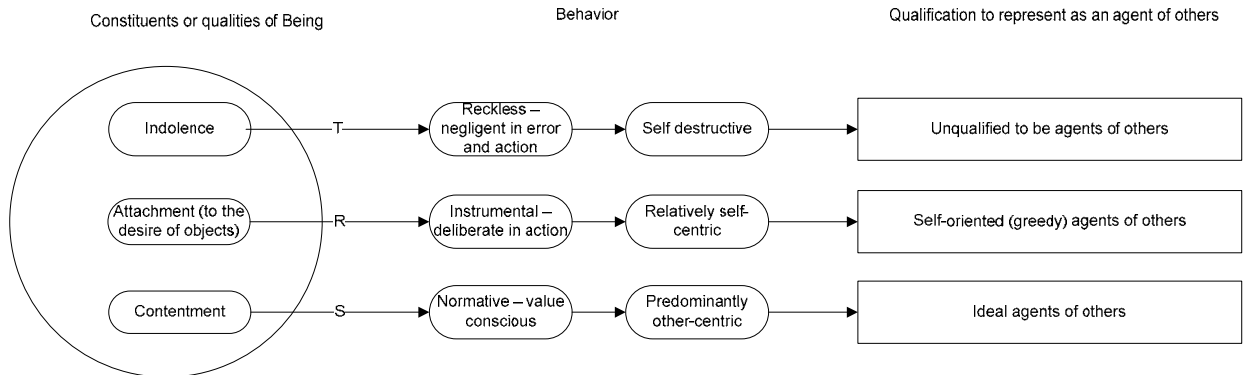


FIGURE 2: DISPOSITION AND BEHAVIOR

Some evidence of the TRS framework surfaces in various other sources as well, although the symbols assigned to the dispositions vary. Rumi, the Thirteenth century Sufi saint and poet, describes three kinds of creatures: the descendants of Adam, beasts, and angels (Baldock, 2006). A combination of intelligence and lust, descendants of Adam are those who struggle between their animal and angelic nature. Attachment to objects of their desire is natural for descendants of Adam. In our classification, they are more like Rs, somewhere between Ts (animal like) and Ss (angelic). Beasts express predominantly Type T tendencies; they are pure lust and lacking in intelligence, like an animal which sees nothing but its stable and fodder. Comparable to Ss are Rumi’s angels, they are pure light and free from lust, so they do not have to struggle with sensual passions.

All humans possess each of the three qualities, although a particular quality is likely to dominate over the others. The three qualities are collectively exhaustive but they coexist in different degrees. The dominant quality governs the person’s behavior or disposition. For example, a nutritious drink (fresh milk) is the likely preference of Ss, while Ts may tend to choose curded or stale milk; in the middle are Rs who prefer a tasty variation of a nutritional ingredient (say, ice cream or hot chocolate instead of pure milk) to factor in the passion for food. It is quite possible that S tendencies may make you want to help at a center for the homeless, while Rs go to a theme park, and Ts become the couch-potatoes watching MTV in the dark basement of their home. Bumper stickers on cars provide good material to understand people’s tendencies. A Type S will stick up “Donate blood,” while Rs would announce that their son or daughter is an honor student at a local school, and Type T would simply say, “_ _ _ happens” (expletives deleted). Although the examples offered here are at the material level, the dominating constituent quality determines not just the physical, but also mental, intellectual, and moral development of the person. Our constituent qualities expressed in terms of our disposition have a lot to do with the quality of life – both private and work-life -- we weave.

In sum, intrinsic to a person’s choices is the person’s disposition. There is an evaluative dimension implicit in the human disposition, leading to the quality of choices we make. Table 1 presents a summary of the three dispositions

TABLE 1: A SUMMARY OF TYPES OF DISPOSITION

Disposition sub-type	Broad parameters	Specific behaviors (flags)
Type T	Inertia of knowledge and action; ignorance; recklessness	Careless, perfunctory, wholly self-regarding
Type R	Inertia of knowledge, but not of action; ostentation; ego; pride; passion; desire for outcomes and rewards	A strong lust after the fruit of action. A vehement demand for the reward of one's work. Violent or egoistic personal desire.
Type S	No inertia of knowledge or action; principled-behavior	Best efforts without counting on the desired outcome. Transparent. Equable under all conditions.

The dispositions described here are not totally disconnected from each other, but rather form a continuum of three spheres, each representing its own dominant tendencies. At one end is the Type T, in the middle is the Type R, and Type S takes the other end. Put differently, the continuum suggests indolent or slothful (Ts), self-centric (Rs), and non-attached(Ss) behavior, respectively. This can be seen as stages of development of a being, first improving on the inertia of action, followed by the rise to neither type of inertia (action or knowledge).

Business Executive's Disposition

The CEO is probably the most influential leader in the life of an organization. The organization mirrors in many ways the disposition of the chief executive, for example, in the culture of the company. Thus, it seems reasonable to postulate that the constituent qualities of the CEO and the resulting behaviors transcend the company she leads. Presumably, most business executives are Type R; if so, it is likely that the leader's behavior and in accordance with it, the behavior of the organization he leads can be expected to be passionate, goal directed, and results focused. It is highly unlikely, although possible, that the chief executive of a successful company is Type T, indolent suffering from inertia of action and knowledge, or Type S, an other-centric person.

P 1:*Disposition of business executives is dominated by the constituent quality R.*

The COSO (1999) Fraud Study found that in 83 percent of frauds examined, the CEO and the CFO had colluded. In a follow up study (2010), COSO found that during the period 1998-2007, The SEC named CEO and/or CFO for some level of involvement in 89 percent of fraud cases. Although most observations in this paper can be extended to other C-level executives, we focus on the CEO, whose disposition pervades the entire organization, establishing a culture in which the CEO is comfortable in leading the organization.⁴The organizational culture that sets the tone at the top is thus a derivative of the CEO's disposition and not something independently determined. Additionally, the upper echelons perspective (Hambrick and Mason, 1984) suggests that organizational outcomes viewed as reflections of the values and cognitive bases of powerful actors in the organization could potentially shed more light on strategic choices top executives make. The chief executive undoubtedly assembles a team in which the executive can place high level of comfort in orientation similar to his or her own. Consequently, studying the CEO – who

⁴ Jennings (2006) argues that ethical culture, or lack thereof, controls all the other quantitative factors; ethical collapse occurs when any organization has drifted from the basic principles of right and wrong. This is consistent with the argument advanced here. The builder of the culture is the chief executive who will transform the company culture to his or her own disposition. Jennings' seven signs are largely the artifacts of a CEO and apparent, but not the only, outcomes of the culture that the CEO nurtures.

matters - within the context of the TRS framework can provide most insights on the executive's behavior leading to indiscretions.⁵

Undoubtedly, the CEOs are driven. Arguably, they are Type R, more like the descendants of Adam. They want to show the world that they can achieve. Performance at all levels is important to them; they often are extremely uncompromising in accepting poor performance. They are driven, goal focused, and constantly exerting toward that end. The achievement of desired outcomes is the center of their world. If business leaders were not made of this stuff, results would be difficult to come by, and businesses would look myopic and slothful. The energy produced by the Rs is unique in creating the worldly wealth, if not lasting happiness. Having a CEO who is a strong R as the agent of a corporation produces leverage for the investors (the principal). However, this advantage comes at a risk: the agent could be a "beastly descendant of Adam" or "an angelic descendent of Adam." The former could cause harm at some point, while the latter is a safe bet.

The presence of disposition cannot be turned on or off. The dominant predisposition does not suddenly change, nor can it be suppressed when one comes home from work; it can only be transformed slowly over a long period of time and with conscious awareness and action. Consequently, the private life of a Type R CEO is as ostentatious as is his public life. Marrying an attractive executive assistant while divorcing a spouse in a long married life (as in Bernie Ebbers' case) is driven by the same disposition to seek aggressively whatever attaches to the CEO's mind. Passionate "angels" at work are also angels at home and in other aspects of private life, and passionate beasts are beasts even in their private lives. Thus, the consistency in expression of one's disposition cannot be masked; it pervades one's life, including private life. So, it is not surprising that Albrecht and Albrecht (2003) identified "extravagant lifestyles" as a category of the symptoms of fraud. If extravagant lifestyle belongs to the actor, modest living despite all the affordability is the lifestyle of non-actors like Warren Buffet (Berkshire Hathaway), Narayana Murthy (Infosys), and Bharat Desai (Syntel).

Financial Fraud Cases and the Executive's Disposition

To illustrate the TRS framework, we discuss examples of predispositions of executives, the actors, from known fraud cases and present related details in Appendix A. Here, we attempt to match the disposition types to an actor based only on an informal review of what is public knowledge.

Type T is reckless. Their disposition suggests that they are not worthy agents of investors. Generally, the cases of type T executives are extreme and relatively rare. The actor is almost invariably negligent and indifferent. In total disregard for the law, this person is not only unethical, but is also recognized for his flagrant violation of the laws of the land.

The Rs are capable of becoming the sinners. Getting results at any cost can be their passion. Aurobindo predicted with deep insights in human behavior the state of things to come in the corporate world:

Although it is apt to put on these things the construction which will most flatter and justify its desires and to uphold as right and legitimate the means which will best help it to get the coveted fruits of its work and endeavor. That is the cause of the three-fourths of our falsehood and misconduct of the human reason and will. *Rajas* [Type R] with its vehement hold on the vital ego is the great sinner and positive misleader (Aurobindo, 1996, 504).

And yet, it would be incorrect to say that in their overdrive mode, every Type R executive exercises indiscretion. Even in Type R disposition, where potential for "sin" is high, some may prevail as non-actors. We discuss this point further in the following paragraphs.

⁵ There is no intention here to preclude studies of dispositions of other executives, or even directors. Such studies are feasible and could potentially be helpful in providing insights on FFR.

Type R – A Closer Look

While the dominant predisposition drives one’s behavior at all levels, all three qualities exist in a human at any given time. In essence, the dominant types form a spectrum, beginning with pure self-centricity in the likes of Thrasymachus of Plato’s *Republic*, to pure altruism, reflected in Mother Teresa of Kolkata. Thus, there is a chance that, along the spectrum, some of the Rs are leaning toward T tendencies (beastly descendants of Adam), and while other Rs are leaning toward S tendencies (angelic descendants of Adam). Put differently, goal-seeking, hard driving leaders belong to the disposition R (Rumi’s descendants of Adam), but they could be seen as binary in nature, as in beastly descendants of Adam (we call them R(t)), or angelic descendants of Adam (R(s)).

Clearly, evidence from the past shows that while some executives have committed fraud, many others have clean records. We refer Rs that might potentially indulge in indiscretion as subtype R(t) suggesting some leaning toward T tendencies, expecting that they will “manage” every obstruction they face to achieve results they are attached to. And we denote subtype R(s) – Type R leaning toward S tendencies – as those who have not and will not in all likelihood commit fraud. We refer them as R(s) because their disposition is moderated by the significant presence of S tendencies. R(s)s are difficult to characterize from historical facts because of lack of documented studies of non-actors (The SEC does not seem to collect data on them). Such executives are likely to surface rarely, if at all, in the list of reported cases of FFR. The examples below appear to be those of Type R(s).

Case	Person	Descriptors of the person
Berkshire Hathaway	Warren Buffet	Transparent. Exudes enlightened unselfishness. Unconditionally emphasizes reputation and integrity in all aspects.
Infosys	Narayana Murthy	Empowering. Other-centered. Exudes enlightened unselfishness. Follows pure reason.
Syntel	Bharat Desai	Uncompromising integrity. No mercy toward ethical lapses. Clear lines followed on what is personal and what is business.

Because R(t)s are leaning toward the lower quality of disposition, they are more likely to commit indiscretion, while the R(s) at the higher stages of development would be able to resist the temptation to commit acts of indiscretion. What could be the fundamental differences between the actors that belong to the R(t) subtype and the non-actors (R(s))? Why could one group be potentially much more vulnerable than the other? As shown in Figure 3, a possible answer lies in Kohlberg’s work on moral development. Kohlberg’s (1984) levels of moral reasoning are: pre-conventional (obedience and punishment orientation and self-interest orientation), conventional (interpersonal accord and conformity – social norms; law and order morality), and post-conventional (social contract orientation; universal ethical principles). These are somewhat comparable to Rest’s (1973) moral development schemas: personal interest, maintaining norms, and post-conventional. R(t)s seem to align with those who maintain norms ordinarily, but they are capable of putting personal interest above everything else, even at the cost of violating norms they are used to comply with in ordinary course. In contrast, R(s)s not only follow law and order scrupulously, but also are uncompromising in their commitment to the universal ethical principles. Thus, R(s)s lean on pure reason when they face a crisis that tests their true character.

P 2: More likely actor is an R(t), and the more likely non-actor, an R(s).

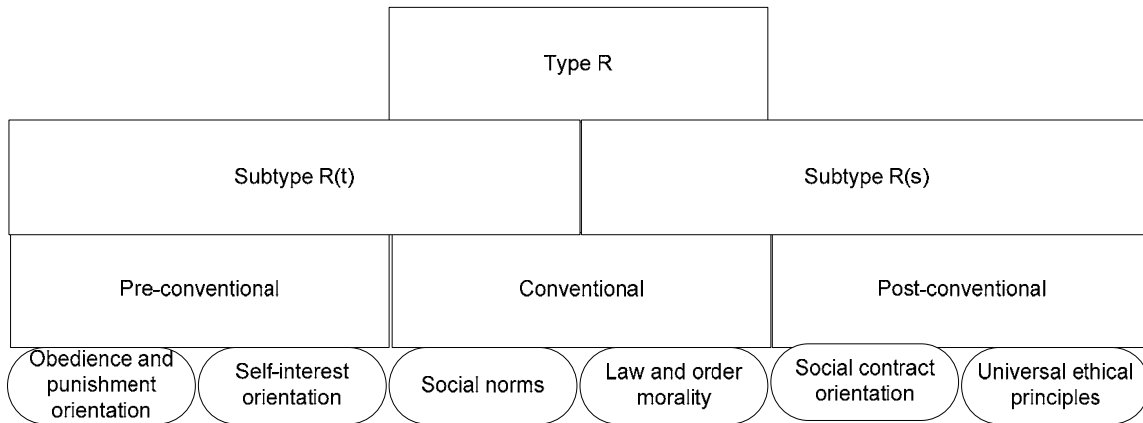


FIGURE 3: A CONCEPTUAL DISTINCTION BETWEEN R(T) AND R(S)

T.H.Green (1884, p. 355) describes two profiles, comparable to R(t) and R(s), in terms of a kind of devotion to great objects or to public service, suggesting that “there is a sense in which to be always fingering one’s motives is a sign rather of an unwholesome preoccupation with self than of the eagerness in disinterested service which helps forward mankind.” Green clearly draws the line between those serving self-interests and those serving others.

Using the disposition of a person, one can contrast the behavior of those who commit fraud (an actor) with those who don’t (non-actors). Actors are more likely to be self-centric in their pursuits. In their self-serving mode, they are vulnerable to disengagement from exercising discretion, instead rationalizing their act with practical reason. They are capable of defying the restraint from external sources, such as the society and the regulatory agencies. In such cases, the regulatory and social power fails to mitigate *ex-ante* their disengagement with moral agency. Non-actors, because of their other-centric disposition, are leaning toward behavior that is beyond some practical reason to commit indiscretion. Taking care of the stakeholders, including investors, is their aim and in this sense, they are ideal agents of the stockholders within the context of the agency theory. They understand that the results of their efforts will be impacted by forces beyond their control; what matters is that they give their best in achieving them. Toward this goal, they work hard; however, they report unadulterated performance. To them, tweaking the results is simply not acceptable. In sum, this is where a non-actor triumphs over compelling situational forces, or temptations, exercising pure reason as a guide. The non-actors believe that their duties stem from their stakeholders’ rights. To quote Green (1884, p.379):

A true Moral Philosophy does not recognize any value in conformity to a universal rule, simply as such, but only in that which *ordinarily* issues in such conformity, *viz.* the readiness to sacrifice every lower inclination in the desire to do the right for the sake of doing it.

As an example of a non-actor, take Azim Premji, Chairman of Wipro. Among the tips for success that he shares, two are very prominent: Never compromise on fundamental values, no matter what the situation, and play to win, and yet, leave the rest to the force beyond (Reliance Energy Management Institute, 2008). Unattached to expectations of outcomes and keeping the motive focused on service to his stakeholders, Premji has demonstrated fundamental traits of a non-actor.

Is it possible to distinctly identify R(s)s from R(t)s? Perhaps, but the task will be challenging. According to Ramamoorti (2008, p. 527), Thomas Golden of PriceWaterhouseCoopers, an experienced forensic accountant, believes that FFR perpetrators fit one of two profiles: “greater good oriented” (likely R(s) in our typology) or

“scheming, self-centered” types (likely R(t)). If this is true, both types - R(t) and R(s) - commit fraud; consequently, distinction between R(s) and R(t) would not help differentiate between actors and non-actors. While we revisit this point later, the task of differentiating is formidable. T.H. Green (1884, p. 359) asserts: “Among the respectable classes of a well-regulated society there is little in outward walk and conduct to distinguish the merely respectable from the most anxiously conscientious.” We believe *the merely respectable* are the R(t)s and *the most anxiously conscientious*, R(s)s. Green (1884, p. 360) continues, “If we could watch him closely enough, indeed, even in outward conduct there would appear to be a difference.” We believe he is describing R(s)s as he further asserts, “Into the duties which he is expected to fulfill he will put much more meaning than is put by those who claim their fulfillment, and will always be on the look-out for duties which no one would think worse of him for not recognizing; . . . he feels the necessity of rules of conduct which . . . are not yet a recognized part of that morality, and thus have no authority with those whose highest motive is a sense of what is expected of them.” We believe that R(t)-R(s) typology is mutually exclusive and collectively exhaustive, and is potentially helpful in identifying distinguishing behavioral traits of actors and non-actors.

Finally, innate human leanings are quite possibly biased toward selfishness from birth.⁶ It’s a natural state that is hard to deemphasize, let alone evict altogether. Self-centric behavior is magnified by attachment to desired objects of possession, be it profits, share price, bonus, or dealing with pride or shame, illness or well-being. A rather vague term used to describe self-centric people is “ego,” which suggests attachment to objects, tangible or intangible. Attachment is rooted in wanting something, and thus the attached person is constantly striving for it in the material world. So, the challenge is in the development of the self – through increased awareness and change of attitude – from being self-centered to becoming other-centered (Raval and Raval, 2010, 195-222).

P 3: *Those who exhibit uninterested desire, R(s), (that is, non-attachment⁷ and orientation to serve others) are likely to be free from indiscretion. And those who are attached will be tempted to commit indiscretion; their capacity to withstand temptations is limited.*

This proposition infers that not all R(t)s may be found to indulge in indiscretion (more about this in the next section), but there is a strong likelihood that those who are found to have exercised indiscretion belong to this group, that is, they form a subset within the universe of R(t)s. With respect to R(s)s, it is highly unlikely they would exercise indiscretion. Thus, the proposition is conditional for R(t)s and unconditional for R(s)s.

Among the R(t)s, the constituent elements to prompt indiscretion always exist. But what would trigger an act of indiscretion? An intense desire (temptation) to possess the yet unprocessed is prerequisite to such an act. Temptation is independent of disposition; R(t)s with no temptation to lure them into an act would be less likely to commit the indiscretion, for the “honey that attracts the bee” does not exist. One’s disposition is a necessary but not sufficient to commit an act of indiscretion; the presence of temptation to which one gets attached is a prerequisite condition for indiscretion to occur. The TRS framework establishes grounds to explore the potential of someone to exercise indiscretion. The triggering mechanism that makes a person to indulge in the act of indiscretion is the LAG cycle, discussed in the following section.

The LAG (Lust, Anger, Greed) Cycle

Based on the *Bhagwad Gita* (see Chapter 2, 2.62-63) and its interpretations, Raval and Raval (2010, 39-53) named the phenomenon as the LAG cycle and further elaborated on it in the current context. The name, LAG, does not imply any sequence, but simply exemplifies the key elements: lust as a form of attachment (temptation to possess

⁶ Thomas Hobbes in *Leviathan* (1668) advances this claim, however, sources in Eastern metaphysics convincingly argue why a person can be unselfish.

⁷ The term non-attachment as used here is not synonymous with detachment. Non-attached individuals can be actively engaged in purposeful activities.

the unprocessed object of desire), anger (affective responses) and greed (the intensity of wanting the unprocessed object at any cost).

We begin with an actual case unrelated to FFR. A 28-year old sixth-grade teacher, Rachel, was accused of having sex with a 13-year old student. Many intense weeklong affairs followed. To counter any obstructions from the boy, Rachel offered him incentives, such as alcohol and the use of her car. Indiscretion ensued. Upon conviction, Rachel was sentenced to ten years in prison. Put differently, Rachel thought of an *intentional* act. The immediate environment (the classroom filled with adolescent boys) provided the stimuli that triggered the temptation of sensory experience (sexual contact). The stimuli generated contemplation on the object of senses (young boy and his male attractiveness). Further contemplation enhanced the intensity of the thought of possessing the object (the male student and sensory experience). Rachel's desire to have sex was affirmed by her belief that this was within her influence. This generated further affective emotions in her. Rachel became intimate with the male student. Her mind got confused, and Reason could not prevail over her. She reacted to the stimuli. In the end, she was convicted of having sex with a minor and was sentenced to serve a term in prison.

Although Rachel's example focuses on lust as such, the term lust is used here in a broad sense: an overwhelming desire to possess, achieve, or experience something. Lust results in increased intimacy with the object of desire. In a business, lust may be driving the executive to achieve goals in revenues, profits, or stock prices. By nature, a material goal has the power to create strong attachment and the consequent desire to achieve it at any cost. Intimacy in many ways permits the person to study the drivers of whatever it is that the person is seeking. This confirms one's belief that this is in the realm of possibilities, and intensifies the attachment to what is desired. The bond between belief and desire makes the person now feel capable of maneuvering the possession of the object of desire, fueling the obsession further.

A key premise of the LAG cycle is that there exists an attachment at the time of the act of indiscretion. Indiscretion follows the attachment to the object of desire. For example, Mark Hurd, former CEO of Hewlett-Packard (HP), sought an intimate relationship with a female contractor at the company. An investigation found no violations of the sexual harassment policy of the company. However, some of the expenses of personal meetings with her were recognized as company expenses. The HP board's vote (6 vs. 4) to accept his resignation signals how strong an achiever Mark Hurd was, but he presumably was an R(t) who got trapped into the LAG cycle.

In a journey through the LAG cycle, not much may be noticed by others, for until an intervening crisis emerges, the true disposition of the executive will not be visible. For example, without some sort of obstacle to her act, Rachel would never have been charged. And few would have known about Mark Hurd's affair if some of the expenses related to it failed to receive notice from others.

An act of indiscretion can happen in prosperous times also; for example, in light of exceptional superior profits, the CEO may initiate income-smoothing maneuvers, but these may not be noticed as indiscretions. The inflection point is where some form of adversity hits the scene, making the intended maneuvers impossible.

The combination of attachment and obstacles makes the executive angry. The thought, "How could it be that what I want is escaping me?" is constantly bothering the executive. "Something is unachievable" is not in the executive's frame of reference. The disconnect between wanting and valuing, however temporary it may be, triggers an intentional action. Disillusionment rules and moral judgment to distinguish between right and wrong becomes clouded. Indiscretion happens. Following the first misstep, the cycle of wrongdoings may continue – and all this could be within controlled orchestration by the chief. The ongoing maneuvers may be necessary for continued acceleration (or maintenance) of the wrong doing, or for hiding the act until, hopefully, normalcy returns and the act is forgotten, ignored, or it simply remains undisclosed outside the close quarters. The more likely scenario, however, is that the obstructions will force the crime out in the open. The LAG cycle is like a trap; if at the time of initiation of the act, the person's disposition did not stop him from the entry, there is no going back. In his open letter to the Board of Satyam Computers, when Mr. Raju (the actor who was Chairman of the company at the time) said, "It was like riding a tiger, not knowing how to get off without being eaten," we believe he was referring to his LAG cycle.⁸⁸ Figure 4 presents our view of the LAG cycle.

⁸⁸ www.expressindia.com/latest-news/Satyam-fraud-full-text-of-Rajus-letter-to-Board/407799.

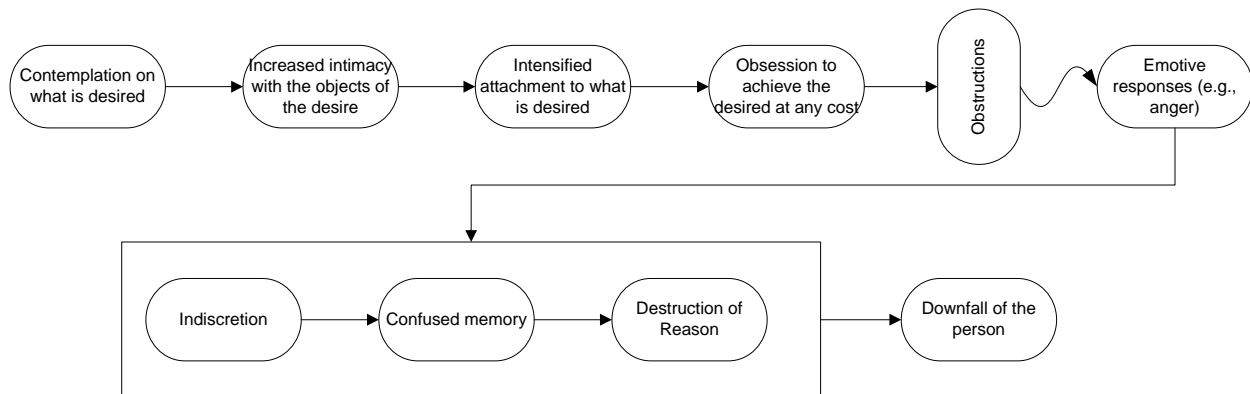


FIGURE 4: THE LAG CYCLE

In sum, stimuli to possess or experience something trigger desire. Desire to perform an intentional act is supported by the believability that this can be accomplished. The disposition of the actor makes an act that is generally unthinkable as acceptable. To illustrate key elements of the LAG cycle, Appendix B presents examples from past cases of FFR.

When adversity strikes in some form, obstructions to achieving the committed goals can be insurmountable. Meanwhile, the dominant disposition, $R(t)$ or $R(s)$, drives the behavior. Exogenous factors are not supporting the obsessive goal, but the attachment to it is so strong that it triggers emotive responses, typically anger and frustration. This in turn causes the executive to indulge in indiscretion. Indiscretion causes confused memory; pure reason is defeated, and some sort of practical reason is advanced to legitimize the act. Eventually, the unmasking of the veil over indiscretion arises from the insurmountable obstructions to any intense desire to achieve the desired at any cost.

An attachment begins with the thought of achieving or possessing some result and may be transient or durable. Consequently, it is difficult to predict the tenure of attachment; it could be a matter of hours, days or weeks, or even months or years. Additionally, any indiscretion in response to stimuli is only local to the situation; that is, a person who acts indiscreetly in one situation does not necessarily always exhibit indiscretion in every situation. Moreover, there is nothing inherent in the stimulus itself to make it an attachment; what attracts one person may not attract another and what attracts one person at one time may not attract the same person some other time.⁹

P 4: Attachment combined with disposition $R(t)$ leads to an entry into the LAG cycle. Non-attachment in $R(s)$ prevents the executive from entering the LAG cycle.

The culture appropriate to the executive behavior is likely to be in place well before the obstructions arise and the act of indiscretion occurs. One can surmise this as an aggregate outcome of the executive's predisposition and not of any particular act, for no such act is planned in advance. On the other hand temptations which may cause attachment are not staged, anticipated, or programmed. They emerge as external stimuli that attract the person to seek the unprocessed.

⁹ This addresses Cressey's dilemma (1953, p.12), "the central problem is to account for the differential in behavior indicated by the fact that some persons in positions of financial trust violate that trust, whereas other persons, or even the same person at a different time, in identical or very similar positions do not violate it."

An obstruction that forces disclosure of the act may not arise for a long period of time, or ever. If in the life of the executive with R(t) tendencies, the triggering event never surfaces, everything may seem uneventful, although the potential for fraudulent behavior exists because of the possibility of attachment. In such cases, the success is celebrated; investors revere the R(t), and no one notices any impropriety. Could it be that the published cases of FFR represent only a tip of the “iceberg?”

P 5: *Some proportion of FFR cases is likely to never have been identified outside of the “close quarters.”*

Bandura (2002) discusses the dual nature of moral agency. He argues that there are two interacting and complementary sides to moral behavior, the inhibitive and the proactive. The inhibitive nature supports the power to refrain from behaving inhumanely. Social influence is the dominant force here, and sanctions are the common means of regulating the behavior. In some respect, this nature of moral agency is implicit in the SEC’s desire to plug the opportunities. The sad news is, already identified and (perhaps even) legislated requirements to disclose opportunities do not stop the actor from creating new ones and committing indiscretion. To reiterate, an attachment is not a constant; its significance lies in the only critical way the actor bonds with it, and only if the actor bonds with it. A standard list of opportunities that might present themselves as attachments is unlikely to be effective.

Bandura asserts that the inhibitive nature of moral agency is the one from which a person can disengage slowly over time, giving practical reasons that rationalize his or her approach. A CEO, for example, can over time build a team that is thus disengaged and insulated from perceiving their behavior as harmful to stakeholders. Although a slow process, the business leader realizes that it is effective in controlling the key people in the organization.

Such tolerance in threshold to distinguish – even temporarily – right from wrong reinforces one’s disposition more toward R(t) subtype, which permits indulgence in utterly ostentatious behavior. The situation gets worse as the executive reinforces such behavior through his or her own culture and leadership team. Over time, the organization moves into the operational mode seen by most everyone as a completely legitimate machine to make money.

P 6: *Over time, the leadership team builds a culture that supports its own reflection of moral agency.*

In the end, when a fraud is noticed by the outside world, there is nothing that is overcoming the CEO or her team. The obstructions cause this type of illusion. The seeds of wrongful acts have already grown by the time such a fraud is noticed. The only thing different is that without obstructions to the achievement of objects desired, there would be no need for the elements of fraudulent behavior to heighten to a visible level. In the eyes of media and the regulators, it could have been a non-event.

Bandura’s second side of moral behavior – the proactive side – has to do with the power to behave humanely. There are no absolute external norms for those who have the inner stamina to behave humanely. They consciously determine in each situation the right thing to do, and follow their consciousness without putting first their self-interest. These are the subtype R(s) in our description of human disposition. Their attitude is pure and uncontaminated by self-interests. They do not care for opportunities to commit fraud, or for incentives that might materialize in an undeserved gain for themselves. They prove that the two sides of the fraud triangle, opportunities and incentives, are necessary but not sufficient explanation of the act, and even so, certainly less significant. The real source of the positive power to behave humanely is the inner moral strength; nothing else works as an effective surrogate for it. Passionate but other-centric, non-attached at the core, they are driven by truth, contentment, compassion, humility, and love. We believe the R(t)s like the prohibitive side, inviting catch-me-if-you-can arrogance in them. The R(s)s find the proactive side most natural to them. They exist for their stakeholders, no temptations can bring them on the side of R(t)s.

P 7: *Having more of R(s)s – the non-actors - as CEOs is desirable for the economy, financial markets, and the investors, because their presence will minimize, if not eliminate, the fraud problem.*

Cressey's Work on Financial Fraud and the Fraud Triangle

The initial formulation of Cressey's (1953, p. 27) second hypothesis, for which he credits Riemer's (1941) observation, was that *opportunities* inherent in trust positions form *temptations* if the incumbents develop anti-social attitudes which make possible an abandonment of the folkways of business behavior. The positions of trust are violated when the incumbent defines a need . . . as an *emergency* which cannot be met by legal means (emphasis added). Moreover, Cressey (1953, p. 28) argued, if such an emergency does not take place trust violation will not occur.¹⁰ The next revision of the second hypothesis avoided the use of the term emergency and instead emphasized the actor's psychological isolation, resulting from having committed a non-socially sanctionable financial obligation which, consequently, must be satisfied by a private or secret means. The final version of Cressey's (1953, P.30) hypothesis reads as follows:

Trusted persons become trust violators
When they conceive of themselves as having
 A financial problem which is non-shareable,
 are aware that this problem can be secretly resolved by violation of the position
 of financial trust,
And
 are able to apply to their own conduct in that situation verbalizations which
 enable them to adjust their conceptions of themselves as trusted persons with
 their conceptions of themselves as users of the entrusted funds or property.

Cressey's (1953) comprehensive study of sources and motivation for financial fraud is a noteworthy milestone in this research area. Further analysis and development based on the foundational work of Cressey led to the fraud triangle and its use as a primary framework to look into financial frauds. Taking a comparative view of what we propose here and Cressey's work, we find that the two are not identical, but notable parallels exist. First, the term emergency, although dropped from the final version of the hypothesis, has a close relationship to "obstructions" in the LAG cycle. Without obstructions, one may never have to reach the heights of indiscretion. Cressey dropped the term "emergency" after considering some of the participants' feedback, that while an emergency had been present at the time they violated the trust, other, perhaps even more extreme emergencies, had been present when they did not violate it (p. 28). We believe that emergency is in some way a perception of the obstacle, for it is described as emergency "which cannot be met by legal means," that is, obstructions exist in achieving them. Moreover, not all emergencies result in trust violations; only those where the attachment to yet unprocessed object of desire exists. We contend that emergency is not the differentiator between actors and non-actors, but the vulnerability to temptations is. R(t)s are more susceptible to collapse as victims of temptations, not R(s)s, and even among R(t)s, the obstructions would trigger indiscretion if and only if the actor experiences an intense desire for the unprocessed object. Second, in comparing Cressey's work with the LAG cycle, it appears that a problem becomes non-shareable immediately upon the exercise of indiscretion by the actor. There is nothing inherent in the problem itself to become non-shareable. In a principal-agent relationship, the agent should have significant hesitation in being transparent about the temptation that caused the agent to commit fraud. For example, Raju Ramalingam of Satyam Computers did not disclose his act to the company's board of directors until he reached a stage where the act could not be perpetuated any more. In our earlier example, Rachel, a married woman, would probably keep her affair with the student undisclosed to her husband. Thus, the temptation (intense desire to achieve the goal to which the agent is deeply attached) causes the indiscretion, which in turn results in the problem becoming non-shareable. Any behaviors that emerge from non-shareability of the problem could potentially be

¹⁰ We believe trust violation is likely to occur but will not be disclosed.

explained by Nathanson’s compass of shame (1992), which suggests various emotive responses of the actor, including withdrawal/avoidance and attack other or attack self.

The non-shareability of the problem appears to reach an end under two conditions. First, if the fraud becomes public knowledge and enforcement actions begin, the internal conflict of the actor intrinsic to the idea of non-shareability is no more relevant. Second, if the act remains within the “close quarters” there may never arise a need to disclose publicly why one indulged in the act; the non-shareability may persist, albeit in a muted form, perhaps even weakening over time. Some actors (e.g., Patrick Kuhse) even choose to tell their stories once many years have passed since the act of indiscretion, and such disclosure is not likely to cause any personal harm.

The disclosure of an indiscretion would most likely be followed by public disclosure of rationalizations of the individual. In our understanding, the apparently practical reasons (as distinguished from pure reason) put forth by the actor are called rationalizations. The initial thought process that establishes a reason for acting is for one’s own justification; we call it an internalization, or rationalization *ex ante*. Interestingly, when the person determines that an act will be committed, she internalizes *ex ante*; and when it becomes known to others, it must be externalized for the consumption of others. An integrated view of Cressy’s hypothesis and the LAG cycle is presented in Figure 5.

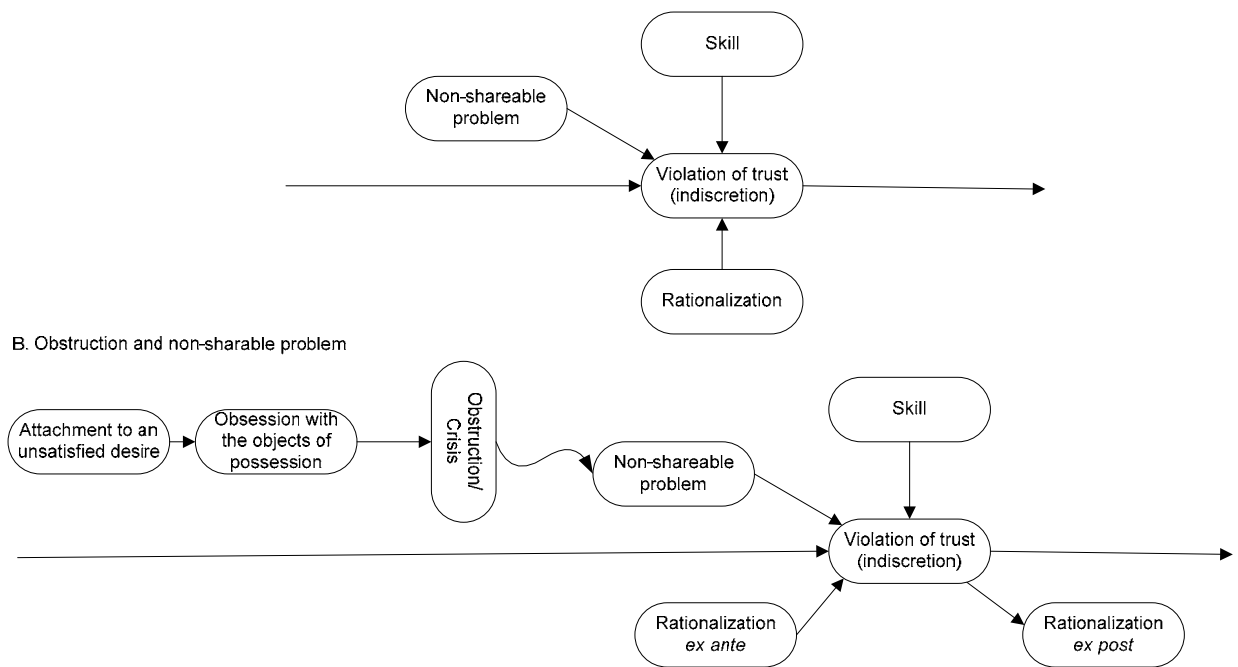


FIGURE 5: AN INTEGRATED VIEW OF CRESSEY’S HYPOTHESIS AND THE LAG CYCLE

Further research following Cressy’s work resulted in the fraud triangle which has been a valuable model for learning about FFR. Numerous studies have explored the fraud triangle from various perspectives, and the overall conclusion is that this fraud model is effective in explaining financial reporting frauds (Hogan, 2009). The triangle has been used to identify red flags, based on the three conditions of which the triangle is comprised. In turn, knowledge of red flags has been used in the consideration of audit process improvements and/or drafting regulatory requirements. And yet, the problem of fraud is not fully addressed, the most inadequately addressed factor being the possible role of human quality in such acts.

Of particular significance to this research is the Rationalization side of the fraud triangle. Although all three sides of the triangle imply human psychology, rationalization differs from the other two sides (opportunities, pressures) in that rationalization (particularly, *ex ante* rationalization) is a process internal to the human, whereas opportunities and pressure are externally visible phenomena. We borrow from Bogart's work (1980) to explain the concept of feed intelligence and discuss the differences between opportunity and pressures on one hand, and rationalizations on the other.

Feed Mechanisms and the Fraud Triangle

According to Bogart (1980), information intelligence can be of three types: feedback, feedforward, and feed within. Feedback is information about system outputs that is fed back into the system. Feedforward is information about system environment or inputs that is fed forward into the system. Feedwithin is information about the system's *internal* flows, operations, resources, and information which is fed back into the system. The structure that supports the emergence and use of information intelligence is often called a feed mechanism.

Among the three forms of information intelligence, perhaps the one that is widely known is the feedback. The next most known is the feedforward, and the least known is feed within. Feedwithin information intelligence is not directly related to either input or output. Instead, it relates to the transformation process between inputs and the environment at one end, and outputs at the other. According to Bogart (1980, 241), it is information about the throughput of a system or disposition of parts of a system relative to such throughput. Sensors throughout the system's processes capture signals of the system's states and transmit via (feed within) loop the information to the receiver *within* the system. The receiver then interprets the information and takes appropriate action.

Thus, feed within information intelligence is primarily internal to the system, and concerns the internal processes and their relationships that collectively produce the throughput of the system. It communicates and orchestrates events internally. An introspective intelligence, it is in the nature of feeding the "soul" of the system. It has little to do with immediate inputs or outputs, or near-term goals of the entity.

In terms of feed mechanisms, we believe the opportunities trigger feedforward intelligence and pressure, feedback intelligence. On the other hand, an *ex ante* rationalization emerges from feed within, a strictly internal process not visible to the outside world. We contend that feed within information intelligence available to the actors is limited and perhaps not as advanced; in contrast, non-actors are likely to have cultivated feed within processes in them to an advanced level.¹¹ *Ex ante* rationalizations emerge from within, and have a great deal to do with whether the person will enter the LAG cycle; the entry is concurrent with an *ex ante* rationalization as he enters the LAG cycle. In contrast, *ex post* rationalization may emerge from others' views rather than from within the actor himself.

P 8: *Ex ante* rationalizations of the actor are pertinent in the explanation of the act; *ex post* rationalizations are not.

The Theory: Connecting the Framework to the Cycle

Why do we need both the TRS framework and the LAG cycle to explain indiscretion? The answer lies in the fact that a person's disposition plays a key role in the act, but by itself, it is not enough; the attachment to the object of desire is equally necessary for the act to occur. Without attachment, even a person of subtype R(t) disposition may not indulge in the act. And attachment most likely would take hold (materialize as an entry into the LAG cycle) for persons of certain dispositions. Consequently, both disposition and the process of engaging in the LAG cycle are necessary to develop a behavioral explanation of the act. Figure 6 summarizes the role of the framework and the cycle.

¹¹<http://video.forbes.com/fvn/forbes400-10/bharat-desai-billionaire-yogi>. This video from *Forbes Magazine* shows the lifestyle of Syntel, Inc., Chairman, Bharat Desai and how he practices feed within.

		The LAG Cycle	
		Actor	Non-actor
The TRS Framework	Potential actor	R(t)s with attachment	R(s)
	Potential non-actor		R(t)s without attachment;R(s)

FIGURE 6: ROLE OF TRS FRAMEWORK AND THE LAG CYCLE

Nescients and subscentists are likely to fall prey to temptations, for they suffer from a disposition that represents inertia of knowledge, which in turn makes them prone to commit a wrong act. Their value judgments can be, and are often likely to be self-centric, causing an alliance with the temptation. Temptation suggests a potential wrong-doing. It is not value-neutral.

What comes first, opportunity or temptation? We reiterate Reimer's assertion: the *opportunities* inherent in trust positions form *temptations* if the incumbents develop anti-social attitudes which make possible an abandonment of the folkways of behavior [emphasis added]. We believe this to be not entirely true; temptation, surfacing on its own, makes the person seek out – put in focus – a fitting opportunity if the person wishes to yield to the temptation. An opportunity implies an advantage, a favorable condition to do something, but its origin does not have to be the temptation. Moreover, once temptation takes hold, it is possible that the prospective actor will find in focus a particular opportunity helpful in fulfilling the temptation. If a fitting opportunity does not support the planned act, the actor may create a new opportunity that serves the temptation on hand. All other opportunities, however promising they might be, seem irrelevant to the prospective actor. Finally, whereas temptation suggests what one so badly wants (desire), opportunities relevant to this intense desire improve or confirm the belief that the object of temptation is within reach.

Interestingly, the theory articulated here does not give much significance to the presence or absence of incentives.¹² Ramamoorti *et al* (2008) effectively noted that greed is not the final answer. If this is true, then the existing beliefs on the role of incentives in FFR would require a reexamination.

Insights From Academic Research

Ramamoorti *et al*(2008) discuss Tomkins' work on the theory of emotions, which was further developed by Nathanson (1992). Tomkins argued that people experience nine core emotions (or affect). These emotions are triggered by stimuli in the environment. The emotions play a dual role: communicating unmet needs and providing motivation for action. Nathanson extended Tomkins' work to develop a framework, S-A-R; in essence, it conveys that stimuli trigger affect (emotions), and affect in turn generates reaction. With some exceptions, SAR is comparable to the LAG cycle, for example, the LAG cycle considers the role of attachment to an object of desire and also the role of disposition of a person in the happening of the act. And it also suggests the role of obstructions in pacing the emotions and the reaction that follows in the form of an indiscretion.

Another leading development outside of the FFR focuses on the nature of intentional action. Davidson's (1980)belief-desire model that attempted to explain intentional action was further addressed by Velleman (2000). Taking this as an initial formulation, Setiya (2007) extended the model to a more robust form. We are leaning mainly on Setiya's work in the following discussion.

First, it is necessary to recognize that there are involuntary and basic actions, and there are voluntary and intentional actions. Fraud is discretionary; it is an intentional action. Hence, the discussion of nature of intentional

¹² In their study on CFO Intentions of Fraudulent Financial Reporting (2005), Gillett and Udin found that compensation structure is not a good indicator of CFO intentions to report fraudulently.

action and its relationship to the theory proposed here is crucial. Second, it is important to recognize that in acting intentionally, our reasons are up to us – we decide why we do something as well as what we do – and we seem to recognize our reasons, as such (Setiya, 2007, 39). Third, the belief-desire model, which is independent of reasons, can be described as follows:

We want something to happen, and we believe that some behavior of ours would constitute or produce or at least promote its happening. These two attitudes [a desire and a belief] jointly cause the relevant behavior (Adapted from Velleman, 2000, 5).

The desire is involved in the proximate motivation of intentional action (Setiya, 2007, 32) but its existence is in tandem with the belief. The two co-exist in the desire-belief model to explain intentional action. Setiya (2007, 39-40) argues that we choose the reasons on which we act and we know without observation not only *what* we are doing, but *why*. Taking something as one's reason is both desiderative or motivational (expressing desire) and cognitive (expressing related belief). Taking-as-one's-reason is not simply belief, or desire, but a state that has features of both.

An intentional act is a result of both motivation of action and the motivation of desire. The motivation of action is value-neutral and is driven by means-end efficiency; it drives the intentional action. The motivation of desire is a function of disposition, “a state whose presence entails that there is something I want (Setiya, 2007, 104).” The motivation of desire is evaluative while the motivation of action is explanatory.

Relating the nature of intentional act to the LAG cycle and TRS framework, we find that the LAG cycle is explanatory; it does not hypothesize the reasons for someone entering the cycle. The TRS framework is evaluative in that it presupposes a state whose presence entails, or induces, the thought that there is something a person wants.

The Measurement Challenges

Human Disposition: T-R-S

Researchers have been working on the development and validation of instruments to measure human disposition according to the T-R-S framework. First documented attempt to develop an inventory to measure T-S-R came from Peremeswaran (1969) who named the inventory as the “Guna” inventory¹³. It consists of 80 items with three factors, one measuring Type T (29 items), the other Type R (27 items), and the third, Type S (24 items). The Likert-type attitudinal scale used in this inventory has three scales (agree, disagree, and doubtful), and the total score on each disposition is simply the aggregate of scores on items on the corresponding factor. In a manner similar to the Eysenckian dimensions of personality, the factors on the inventory are treated as independent. Mohan and Sandhu (1986) developed Triguna inventory to measure the three dispositions. They found that Type S was distinct from Type R and Type T. Separately, Das (1987, 1991) developed a similar inventory. He found that T, R, and S are negatively correlated with each other and that R is closer to S than T in the sequence T, R, and S. Pathak *et al* (1992) developed categorized norms and percentiles to measure a person's disposition in the sequence TRS. The three dimensions in their psychometric measure showed low correlations with each other, suggesting that the dispositions are truly independent of each other. Subsequently, Matthew (2010) developed an IAS (Inertia, Activation, and Stability) rating scale which essentially measures TRS dispositions. The IAS rating scale has shown high reliability and construct validity. Maruthamet *al* (1998) constructed a similar inventory, and found that correlations between T, R, and S were low, but significant.

While the studies as such attempted to construct a potentially valuable psychometric inventory, attempts to validate the constructs were limited. A first systematic approach toward this is reported by Dasa (1999) who named the refined inventory as VPI (Vedic Personality Inventory). The original 90-item instrument was shortened to 56

¹³ The term *Guna* in Sanskrit means constitution or disposition. Triguna in Sanskrit represents the three dispositions, T, R, and S.

items, using the results of reliability and validity tests. For the shortened inventory, Cronbach's alpha for the three subscales (T, R, and S) exceeded .93, and the corrected item-total correlation of every item on the shortened VPI with three subscales was greater than 0.50. Three measures of convergent validity and four measures of discriminant validity provided evidence supporting the construct validity of the instrument. Finally, the loading of each item on the scale was stronger for the intended subscale than the other two subscales. The factors are non-orthogonal, suggesting that the three dispositions, T, R, and S are not entirely independent.

Moral Development: DIT-2 scale

Previously, we referred to Rest's work on moral stages (schemas) based on Kohlberg's work. Influenced by Kohlberg's six-stage theory of moral reasoning, Rest developed the DIT (Defining Issues Test) as an assessment of how adolescents and adults come to understand and interpret moral issues. Rest viewed moral judgment development as a social and cognitive construct, and identified three schemas within the construct, suggesting progressively higher level of moral judgment development: a narrow self-focused interpretation of moral issues (Personal Interest Schema), an understanding of the broader social world and associated group-based claims on moral decisions (Maintaining Norms Schema), and a reliance on post conventional moral principles (Post conventional Schema).

Human disposition is a pervasive influence at all levels (physical, aesthetic, intellectual, moral, and spiritual), including the moral stage. Consequently, the TRS framework is likely consistent with Rest's work. Measures of TRS would probably correlate with the DIT measures. And thus, insights gained from studies on moral judgment using DIT would further our understanding of differences between actors and non-actors in the FFR realm.

Separately, DIT research has potential to contribute insights on moral development. To quote Thoma (2006, p. 88): "Taken together, these efforts support the view that DIT research is a progressive force in the field and has been efficient in suggesting new directions for study, particularly in the more applied areas such as . . . professional ethics . . ." There are no known studies in FFR as yet that have used DIT-2¹⁴ construct.

Implications

This paper delineates a new line of thought on a fundamental premise that an act of fraud of any kind is a human act, and ultimately, it has to do with human psyche. A fresh thinking on the anatomy of fraud leads us to resort to two related views: the TRS framework and the LAG cycle. The theory advanced here has the potential to not only clarify but also extend our understanding of fraudulent behavior.

If the intention is to help prevent or detect fraudulent behavior, we will have to learn much more about dispositions. What are the sources of disposition? How does one inherit the initial disposition? How do you effect change in disposition? In the following paragraphs, we note briefly some of the areas where we believe the theory advanced here is likely to shed more light and may even clear up some of the noise, confusion, or misgivings. The discussion below is not exhaustive, but rather illustrative of how the foundations of this study could contribute to the field of FFR.

College Education

College education can play a significant role in improving one's moral development. Contrary to the belief that education does not help differentiate actors from non-actors, we propose that higher education offers the potential to transform self-centric young adults (possibly, actors) into other-centric grownups (likely, non-actors). If there was one thing that could facilitate disengagement from selfishness and attraction to serving others, it is the higher education. Traditionally, universities have been regarded as the institutions for raising awareness of one's larger

¹⁴ DIT-2 is an improved, more current, version of DIT. Besides improving the context for some of the cases, the new construct represents refined process and online administration.

purpose in life. As Lewis (2006, p. xii) asserts, “the fundamental job of undergraduate education is to turn eighteen- and nineteen-year-olds into twenty-one- and twenty-two-year olds, to help them grow up, to learn who they are, to search for a larger purpose for their lives, and to leave college as better human beings.” Indeed, the true role of universities has been much broader than finding a paycheck at the end; they are meant to produce not the careerists, but the characterologists. In T.H. Green’s words, the former is a kind of devotion to great objects and the latter, a devotion to public service. Finally, a large body of research shows that college years are a time of significant development in the realm of moral judgment (for a review, see King and Mayhew, 2002).

Red, Yellow, and Green Flags

Research in the area of fraud risk factors is extensive and ranges from the investigation of how the auditors make the fraud risk assessment to surveys to determine the relevant risk factors. Additionally, studies have focused on determining the relative importance of risk factors. Apostolou *et al* (2001) used the analytical hierarchy process methodology to construct auditors’ decision models rather than having auditors provide a simple ranking of the importance of risk factors. Their sample consisted of 140 practicing auditors (43 Big 5 auditors, 50 auditors from regional/local firms, and 47 internal auditors). They found that 58.2 percent of the total possible 100.0 percent decision weight is associated with management characteristics and influence over the control environment, compared to 27.4 percent assigned to operating and financial stability characteristics and 14.4 percent to industry conditions. The three single most important red flags (compensation tied to accounting practices, attitude about internal control, and securities law violations) accounted for almost 40 percent of the total decision weight.

While it is important to not ignore operating and financial characteristics and industry conditions in assessing fraud risk, the evidence in the Apostolou *et al* study (2001) clearly points to the top management team, led by the chief executive. The risk at this level borders on inherent risk, as distinguished from control risk. The disposition of the chief cannot be controlled, nor can the culture cultivated by the executive.

Another important consideration here is this. As the number of flags grows, the assessment of fraud risk becomes much more diffused. If some of the flags are marginally relevant, or relevant only under special circumstances, the efficiency of the process may suffer and the risk of Type II errors (accepting the false) may increase. Additional research to study flags that are misleading, or not as red as originally thought, might prove helpful. Finally, research to determine if there are any green flags that would obviate the fraud risk would help. “Extravagant lifestyle,” suggested by Albrecht and Albrecht (2003) as a category of the symptoms of fraud, warrants further investigation. And if this would be a red flag to look for, the lifestyle of potential non-actors –modest living despite all the affordability has the potential to operate as a green flag.

Corporate Social Responsibility

Jennings (2007) argues that one of the signs of ethical collapse in FFR is that good in some areas atones evil in others. For most part, her discussion on “goodness” focuses on personal and corporate philanthropy. Her indictment (p. 237): As long as they were good to the environment, strong on diversity, involved in the community, and generous with charitable donations, their schemes and fraud at work were not a problem.”

We disagree. A person’s disposition (and if she is a CEO, the company’s culture reflecting her disposition) prompts the type of philanthropy: Ts will focus on serving with a strong urge for self-interest, Rs will resort to cause marketing through philanthropy, and Ss will do it for the sake of community’s well-being with a complete disconnect with self-interest. In Jennings’ (247) words, “. . . the same type ego that fuels a fraud also craves the spotlight;” this, of course, applies to R(t)s – the pool of executives who might commit indiscretion, not R(s)s.

People with disposition R(t) are deep in self-interest. It is no surprise that Dennis Kozlowski’s donations Boca Raton charities at the behest of a public relations executive in all likelihood were prompted by the desire to improve self-image. And his motive behind a hefty donation to Nantucket Conservation Foundation could very well have a hidden agenda of keeping the land next to his property undeveloped, an intent that the Foundation had implicitly endorsed. Self-interest and ostentations are clearly the red flags for noticing R(t)s.

One needs to be cautious, however, in blending every philanthropic behavior into one intention. There are R(s)s out there that have done very well in serving the community (e.g., Warren Buffet, Narayana Murthy, Bill

Gates). We believe that one's disposition is revealed by the character and intent of philanthropy. In turn, this would allow us to identify an executive as a subtype R(t) or R(s). However, not all R(t)s identified through self-interested philanthropy may be found to have committed fraud, but the potential exists, only to be activated by attachment.

Related Party Transactions

From their literature review of related party transactions, Gordon et al (2007) drew certain conclusions including the following (p. 82):

- Related party transaction disclosures are present in the Securities and Exchange Commission filings of most public companies.
- While listed as a fraud risk factor in authoritative literature, related party transactions do not appear to be more common in companies committing fraud than in companies in which no fraud had been detected. . . . the presence of related party transactions alone does not appear to significantly increase external auditors' client risk assessment.

The related party transactions present yet another opportunity for fraud and yet, the evidence is mixed at best. For example, Bell and Carcello (2000) compared samples of companies that commit fraud to samples of companies that did not commit fraud. They found no differences in the existence of related party transactions between the two groups. If the related party transactions are to be considered a key risk area, given the pervasive presence of such transactions (including other transactions or relationships structured with similar intent), the task of assessing fraud risk becomes more like finding needles in a haystack. The probability of Type II error increases and audit efficiency decreases. The idea of evaluating every opportunity, structured as a related party transaction, in the fraud risk assessment process seems infeasible, for the requisite variety in structuring these transactions is limitless. The only effective way to plug the opportunities would be to prohibit such transactions altogether, but this would be an extreme regulatory step, infringing upon the right to conduct business in the manner the management sees fit.

The case of related party transactions offers strong arguments for looking at other cost-effective and preferably preventive, means of governance and assurance. We surmise that a person's disposition has little to do with such transactions, except where they represent potential self-interest of the executive, or a trigger for temptation to seek the unprocessed at any cost. The latter, however, is difficult to claim, for attachments can be transient; related party transactions are not a prerequisite to fall prey to temptations. An analysis of related party transactions – which are ultimately just another set of windows for opportunities – from this perspective could prove valuable in determining the level of emphasis the professions and regulators should place on this area.

Non-actors

Throughout this paper, we have emphasized the need to identify non-actors as a source of learning. If we understand non-actors, there would be hope to transform potential actors. The argument we advance is that almost all, if not all, R(s)s are likely to be found non-actors. In addition, not all R(t)s may commit fraud. This is because they are likely to fall prey to temptation only when they are attached, not otherwise. Consequently, related to R(t)s, we need to determine the role of attachment that pulls them into an act of indiscretion. For such studies, the SEC's database is unlikely to provide potentially relevant data, for the SEC enforcement actions are limited to suspected actors only, and even in this critical but limited universe, such data do not involve consideration of dispositions or attachments of the actors at the time of the act. Moreover, such data certainly leave out non-actors, both R(s)s and those R(t)s who did not commit an act (or who did not get caught).

Limitations

Several limitations of this study are significant and need to be addressed in future studies along these lines. First, the approach is new and would undoubtedly raise more questions. While metaphysically sound, its effectiveness in the FFR arena will require further analysis and reflection. Major pieces of the puzzle need to be discovered through further research. For example, what forms of attachment are likely in financial reporting? What is the relationship, if any, between opportunity and attachment? Is it likely that following an attachment, the actor creates fitting

opportunities? What role does desire-belief model play in the act of indiscretion? What factors influence or confirm belief to a degree where desire is acted upon? Second, there are significant measurement issues in this new thread of research. For example, are DIT-2 measures relevant to determine dispositions of people? How valid are the inventories of TRS? How do we measure windows of attachment and if successful in this attempt, what possibilities exist to consider them as red flags? Finally, if we are successful in producing evidence to support the theory, how could this new knowledge be put to use? Would it be possible to assess the disposition of the chief executive? Can we recruit or qualify candidates on the basis of their dispositions? How would corporate governance be affected by the theory?

Despite these unknowns of the new grounds broken here, there is significant upside to the theory. It takes us to the root cause of acts of indiscretion. Chasing the opportunity and incentive dimensions has not helped us much in improving the financial reporting and governance climate. Opportunities and incentives will remain as exogenous variables which can be manipulated any time; they provide an endless exercise in creativity and manipulation. The core of the problem lies in the conduct of the person(s) who become possessed for a time with an object of desire; in their minds, it is a must; they must achieve that because their desire-belief model supports it.

If proven, will the theory help eliminate all financial fraud? Definitely not, but it will help ameliorate the crippling problem profoundly. Underlying the theory is a proactive solution implicit in the transformation of disposition of actors, to help executives grow the traits of a non-actor. This can be accomplished through increased awareness and commitment to moral duty, using feed within exercises such as meditation (Raval and Raval, 2010, 207-222). Even if modest progress is made along the line of research proposed here, the auditing profession and the regulators can become more proactive in stopping the bleeding of financial markets. The red flags identified so far have mixed evidence of working as real red flags. And we have not explored green flags as yet; they are important in leading us to better solutions. In the proposed theory, a strong and perhaps quite valid presumption is that the answer lies outside of the substantive domain of financial reporting and perhaps even beyond what we know from the fraud triangle.

Albert Einstein once remarked, "If at first, the idea is not absurd, there is no hope for it." As farfetched as these propositions may appear, there is hope. The downside risk is minimal; upside potential is significant. Knowing why fraud occurs in the first place can result in saving corporations and their market caps, improved audit effectiveness, putting trust back in the world of investing, and putting lesser emphasis on regulations and the law, which provide only incomplete remedies and onerous side effects. The loss of a corporation due to fraudulent acts means that communities of which they are a part suffer losses, including unemployment, lost support to the local economy, and reduced social responsibility initiatives.

APPENDIX A
EXAMPLES OF PREDISPOSITION OF EXECUTIVES

Year	Case	Person involved	Descriptors of the person
TYPE S:			
1932	International Match Company	Iver Kreuger	Indifferent as a student; some suspected cheating during his student days; his agents used threats and bribery to buy match factories.
1938	McKesson & Robbins	Philip Musica (a.k.a. F. Donald Coster, M.D., Ph.D.)	Little education. Imposter. Devious. Convicted of fraud twice (avoided import tariffs, forged documents) and went to prison before age 30.
TYPE R:			
1996	Sunbeam	Albert J. Dunlap	Tenacious. Intensely focused on worldly success. Layoffs and plant closings a common occurrence in his turnaround management.
2000	Enron	Jeffrey Skilling	Drive. Passion for success. Young, eager to be rich; conscious about personal status.
2000	WorldCom	Bernie Ebbers	Charismatic. People pleaser. Distributing favors to buy loyalty.

APPENDIX B
EXAMPLES OF THE LAG CYCLE

Actor	Temptation feeding lust	Obstruction causing affect	Reaction
Charles Ponzi	The thought of international arbitrage (neither illegal nor fraudulent) of postal reply coupons, later translated into a <i>ponzi</i> scheme.	Inability to meet the gap between interest paid to investors and income earned on the funds invested. Continuing to pay high returns was impossible. The rapid growth of his company attracted attention of regulators and the media.	Tried to pacify the investors, employed his former cellmate to hide his past. Ultimately, the <i>Boston Post</i> exposed the fraud.
Patrick Kuhse	To earn superior levels of commissions from the State of Oklahoma on bond investments of the State.	Upon suggestion from the Oklahoma State employee friend in charge of bond investments, agreed to pay kickback to her, for she approved excessive commissions for him. Later, his friend fired a disgruntled employee who blew the whistle on the scam.	Departed for Costa Rica.
Tommy Ingram	To earn kickbacks from a contractor.	Large contracts required competitive bidding.	Break the jobs down below \$25,000 limit, where the low unit-price contractor could be given the job without further bidding.
Barry Minkow	To make his business grow and look prosperous, despite financing difficulties and lack of revenues.	When he attempted to raise funds through his stock of ZZZZ Best, the accountants wanted to inspect the company's operations.	Minkow borrowed fake offices for a tour of "Interstate Appraisal Services" and used an incomplete building to present a fake restoration job.
Raju Ramlingam	Merger of a real estate enterprises with an outsourcing company, Satyam Computers.	Shareholders strongly rejected the proposal.	To support leveraged debt, built fictitious, but believable prosperity in Satyam's financials.

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Changing Facets of FDI and Conceptual Issues in Internationalization

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Abstract

One of the most important phenomena in the process of globalization is the continued significance of regions as focus of economic activity. Systemic processes of rapid technological change enhanced capital mobility and inspired inter-regional competition for investment triggers the dynamics and notions of regional development. Aspects of trade relationship with several countries have undergone changes which opened up new opportunities with the multinational companies. This paper is an attempt to explore how Foreign Direct Investment (FDI) has been able to transform the value chain approach specifically in the manufacturing sector thereby reinforcing aspects of internationalization process. The options of efficient manufacturing by exploiting the economies of scale came into consideration and India became the most favored destination of FDI. The paper emphasizes the importance of FDI from a theoretical perspective and tries to develop an understanding on the different implementational issues which may be vulnerable to an economy's development.

I. Introduction

The historical experience of advanced economies shows that establishing a broad and robust domestic industrial base holds the key to successful development because of its potential for strong productivity and income growth. The process is associated with a strong investment drive in industry, rapidly rising productivity and a growing share of the sector in total output and employment. A rapid increase is observed in the share of fragmentation-based trade in world trade. The production process in certain industries has become standard fragments which can be effectively used in a number of products. Examples include long-lasting cellular batteries originally developed by computer producers and now widely used in cellular phones and electronic organisers; transmitters which are used not only in radios (as originally designed) but also in personal computers and missiles; and electronic chips, the use of which has spread beyond the computer industry into consumer electronics, motor vehicle production and many other product sectors. As international networks of parts and components supply have become firmly established, producers in advanced countries have begun to move the final assembly of an increasing range of consumer durables (for example, computers, cameras, TV sets and motor cars) to overseas locations in order to be physically closer to their final users and/or to take advantage of cheap labour. At the early stages of international fragmentation of production, the processes normally involved a multinational enterprise (MNE) building a subsidiary abroad to perform some of the functions that it once did at home. Over the years, fragmentation practices have begun to spread beyond the domain of MNEs. As production operations in host countries became firmly established, MNE subsidiaries have begun to subcontract some activities to local (host-country) firms to which they provide detailed specifications and even fragments of their own technology. Moreover, many MNEs in electronics and related industries have begun to rely increasingly on independent contract manufacturers for the operation of their global-scale production networks – a process that has been facilitated by the standardisation of some components and by advances in modular technology. Through this process assemblers push investment and price risk to the independent suppliers and increase their own efficiency. These new developments suggest that an increase in fragmentation-based trade may or may not be accompanied by an increase in the host-country stock of FDI.

Theories concerning internationalization of the firm have been mainly dealing with the questions about what are the underlying reasons for firms deciding to enter international markets. Another core question has been dealing with which types of operation forms firms are choosing when making the entry and when further developing their foreign operations. The third issue has been the geographical spread and development of international business activities. The present paper focuses on the basic theories of the process of internationalisation and the role of FDI enhancing the process. The paper is divided into different sections. Section I is the introduction followed by Section

II which theorizes the process of internationalization. Section IV gives an idea about the international production network and value chain which is followed by Section V which gives an overview of the global FDI flow. Section VI discusses specific FDI flows between EU and India as illustrative of the economies involved in the process of investment. It also points out the findings of the select Italian companies investment scenario in India. The next part is Section VII which illustrates the Sectoral flow of FDI in the context of a parts and component sectors. Finally Section VIII concludes highlighting the nexus between FDI and value chain mentioning the concerns existing in the process.

II. Internationalization

Internationalization is the process of increasing of involvement in international operations across borders (Welch and Lucstarinen, 1988). According to Cunningham and Homse (1982), internationalization is continuous process of choice between policies which differ may be only marginally from the status quo. This view was also endorsed by Bilkey (1978), Rothchild (1983), and Cavusgil (1984). It is an ongoing strategy process of most business firms and their strategy process determines the ongoing development and change in international firm in terms of scope, business idea, action orientation, organizing principles, nature of managerial work, domination values and converging norms.

Significant models and theories in the field of international business describe the internationalization process as a gradual development taking place in distinct stages and over a relatively long period of time. Various theories in international business, such as Product cycle theory of Vernon (1966), Oligopolistic theory of Knickerbrocker (1973), Monopolistic Advantage theory of Hymer (1976), International Theory (Buckley and Casson, 1976), Uppsala school's Stage theory (Johnson and Vahlne, 1977), Eclectic paradigm (Dunning, 1988) and the Network Theory of Axelsson and Easton (1992) proposed in different times, explain the process of internationalization differently. The existing theories are largely based on the assumption that firms become international long after they have been formed. Explained below are some of the theories of Internationalization.

The traditional classical macroeconomic theory of FDI hypothesises that the rate of profit has a tendency to drop in industrialised countries, often due to domestic competition, which creates the propensity for firms to engage in FDI in underdeveloped countries (Cantwell, 2000). In 1960, Hymer introduced a microeconomic theory of the firm, focusing on international production considering the key requirements for an individual firm in a given industry to invest overseas and thus becomes an MNE (Cantwell, 2000), including tradable ownership advantages and the removal of competition. The micro-level theory of the MNE replaced the seemingly redundant macro-level theory of FDI, due to its flaws. Hymer noted four discrepancies: (1) the older theory suggested that flow of capital was one directional, from developed to underdeveloped countries, whereas in reality, in the post-war years, FDI was two-way between developed countries; (2) a country was supposed to either engage in outward FDI or receive inward FDI only. Hymer observed that MNEs, in fact moved in both directions across national boundaries in industrialised countries, meaning countries simultaneously received inward and engaged in outward FDI; (3) the level of outward FDI was found to vary between industries, meaning that if capital availability was the driver of FDI, then there should be no variation, as all industries would be equally able and motivated to invest abroad; (4) as foreign subsidiaries were financed locally, it did not fit that capital moved from one country to another.

Thus the classical macro-level theory was based on the concept of a perfectly competitive market, where the increase in demand and subsequent super-normal profits gained in an industry in one country would cause profits to eventually drop with the flooding of the market with new entrants. If a foreign firm entered the market, the extra costs of being foreign would drive them out of business when prices decreased, meaning that they would have to have something which offset the disadvantages of being foreign.

Hymer argued that MNEs can only exist in an imperfect market, where firms have non-financial ownership advantages *vis a vis* other firms in the same industry, meaning that the driver for the MNE lies with the individual firms, rather than the country's capital availability. Another result of structural market failure is the removal of conflict between firms within a given industry (Yamin, 2000). Hymer discusses the nature of the "market power" (Cantwell, 2000) approach of firms and their oligopolistic (Yamin, 2000) interdependence, as they focus on the

domination of the market, the raising of entry barriers and the removal of conflict, all by collusive agreements. Firms, in theory then invest abroad in order to dominate more markets, raise profits and create more conflict-removing oligopolies. Hymer also states that only the largest of firms, such as those in an oligopoly, could sufficiently offset the costs of being foreign with their strong ownership advantages.

The OLI – approach by Dunning (1979, 1981) is an ‘eclectic’ approach stating that ownership, location and internalization variables collectively forms reasons for international trade and investments of firms. The stage approach to internationalization is related closely to the growth and economic reasoning, but taking also the managerial behavior like learning and commitment into account. The spatial perspective is also incorporated. This approach is also the other classical models which usually look at the nation state as a geographical – statistical unity. The Transaction Cost Analysis (TCA) assumes that markets are competitive and that low control modes exist. Because of opportunism, suppliers are forced to perform efficiently. This theory is useful in order to explain the vertical integration decision of organizations. Companies integrate in case of high asset specificity and to retain control over specific advantages. Furthermore it shows how firms especially MNCs evaluate whether or not to establish a manufacturing subsidiary in a market abroad.

The Retail Internationalization Process Model (RIP) assumes that companies internationalize when they can not grow adequate in their domestic market. The RIP model postulates an interplay of the firm’s and the decision maker’s characteristics, along with the external environment, serve as promoter or inhibitors for whether a firm will initiate international retail activities, maintain a constant level, increase or decrease its level of international retail involvement, or completely withdraw from its international market. With the help of this theory strategic decisions, like where to allocate the firms resources and how to enter the market, can be made. The model is dynamic and reiterative.

Another Internationalization Process model is the Innovation – Related Internationalization Model (IM). This model concentrates on the internationalization as innovation. The models focus on the learning sequence in connection with adopting an innovation. The authors assume that there exist push and pull mechanisms in initiatives to export and for movements to next stages. The IM sees the internationalization process as evolutionary and learning process like the Uppsala Model.

The Strategic Choices Model with its Multidomestic Strategy, International Strategy, Global Strategy, and finally Transnational Strategy describe different strategies how to enter the host country during an internationalization process of a company. These strategies are used according to the extent of pressure for cost reductions and local responsiveness.

Another model, which can be used in addition, is the Adaptive Choice Model. The ACM is an outcome of a case study and should complement the recent stage models. It handles the dilemmas in which managers can find themselves during the internationalization process according to Strategic, Structural and Human Resource Choices, which are left out in the stage models on the basis of their limitation.

Classical theories “Growth”, (Penrose 1959), The Hymer model (1960) concerns more with the economic reasons for firms entering into foreign markets, especially internalization gains and profit opportunities. Company growth opportunities and economic logic’s are according to these views are the guiding lines, also explaining why firms internationalize their operations. The “Uppsala internationalization theory” takes a stepwise approach, which postulates that the firm enters foreign markets gradually through learning commitment processes (Johanson & Vahlne 1977).

The modern theories of FDI for example the Dynamic Capability perspective argue that ownership specific resources or knowledge are necessary but not sufficient for international investment or production success. It is necessary to effectively use and build dynamic capabilities for quantity and/or quality based deployment that is transferable to the multinational environment. The Integration-Responsiveness Perspective states that FDI is a complex process requiring coordinating subsidiary activities across national boundaries which includes the coordination of activities across countries to build efficient operations networks and response to specific host country needs.

III. International Production Network and Value Chain

There is a drastic shift of trade pattern from one way trade to intra industry trade in the region especially in East and South East Asia. Globalization has given rise to new and more complex trade patterns particularly trade associated within international production networks (IPN). While a large part of international trade still involves products made more or less entirely within countries, the proliferation of production networks is gradually internationalizing many commodities and services. The international value chains and associated production networks in the region are emerging as the organizing framework for production, investment and trade in an expanding range of product groups such as garments, agro industry, furniture, automobiles/ automotive parts, consumer electronics, telecommunications and ICT, as well as various services.

Several experts relate the rising trade in Asia with the literature of 'flying geese' pattern of development led by Japanese investment. According to this idea, as production costs in the first tier countries (Korea Rep., Taiwan etc) are increasing, investment was flowing to other developing countries for production of parts and components. Ahearne et.al, (2006) argue that this pattern finally gives rise to a country like China which moves into the product space vacated by the first and second tier economies with greater integration of trade across the region in production networks. However, Bernard and Ravenhill (1995) argues whether the phenomena is due to 'flying geese' pattern or not more focus is required to understand the changing production relation between local and transnational firms to demystify the dynamics of production network and thereby the forces behind this rising trade in components. According to this idea, production patterns are becoming more standardized. Parent MNCs can now outsource several fragments of the final product without fear of losing the knowledge of patented components. Components producers are also competing neck to neck and ready to share risk along with the parent MNCs. In this context, Bernard and Ravenhill (1995) mentioned about the production network of microelectronics. Ernst and Kim (2002) consider that production relations between MNCs and suppliers got influenced by rapid trade liberalisation and ICT revolution which in turn help these firms to get integrated. Kojima (2000) mentions that shortening of product life cycle is one more reason to force firms to fragment their production process locating them in different countries which not only reduces the production cost but at the same time help firms launch new products simultaneously in different countries to have a quicker access to the consumer base. Tung (2003) also pointed out that flying geese pattern may not hold good while we analyse pattern of development in different industries. The fragmentation of production and corresponding firm specialization in tasks is leading towards the development of a new paradigm for international trade (Grossman and Rossi-Hansberg, 2006). As a result, SMEs involvement in international trade is increasing and efficiency level of these firms while delivering the goods and services are also improving significantly. According to Ernst and Kim (2002), two types of flagship model influence the trade in components: 'brand leaders' and 'contract manufacturers'. Flagship company remains in a position to control other smaller firms in different locations and thereby the extent of trade. Under the 'brand leadership' companies such as Cisco, GE, IBM, etc. connect themselves to number of firms globally. The suppliers here have to go a lengthy process of certification to ensure that they meet leader Companies' requirement. Unlike brand leaders, contract manufacturers, such as Flextronics or Solectron, establish their own (international) production networks that serve the global brand leaders. So, components trade can occur within the large network of the same companies or among various independent but interconnected suppliers. Kimura and Ando (2005) claim that the international product fragmentation depends on firms' capability to control the production process. Firms will outsource more from different smaller firms if they have relatively less control on the production process. Otherwise, they will develop vertically integrated branches internationally.

Policies and incentives towards SMEs in many countries help them to be more efficient which in turn assist firms to become effective players in international supply chain. Though Japanese investment in early years have initiated the process but high technology absorption skill of many SMEs pushed themselves up in the value chain which is one of the targets of these highly integrated players. In this context, many companies,

particularly smaller enterprises, are finding that success and value creation may be achieved through specialization in a limited set of activities, outputs and market niches.

IV. Global Trends in FDI

FDI shows a steady rise which took the peak in 2000. Although there was a slight down fall was happen in between 1990 to mid-1991, but from mid-1991 it was recovered very quickly and between 1992 to 2000 world saw an enormous amount of rise FDI.

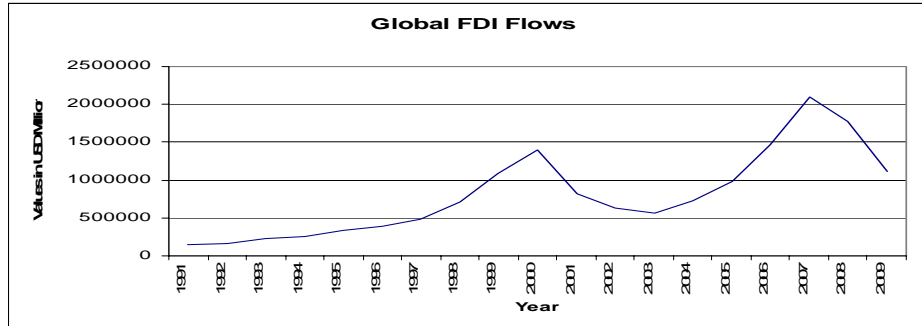


FIGURE 1: TRENDS IN GLOBAL FDI FLOW

Source: Calculations based on UNCTAD Database

In 1991-92 world aggregate FDI inflows was less than 200 billion US dollars which rose to 1400 billion US dollars in 2000. But this boom in FDI didn't continue even a year in between 2000 and 2001 FDI fall sharply and this fall prevailed upto mid-2003. Global FDI inflows rose modestly in 2004 following large declines in their value in 2001 (41%), 2002 (13%) and 2003 (12%) and rose consistently till 2007 as depicted in Figure 1.

V. Trends of FDI in India

Country-wise details of FDI flows reveal the continued predominance of Mauritius, the US and the UK, as major investors in India. Sector-wise, FDI flows into India were attracted by the increasing competitiveness of select manufacturing industries and services, particularly business and computer services.

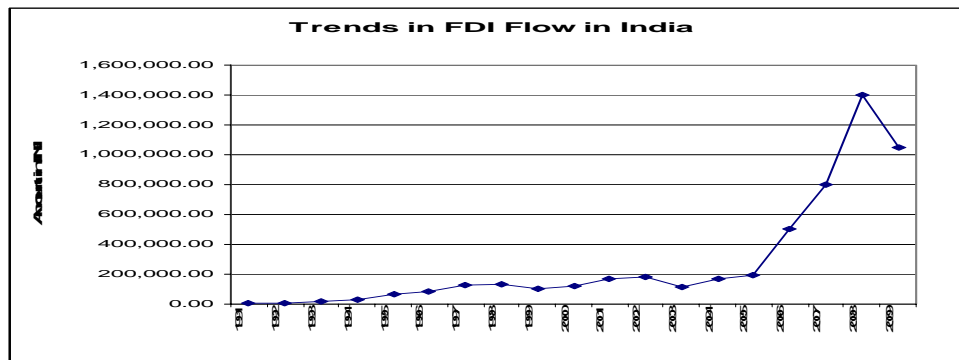


FIGURE 2 TRENDS IN FDI FLOW IN INDIA

Source: SIA Newsletter, Government of India (Figures for 2009 are till October)

At the global level, services have been the key attraction for foreign direct investors, a structural shift indicative of off-shoring. Among the major sectors apart from services sectors such as computer software and ITES, other sectors such as telecommunication, electrical equipments, chemicals, cement industry, transportation, pharmaceuticals, metallurgical industry are the major attractors of FDI.

TABLE 1: INDIA'S INFLOWS OF FDI: MAJOR SOURCES

Country	2000-2005 (Jan-Dec)	2006 Jan-Dec	2007 Jan-Dec	2008 Jan-Dec	2009 Jan-May
Mauritius	349,666.91	222,207.52	319,437.05	598,586.46	255,168.51
Singapore	27,588.56	28,532.04	58,306.08	157,758.64	79,178.89
U.S.A.	117,639.56	33,203.78	36,383.72	75,419.79	31,477.42
U.K.	57,435.49	78,247.46	19,670.99	70,085.39	7,240.22
Netherlands	62,934.56	22,457.28	27,894.49	42,813.50	8,586.71
Japan	56,757.64	5,229.22	27,751.60	16,976.32	23,950.51
Cyprus	4,136.88	2,570.04	22,043.19	58,250.15	28,715.37
Germany	30,914.29	13,972.47	14,155.04	33,288.58	12,997.44
France	22,888.72	3,876.56	5,208.04	20,444.93	3,073.73
U.A.E.	5,943.77	10,972.14	8,842.18	12,416.59	5,573.01
Switzerland	17,285.37	3,151.00	9,017.24	6,268.80	3,962.94
Italy	10,879.88	2,576.28	1,171.16	14,868.48	2,463.82

Source: SIA Newsletter, Government of India

VI. I. FDI in India: The Case of EU

India-EU relations have grown up substantially in both quality and depth in the last few years. In the economic sphere, ties have expanded and the parties have worked closely together to strengthen the multilateral trading system and to pursue a constructive dialogue on trade and investment and economic cooperation. EU is an important source of FDI for India. EU accounts for about 19.5% of total India's FDI inflows. In terms of Cumulative FDI inflows to India since April 2000, EU ranks 2nd. In 2007, EU's investment in India rose by 266.66% from 2006. EU invested \$ 13.9 billion in 2007. Whereas, EU's total investment in China was only \$2.56 billion in 2007.

The top 5 sectors attracting FDI inflows in India from EU are Services sector, Computer software & hardware, automobile industry, chemicals (other than fertilizers) and electronics.

TABLE 2: TOP 5 SECTORS ATTRACTING FDI INFLOWS FROM EU (FROM JAN 2000 TO JUNE 2007)

Ranks	Sector	Amount of FDI inflows	Sector's share in total FDI inflows From E.U
		In US\$	
1	Services Sector (Including Financial & Non-Financial)	2,417.32	35.92
2	Computer Software & Hardware	366.89	5.49
3	Automobile Industry (Including Passenger Cars Etc.)	359.19	5.33
4	Chemicals (Other Than Fertilizers)	322.68	4.93
5	Electronics	241.33	3.83
Total of above		3,707.41	55.50

Source: DIPP

Some of the leading EU companies of the world that have invested in India are Cairn, Castrol, Fiat, etc.

TABLE 3: TOP 10 FDI INFLOWS FROM EU COUNTRIES THROUGH INDIAN COMPANIES (Jan 2000-June07)

Nos.	Name of the Indian Company	Name of Collaborator/ Country/ Routes	Sector	Amount of FDI inflows Rupees/ (US\$)
1.	Cairn (I) Ltd	Cairn UK Holdings, U.K.	Business Services	Rs.66,632.4 (US\$1,462.8)
2.	Digital Global Soft Ltd.	Hewlett Packard Leiden B.V. Country: Netherlands Route: Acquisition of shares	Electrical Equipments (including computer software & electronics)	Rs. 9,505.2 (US\$206.6)
3.	Castrol India Ltd.	Castrol Ltd. Route: Acquisition of shares	Fuels (power & oils refinery)	Rs. 8,645.7 (US\$192.1)
4.	Micro Inks Ltd.	MHM Holdings GMBH. Route: Acquisition of shares	Chemicals	Rs.8,478.2 (US\$191.0)
5.	Himachal Futuristic Communication Ltd	Ecom Communication Ltd.	Electrical Equipments (including computer software & electronics)	Rs. 8,103.8 (US\$168.8)
6.	Emaar MGF Land P. Ltd	Horizon (I) BV Netherlands	Developing and subdividing real estate into lots	Rs.6,820.5 (US\$150.0)
7.	SAB Miller India Ltd.	-	Chemicals (other than fertilizers)	Rs. 5,973.7 (US\$129.9)
8.	Fiat India automobiles Pvt Ltd.	- Italy	Transportation Industry	Rs. 4,318.4 (US\$100.4)
9.	Mysore Cements Ltd	Cementrum I.B.V. Netherlands	Cement & Gypsum Products	Rs. 3,591.0 (US\$79.0)
10.	Hazira LNG Pvt. Ltd.	-	Fuels (Gas Transmission)	Rs. 3,368.8 (US\$73.2)

Source: DIPP

VI. II. FDI from EU to India: Summary Findings of Select Italian Companies

Survey findings of most of the companies located in India revealed that they are subsidiaries/branch offices of the Italian firms. They are able to setup their offices long back, however, the expansion of the companies in their Indian counterpart is not observed. Infact some companies have actually opened offices about a decade but the profit growth in the Indian counterpart is not quite contributory vis-à-vis their Italian counterpart. As far as the operations are concerned, very few companies have operational set up in India. Those who have their operational setup have very strong quality checks, and most of the equipments are imported from Italy. As a result of which, the price line of the product ranges manufactured in India are quite high since the quality is comparable of international standards. Thus the penetration of the products in the Indian market is quite low. Same is the case for the products directly imported from Italy. They cater only to a very small scale premium segment of the society. Thus most of the people who were interviewed were of the opinion that the standards really don't fit for all segment of the society. In some cases, its only the component which when ordered by the original equipment manufacturer gets imported and the Indian counterpart does only the liasioning for that particular product. Thus most of the products which are being sold are demand driven that too for only a premium segment. India was destined as one of the major markets in Asia. But since most of the operational units are not here they are still able to reap the economies of scale. The value chain

in most of the cases is quite simple and really does not add value as in many cases it's like a placing an order and supplying the same relationship. Infact most of the industries are yet to identify themselves in the value chain. As far as the operational issues are concerned a lot of problems arise in terms of taxes, apart from legal queries. The strategic location in Mumbai helps them in the sense of proximity of sea, and airports which takes care to some extent the smooth logistical functionality. Almost all the companies have well developed integrated IT systems and advanced mode of communication for interacting with their Italian counterparts. Though most of the companies plan to increase in the coming years however, the basic issue which was observed is the positioning and marketing of the products to penetrate the huge Indian market.

VII. Sectoral Overview of FDI

The Top 5 sectors attracting FDI in India from all the countries are services sector, electrical equipments, telecommunications, transportation industry and fuels (power & oil refinery).

TABLE 4: SECTORAL FDI FLOW IN INDIA

<i>Sector</i>	<i>2000-2005 (Jan-Dec)</i>	<i>2006 Jan-Dec</i>	<i>2007 Jan-Dec</i>	<i>2008 Jan-Dec</i>	<i>2009 Jan-May</i>
Services Sector	77,389.43	175,032.22	145,099.52	339,475.12	161,526.06
Computer Software & Hardware	122,234.01	87,492.90	102,148.54	78,102.50	13,360.47
Telecommunications	72,564.74	41,699.46	43,541.50	115,954.81	40,563.20
Housing & Real Estate	2,085.82	21,166.32	60,621.07	113,451.38	68,509.19
Construction Activities	17,554.24	36,613.91	51,924.40	103,623.52	38,989.45
Miscellaneous Industries	93,368.09	12,051.93	17,295.30	68,839.35	13,029.55

Source: SIA Newsletter, Government of India

In India, FDI is freely allowed in majority of sectors which include services sector. In few sectors, existing and notified sectoral policy does not permit FDI beyond a ceiling. FDI for virtually all items/activities can be brought in through the Automatic route under the supervision of the Reserve Bank of India (RBI), and for the remaining items/activities through Government approval considering the recommendation of the Foreign Investment Promotion Board (FIPB).

VII.I. Sectoral Flow of FDI: A Case of Investment in Parts and Components

FDI inflows to emerging East Asia grew at a remarkably high rate from the mid-1980s to 1998 as a result of which the share of emerging East Asia in world total FDI inflows increased from 8 percent in 1985 to 22 percent in the mid-1990s. Within the economies in East Asia, China and India are the major recipients of FDI among emerging market economies. Two developments are important concerning recent FDI in emerging East Asia. One is its resilience even during the period of economic crisis. Compared with other forms of international capital flows such as bank lending, which declined precipitously before and after the crisis, FDI inflows remained relatively stable in emerging East Asia, even in those economies that were seriously affected by the crisis—except for Indonesia. Another important development is the increase in mergers and acquisitions (M&As) as a mode of entry, particularly after the economic crisis. Historically, green-field operations used to be a preferred mode of entry for multinationals in East Asia, mainly because of restrictions on equity participation. The economic crisis changed this environment. Emerging East Asia with a keen interest in attracting FDI relaxed the restrictions. In addition, the huge decline in the values of East Asian currencies and assets encouraged foreign investors to undertake M&A.

In India the FDI flows as a percentage of GDP is more or less consistent over time. India receives large FDI from EU and USA apart from Japan. For parts and components also there is a consistent flow of FDI over the years. FDI in COMPONENTS is around 4-5% of Total FDI in India. The percentage share of FDI in parts and components over a period of time (as shown in the Figure below) reveals that the percentage share has been consistent except for the year 2006.

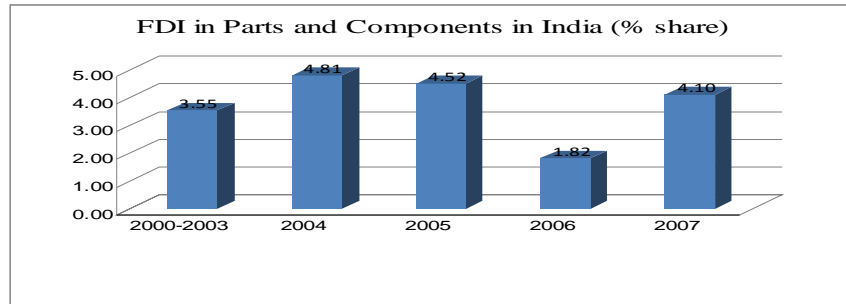


FIGURE 3: FDI IN PARTS AND COMPONENTS IN INDIA (% SHARE)

Source: Calculated from SIA Statistics

On the other hand the FDI figures for East Asian economies like Thailand has experienced a lots of ups and downs. The major source of FDI in Thailand is Japan and other East Asian countries, though Western countries are also important. In case of Thailand it is around 60% in 2005. Asian FDI in COMPONENTS sector of Thailand experienced a fall in 2006 both in metal, machinery and electronic sector. It s see from the figure below that among the South East Asian economies excepting Malaysia is on the top in 2005 for the electronic products in Thailand followed by Taiwan.

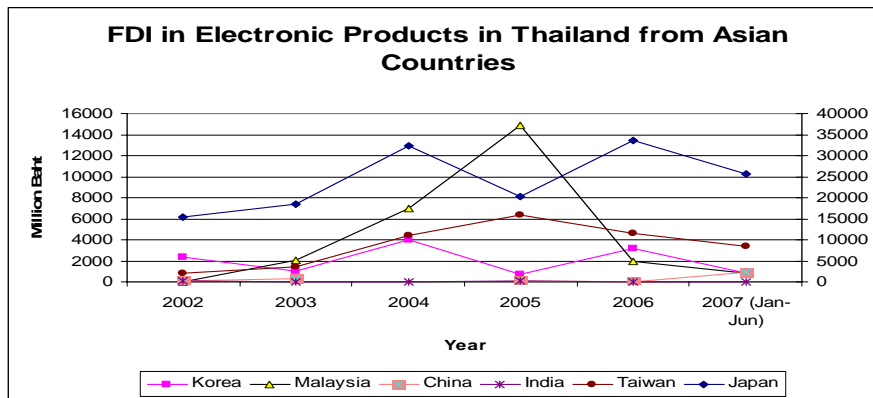


FIGURE 4: FDI IN ELECTRONIC PRODUCTS IN THAILAND FROM ASIAN ECONOMIES

Source: Calculations based on data from BOI, Thailand

In metal products and machinery sector also the FDI in Thailand experiences ups and downs. Here also the major investment comes from Thailand followed by Taiwan. Over the last few years it has been observed that FDI in both the electronic products and the metal and machinery products have decreased substantially.

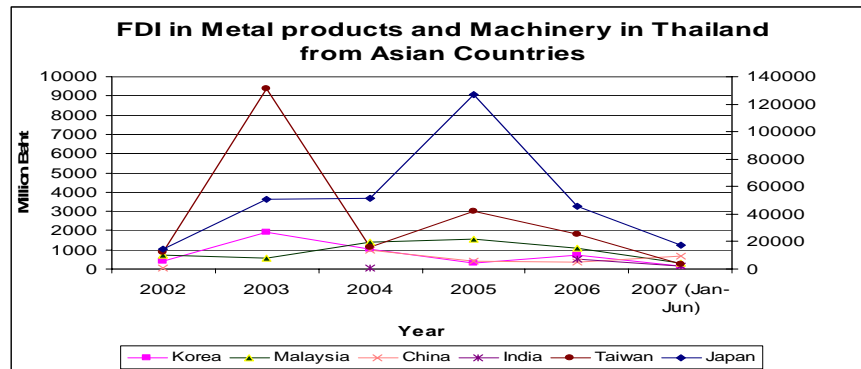


FIGURE 5: FDI IN METAL PRODUCTS AND MACHINERY IN THAILAND FROM ASIAN ECONOMIES
Source: Calculations based on data from BOI, Thailand

VIII. FDI and Value Chain: A Nexus

Thailand, Malaysia and Indonesia are already having large component sector and now new countries like Vietnam is getting investments in the component sector. But, India and South Asia are still outside the regional groupings of East and South East Asian countries and hence are not in a position to get the benefit of trade integration. As business in component sector is based on low margin and high volume, further liberalization will help South Asian countries to get networked more with East and South East Asian economies.

Firms are now part of a value chain which is placed across the countries. In the process, firms especially SMEs initially begin production with existing level of capabilities and upgrade capabilities of manufacturing and make attempt to learn process and product innovation skills, access technological knowledge. Through this, they independently start producing related goods (differentiated products, upgradation of models, etc.) and try to access to large export markets and finally exploit economies of scale. Some fragments of the production process in certain industries have become standard fragments which can be effectively used in a number of products (eg cellular batteries, electronic chips). Companies take these opportunities to exploit the economies of scale. The experiences they gain in the process eventually help firms to move to new and more profitable product segments which in turn pushing them to catch up with the advanced firms. The process started with East Asian firms (Japanese, Korean and Taiwanese) and later influenced South East Asian Players.

A dramatic shift is observed in export composition away from the standard light manufactured goods (clothing, footwear and sport etc) and towards other more sophisticated product lines, in particular various products classified under the category of machinery and transport equipments. In East Asia pivotal role was played by big players who have been more and more inclined towards assembly operations expanding value chain to other countries. The share of parts and components in 'total trade' is much larger compared to 10 years back and growing rapidly over time increasing the importance of the region as an assembly centre in the global economy. Some countries have improved the efficiency level and moved up the value chain and rests are still at the lower end of the value chain.

However, foreign companies often form monopolies in the domestic market. Due to their sheer size, good quality and low cost products, they might drive out small-scale firms. While in host countries long-drawn procedures, lack of infrastructure, etc., sometimes results in withdrawal of investments. Again developing countries might not have the capacity to absorb the technology. For example, poor infrastructure, low level of education, rigidities in labour legislation and other regulations are obstacles in the Indian economy. Some technologies may not be even suitable for conditions of the host country.

Job creation, which is one of most prominent benefit in host economy, may remain confined to in existing well-developed urban sectors where levels of education, training and infrastructure are high. As far as the development of SMEs is concerned, Small scale and rural businesses have a low capacity to attract FDI and could be left out or even forced out of business due to lack of financial resources or be compelled to use informal sources of financing.

Investors could take advantage of weak environmental legislation in developing countries, by using technologies that are cheap but harmful to the environment. Given the capacities and constraints of developing countries, free capital movements make them more vulnerable to both external and internal shocks. While developing countries' dependence on foreign finance to cover their current account deficits also makes them financially vulnerable.

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Hybrid methodology for Evolving Strategies to Improve the Relative Efficiencies in Banking Sector

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Abstract

Financial development creates enabling conditions for growth through either supply-led or demand-pull factors. Development of an efficient financial system is important for the economic development. There are 80 different banks operating in India. While all of them face similar constraints as mandated by the government and the Reserve Bank of India, each bank, evolved its own set of strategies to maximize its efficiency. Consequently, the relative efficiencies of these banks vary. This paper investigates into the relative efficiencies of the three categories of banks and identifies the possible factors which lead to the efficient functioning of banks. A hybrid methodology is used to identify the factors leading to these inefficiencies. Initially, DEA was applied to identify the banks that are relatively inefficient. Subsequently, causal analysis was carried out using techniques such as ANNs and classification trees. Based on this analysis, factors leading to relative inefficiencies are identified.

Introduction

Financial development creates enabling conditions for growth through either supply-led or demand-pull factors. A large body of empirical research supports the view that development of an efficient financial system contributes to economic growth (Rajan and Zingales, 2003). Documented evidence indicates that various measures of financial development such as stocks, bonds, access to credit, liquidity, assets and liabilities of financial institutions are positively related to economic growth (King and Levine, 1993; Levine and Zervos, 1998). Historically, the Government of India (GOI) has been evolving various strategies for enhancing financial inclusion through increase in banking penetration starting with the creation of State Bank of India in 1955. The nationalization of commercial banks in 1969 and 1980 were major policy initiatives in this direction. In order to bring more rural population into the ambit of financial services, special policy initiatives were introduced. Some of these are the Lead Bank Scheme in 1970, setting-up of Regional Rural Banks (RRBs) in 1975, introducing a Self-Help Group (SHG)-Bank Linkage Programme in 1992 and formulating the Kisan Credit Card scheme in 2001 (Mohan, 2006 and Thorat, 2007).

Indian banking sector was well developed even prior to its political independence in 1947. There was significant presence of both foreign and domestic banks and well developed stock market (Bery, 1996). The system expanded rapidly after nationalization of major commercial banks in late 1969 and now ranks in the top quarter among developing countries (Khanna, 1995). There were two successive nationalizations of banks in India, one in 1969 and the other in 1980 and as a result public sector banks occupy a predominant role in Indian financial system. Besides the above banks, as of June 2009, there were 86 Regional Rural Banks with 15,384 branches, 736 State Cooperative bank branches (2008) 11,921 District Central Cooperative Bank branches (2008), 95,633 Primary Agricultural Cooperative Credit Societies (<http://RBI.org.in>). Despite a phenomenal expansion of number of branches, the population served per branch stood at 13,000 (RTPB, 1997). Indian banking is particularly interesting because of the diversity of bank ownership forms. Indian banks can be classified into three ownership groups; publicly owned, privately owned and foreign owned. It is expected that there will be performance variation across groups of banks.

Though, Tyagarajan (1975), Rangarajan and Mampilly (1972) and Subrahmanyam (1993) have examined various issues relating to the performance of Indian banks, none of these studies have examined the efficiency of bank service provision in India. Some recent studies did measure the efficiency in service provision of Indian banks but they suffer from certain limitations as shown by Sathye (2009).

It is expected that there will be performance variation across groups of banks. This obviously requires that the relative efficiency of Indian banks is measured and compared with banking efficiency in other countries. There is

little reliable empirical research on bank efficiency in India although Bhattacharya, Lovell and Sahay (1997), Chatterjee (1997) and Saha and Ravishankar (2000) have examined various issues relating to the performance of Indian banks.

Not surprisingly, extensive research has been conducted on bank efficiency using data for the United States of America. However, there is also a growing body of literature for developing countries with an increasing number of studies conducted using data for transition economies in Europe, for Pakistan, India and China (Berger, Hasan and Zhou, 2009). From an accounting perspective, bank efficiency has been traditionally evaluated by a cost-to-income ratio.

“The alternative approach is neoclassical production theory, which has become increasingly common in empirical analyses. In this case, a bank is assessed as an economic unit and managers have the option of evaluating efficiency by considering multiple inputs and outputs and also of decomposing cost efficiency into allocative and technical efficiency. Perhaps it is as a result of the heterogeneity of the outputs and inputs related to banks why there is a lack of consensus in the literature as to their precise classifications. Consequently, the intermediation and production approaches are often utilised as classification guides. The intermediation approach assesses deposit-taking entities as financial intermediaries that utilise labour and capital to transform deposits into loans and other earning assets; the production approach is predicated on the entity as a producer of loan and deposit services from labour and capital. The choice of approach may alter the efficiency scores obtained but not the qualitative conclusions” (Daley and Mathews, 2009, p7)

“The most common findings for developing nations are that on average, foreign banks are more efficient than or approximately equally efficient to private domestic banks. Both groups are typically found to be significantly more efficient on average than state-owned banks, but there are variations on all of these findings. To illustrate, some research using data from the transition nations of Eastern Europe finds foreign banks to be the most efficient on average, followed by private domestic banks, and then state owned banks. However, another study of transition nations finds the mixed result that foreign banks are more cost efficient, but less profit efficient than both private domestic and state-owned banks. A study using 28 developing nations from various regions finds foreign banks to have the highest profit efficiency, followed by private domestic. For cost efficiency, the private domestic banks rank higher than the foreign banks, but both are still much more efficient than state-owned banks. Two studies using Argentine data (prior to the crisis in 2002) find roughly equal efficiency for foreign and private domestic banks, and that both are more efficient on average than state-owned banks). A study of Pakistani data finds foreign banks are more profit efficient than private domestic banks and state-owned banks, but all of these groups have similar average cost efficiency” (Berger, Hasan and Zhou, 2009). Finally, a study of Indian banks finds that foreign banks are more efficient on average than private domestic banks.

The above approaches are now associated with conducting empirical research on banking efficiency utilizing frontier parametric and non-parametric techniques. The parametric approaches impose a structural form on the data and are subject to criticism. Despite certain drawbacks, non-parametric approaches are commonly used since they avoid the restrictions of a defined functional form and infer the results from the banks’ output directly (Daley and Mathews, 2009).

Data Envelopment Analysis (DEA) is a mathematical programming technique grounded in the principle of benchmarking and seeks to identify the most efficient entity based on a ‘frontier’ of efficiency constructed over the data using only the data within the sample (Nagadevara and Ramanayya. 2009). Because DEA provides an objectively determined numerical efficiency value, it may be particularly valuable in assessing and strategizing on the efficiency of different banks. The standard DEA model outcome for efficiency is a value between 0 and 1 indicating the level of efficiency from least to fully efficient. Thus DEA is a tool to measure relative efficiency. The Data Envelopment Analysis uses linear programming approach to identify the banks which are efficient and those which are inefficient. The operations at the bank level are considered as the units for the study. The mathematical model for the analysis is given below:

Min θ_k

Subject to

$$\sum_j A_{ij} \lambda_j \leq a_k \theta_k \quad (\text{for inputs})$$

$$\sum_j A_{ij} \lambda_j \geq a_k \quad (\text{For outputs})$$

$$\sum_j \lambda_j = 1$$

Where θ_k = efficiency score of the bank k which is under consideration
 A_{ij} are the coefficients corresponding to ith bank and jth input/output
 λ_j = are the weightages associated with jth bank

The above problem is a linear programming problem. The optimal solution of this problem will result in a value of 1 for θ_k , if kth bank is efficient. If the kth bank is not efficient, then the optimal solution will result in a value of less than 1 and the values of λ_j will be the corresponding weights associated with the “peer banks” (which are most efficient) of the kth subunit. Appropriate policy directions in terms of the desirable levels of inputs and outputs can be given to the inefficient banks by using these weights. It is important to emphasize here that the above linear programming problem needs to be solved for each of the banks separately. A relatively efficient bank is one that cannot produce more outputs with the given set of inputs or the same set of outputs with fewer inputs. The advantage of unconstrained functional parameters allows the DEA flexibility to construct a linear frontier of relative efficiency by ‘enveloping’ the banks within the sample, with the ‘best practice’ banks forming the frontier.

While there have been many studies devoted to the measurement of efficiency of various banks in India as well as other developing countries, these have not emphasized on the factors that lead to different levels of efficiency. This paper attempts to bridge this gap by identifying various factors that impact the efficiency levels of the banks in India. In addition, it also builds a predictive model in order to predict the probability of a bank that is likely to become relatively less efficient.

Objectives

The objectives of this study are

1. To identify the banks (in India) that are relatively efficient and those that are relatively inefficient
2. To identify various factors that influence the efficiency levels of banks
3. To build and evaluate predictive models in order to predict which of the banks are likely to become inefficient.

Methodology

India had a total of 82 banks operating in 2007. Two of these banks have merged with other banks in 2008. Thus, this study is for the 80 banks that operated in India during the years 2007 to 2009. Data with respect to various characteristics of these banks was collected for the three years, namely 2007, 2008 and 2009 (for the financial year ending on 31 March in the corresponding year). The data was collected from the Reserve bank of India website (<http://rbi.org.in>). There were 28 Nationalized banks, 29 Foreign banks and 23 Private (Indian Banks in 2007. By 2009, there were 27 Nationalized banks, 31 Foreign banks and 22 Private banks. The efficiency levels of these

banks in each of the three years are estimated using Data Envelopment Analysis. The datasets for the three years is combined into one single dataset. The variables in the dataset included all those which were used for the DEA as well as the efficiency levels of individual banks in each year. These 240 observations have been classified into two categories – those which are efficient in the particular year and those which are relatively in efficient. This dataset is used to build classification trees (CART) for predicting the inefficient banks. In addition, the output of the classification trees is used to identify the factors that lead to inefficiencies of the banks in India.

Results and discussion

Data envelopment Analysis is used to identify the banks that were inefficient in each of the three years under study. The DEA model involves multiple outputs and inputs. The variables that are used as outputs and inputs are presented in Table 1.

TABLE 1. VARIABLES USED IN DEA (OUTPUTS AND INPUTS)

Outputs	Inputs
<i>Gross NPAs</i>	Cash-Deposit ratio
NET NPAs	Ratio of intermediation cost to total assets
Return on assets	Ratio of wage bills to intermediation cost
Return on equity	Ratio of wage bills to total expense
Return on advances	Ratio of wage bills to total income
Return on investments	Cost of deposits
Return on advances adjusted to cost of funds	Cost of borrowings
Return on investments adjusted to cost of funds	Cost of funds
Business per employee (in Rs.lakh)	
Profit per employee (in Rs.lakh)	

The first two outputs, Gross and Net NPAs are taken as negative outputs. There are 10 outputs and 8 inputs. Based on the DEA, there were 26 banks which were inefficient in 2007. This number has gone up to 35 in 2008 and 36 in 2009. Majority of the inefficient banks were nationalized banks. Table 2 presents the summary data with respect to the inefficient banks for the three years. Only two foreign banks were inefficient in 2007 and 2009. Of the 80 banks studied, there were 17 which were inefficient in all the three years. Of these 17, ten belonged to the Nationalized category, one was a foreign bank and the remaining 6 were private banks.

TABLE 2. NUMBER OF INEFFICIENT BANKS BY CATEGORY

	Actual Numbers			Percentages		
	2007	2008	2009	2007	2008	2009
Nationalized	16	14	20	61.54	40.00	55.56
Foreign	2	7	2	7.69	20.00	5.56
Private	8	14	14	30.77	40.00	38.89
Total	26	35	36	100	100	100

Table 3 presents the average values of the variables used in carrying out the DEA. These averages are presented year-wise and separately for the efficient and inefficient banks. In addition to the averages, the ratios of averages

between the inefficient and efficient banks for each of the variables, year-wise are also presented. In each of the three years, the Gross NPAs and Net NPAs have been consistently higher for the inefficient banks. The net NPAs of the inefficient banks have been more than double of that of the efficient banks. Similarly, the cost of deposits and cost of borrowings have been consistently higher with the inefficient banks, as compared to the efficient ones, in each of the three years. Similar is the case with wage bill (as measured by the ratio of wage bill to total expenses as well as the ratio of wage bill to total income).

TABLE 3. AVERAGE VALUES OF THE VARIABLES USED IN DEA

Variable	Year								Percentage
	2007			2008			2009		
	Efficient	Inefficient	Percentage	Efficient	Inefficient	Percentage	Efficient	Inefficient	
Gross NPA	39321.63	110008.85	279.77	53116.09	92951.97	175.00	56808.74	125187.71	220.37
Net NPA	14265.74	47234.77	331.11	20166.02	44739.49	221.86	25436.85	56199.86	220.94
Cash Deposit ratio	8.26	7.26	87.86	10.16	10.71	105.44	8.79	7.08	80.53
Cost of borrowings	4.94	9.10	184.02	4.80	6.70	139.54	8.10	9.93	122.61
Cost of deposits	4.38	5.05	115.32	5.11	5.69	111.35	5.10	6.23	122.34
Cost of funds	4.69	5.02	106.92	5.18	5.74	110.80	5.28	6.24	118.07
Ratio of intermediation cost to total assets	2.60	2.32	89.15	2.12	2.58	121.64	3.13	2.07	66.29
Ratio of wage bill to intermediation cost	47.82	58.94	123.24	46.82	52.61	112.38	43.46	57.80	133.00
Ratio of wage bill to total expense	17.92	19.47	108.70	14.70	16.41	111.59	16.29	15.09	92.65
Ratio of wage bill to total income	12.21	15.29	125.19	9.54	12.77	133.88	10.49	15.84	151.00
Business per employee in Rs. lakh	818.74	454.04	55.46	951.75	714.53	75.08	1184.41	680.13	57.42
Profit per employee in Rs. lakh	16.03	2.30	14.37	27.90	7.83	28.08	30.32	2.32	7.65
Return on advances	10.08	9.24	91.70	9.81	10.30	104.93	10.67	10.61	99.41
Return on advances adjusted to cost of funds	5.39	4.22	78.43	4.63	4.56	98.40	1.62	0.49	30.48
Return on assets	1.66	0.72	43.22	2.18	1.02	46.73	1.80	0.80	44.35
Return on equity	13.22	12.54	94.83	15.02	13.41	89.29	11.93	15.17	127.22
Return on investments	7.45	7.01	94.03	7.65	7.31	95.56	7.09	6.75	95.29
Return on investments adjusted to cost of funds	2.76	1.99	72.11	2.47	1.58	63.73	5.39	4.37	81.11
Efficiency	1.00	0.88	88.47	1.00	0.86	86.03	1.00	0.82	82.07

The business per employee of the inefficient banks has been hovering around 55 percent of that of the efficient banks, with the exception of 2008 where it moved up to 75 percent. The profit per employee of the inefficient ones also has been very low over the three years touching the lowest at 7.65 percent of the efficient banks in 2009. On the other hand, the return on equity was better among the inefficient banks in the year 2009. But, the return on assets has been less than 50 percent of the efficient banks, even though return on advances is comparable to that of the efficient ones.

While DEA helps to identify the inefficient banks as compared to the other efficient ones, it does not isolate the factors that lead to the inefficiency. Of course, it helps to prescribe strategic corrections in improving the efficiency by identifying the peer banks that are efficient and comparable to the specific inefficient ones. The identification of the peer banks will also help in target setting for these inefficient banks. Nonetheless, it is important to identify the factors that lead to inefficiency because it helps in setting the policy within as well as across banks.

In order to identify the factors that influence the efficiency levels among the banks and to prioritize them, the data with respect to the three years under study are combined into one single dataset. The banks are categorized into efficient and inefficient ones based on the DEA. Using this as the dependent variable, classification trees were built using CART as well as C5.0 methodology. In addition, the same dataset was used to build Artificial Neural Networks (ANNs) for predicting the inefficient banks. Table 4 presents the prediction accuracies of these three prediction models.

TABLE 4. PREDICTION ACCURACIES OF THE THREE TECHNIQUES USED

EFFICIENCY	Predicted			Overall Prediction (%)	
	Efficient	Inefficient	Total		
Neural Nets					
Actual	Efficient	108	35	143	84.44
	Inefficient	15	82	97	
CART					
Actual	Efficient	125	18	143	91.82
	Inefficient	20	77	97	
C5.0					
Actual	Efficient	131	12	143	94.76
	Inefficient	11	86	97	

Among the three prediction techniques used, Classification trees, C 5.0 turned out to be the best from the point of view of overall prediction accuracies with an accuracy level of 94.76 percent. Artificial Neural Networks had given the lowest prediction accuracies with 84.44 percent. The CART (Classification and Regression Trees) had a prediction accuracy of 91.82 percent.

Since C5.0 had given the best prediction with respect to the efficiencies, the importance of different variables for prediction is extracted from the classification tree. These variables with the corresponding importance are presented in Table 5. The most important variable for predicting the relative efficiencies of banks is the Gross NPAs. The wage bill (in relation to intermediation cost as well as to total expenses) is also very important. In addition, the cost of borrowings and cost of deposits are also important in predicting relative efficiencies. The two

variables namely Profit per employee and return on investments are of very low importance. In other words, it is necessary for the banks to concentrate on these variables, especially Gross NPAs and wage bill to maintain the efficiency levels year after year. If these variables are not watched carefully, the banks are likely to become relatively inefficient.

TABLE 5. IMPORTANCE OF DIFFERENT VARIABLES IN PREDICTING THE EFFICIENCY

Variable	Importance
Gross NPA	0.35
Ratio of Wage bill to Intermediation cost	0.22
Cost of borrowings	0.14
Ratio of Wage bill to total expenses	0.11
Cost of Deposits	0.08
Year	0.07
Profit per employee	0.05
Return on investments	0.01

Summary and Conclusions

Financial development creates enabling conditions for growth through either supply-led or demand-pull factors. Development of an efficient financial system is important for the economic development of the country. There are 80 different banks which operate in India. These can be categorized into Nationalized Banks, Foreign Banks and Private Banks. Data was collected for three years for each of these 80 banks. The banks that are relatively inefficient are identified in each of the three years, 2007, 2008 and 2009 using the concept of Data Envelopment Analysis (DEA). Out of a total of 240 data points, consisting of 80 banks for 3 years each, 97 are found to be inefficient. After classifying the banks into two categories, namely, efficient and inefficient ones, the data is used to build three different prediction models. These are Classification Trees (C5.0), Classification and Regression Trees and Artificial Neural Networks. The prediction accuracies of each of these techniques are estimated. It was found that C5.0 provides the best prediction accuracies. Variables that are important in the prediction of efficient banks vs. inefficient banks are identified based on the C5.0 classification tree model. It was found that Gross NPAs, wage bill, cost of borrowings and deposits have to be watched carefully in order to maintain the efficient nature of the banks. Those banks which can monitor and control these variables closely will turn out to be more efficient ones.

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The Effects of Tax Policy on SMEs In Thailand

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Abstract

While tax compliance costs are often neglected in many developing countries such as Thailand, these costs are important for policy-making. This paper discusses the effect of tax policy on Small and Medium Enterprises (SMEs) by highlighting tax compliance costs as a burden for Thai SMEs, especially in terms of Thailand corporate income tax (CIT). This study lays the foundation for the first attempt to measure CIT compliance costs of SMEs in this country. It is probably timely for policy-makers and politicians, in Thailand to consider the role of tax compliance costs in future policy. It is hoped that this paper helps contribute to such a debate.

Introduction

Small and Medium Enterprises (SMEs) are acknowledged as a key component of the Thai economy. This has led the government sector to provide support in the form of SME tax policy implementation. One significant instrument in supporting SMEs has been a tax policy change. Most tax policy changes have been issued without much attention to the cost of tax compliance. In general, it seems a routine requirement to comply with the tax authority's policies for SME taxpayers. This is also regardless of the cost involved and SME taxpayers are still responsible to comply with the tax laws.

Furthermore, it is widely accepted as being a problem for various countries. It is clear then that the effects of tax policy can be a tax burden to SMEs by increasing the tax compliance costs. This paper will discuss SME tax policy and how this tax policy can increase tax compliance costs of SMEs in Thailand. It is time for policy-makers in Thailand to consider tax compliance costs before issuing a new policy. The discussion of this paper is organized as follows: firstly, it discusses the importance of SMEs in Thailand and their vital role in the Thailand economy; secondly, the paper looks into corporate income taxation dealing with SMEs in Thailand and what the requirements are for SMEs; finally, the paper identifies the effects of tax policy by highlighting tax compliance costs as a burden for SMEs in Thailand and the situation of the current tax compliance costs study.

SMEs in Thailand

SMEs definition

SMEs are made up of different types of business organizations in Thailand, such as sole proprietorships, partnerships and limited companies. This paper will focus only on partnerships and limited companies because they will be taxed under corporate income tax. SMEs possess many desirable characteristics, including a high usage of labour and an economic usage of capital assets. The Ministry of Industry's definition of SMEs is the main definition used by the business sector. This SME definition is characterised by the number of salaried workers, and fixed assets and it is classified into three sections: production, service and trading (wholesale and retail). In general, enterprises having a total number of employees less than 200 and fixed assets less than 200 million baht are categorised as SMEs (Office of Small and Medium Enterprises Promotion, 2002)(see

Table 1).

TABLE 1: SMALL AND MEDIUM ENTERPRISES DEFINITION BY MINISTRY OF INDUSTRY THAILAND

Type	Small		Medium	
	Employees	Fixed Assets (million baht)	Employees	Fixed Assets (million baht)
Production	Not more than 50	Not more than 50	51-200	51-200
Service	Not more than 50	Not more than 50	51-200	51-200
Wholesale	Not more than 25	Not more than 50	26-50	51-100
Retail	Not more than 15	Not more than 30	16-30	31-60

Source: Office of Small and Medium Enterprises Promotion (2002)

In the Thai tax system, SMEs are defined in a more rigorous manner. In order to receive benefits, the companies must possess the following:

(1) Reduced corporate income tax rate for Thai companies with paid-up capital of 5 million Baht and below. These companies are subjected to a corporate income tax rate of 20% on one profit up to 1 million Baht and 25% on net profit over 1 million Baht up to 3 million Baht. Profit exceeding 3 million Baht is subject to corporate income tax ordinary rate of 30%. (Effective for accounting period starting on or after 1st January B.E. 2545)ⁱ

(2) Thai company with durable assets (excluding land) less than 200 million Baht and hiring employee less than 200 people grant an initial allowance on assets as follows:

(a) Computer hardware and peripheral can depreciate on the acquisition date at 40% of its total cost. The remaining will be depreciated at a regular rate for at least 3 accounting periods;

(b) Durable building and plant can depreciate on the acquisition date at 25% of its cost. The remaining will be depreciated at a regular rate not exceeding 5% of the total cost per annum;

(c) Machinery and equipment can depreciate on the acquisition date at 40% of its total cost. The remaining will be depreciated at a regular rate not exceeding 25% of the total cost per annum. (Effective for assets which are acquired on or after 31st January B.E. 2545)ⁱⁱ

(3) Full corporate income tax exemption for qualified venture capital (VC) company on dividend income and capital gain from sale of stock receiving from investing in Thai company with the durable assets (excluding land) less than 200 million Baht and hiring employee less than 200 people. A qualified VC company must be as the following:

(a) A company incorporate in Thailand which doing venture capital business as prescribed in Ministerial Notification with capital not less than 200 million Baht and paid-up capital at least of 50% in the first year. The remaining capital will be paid up within 3 years starting from the date of registration;

(b) VC company must be registered with the office of Securities and Exchange Commission within 3 years from 31st January B.E. 2545;

(c) VC company must have share of paid up capital in SMEs not less than 20% for the first year, 40% for the second year, 60% for the third year and 80% for the fourth year;

(d) VC company must hold SMEs stock for at least 7 consecutive years or at least 5 years if that SMEs can register in Stock Exchange of Thailand;

(e) A manager of VC company must hold a securities business license in a type of joint investment management which is approved by the offices of the securities and exchange commission. (Effective on or after 31st January B.E. 2545)ⁱⁱⁱ

(4) Income tax exemption on dividend or income from sales of securities receiving from the VC's exempt income. (Effective on or after 31st January B.E. 2545)^{iv} (The Revenue Department, 2006)

The SME definition provided by the Ministry of Industry Thailand is a general term widely acknowledged. In order to qualify for tax benefits, SMEs must meet strict requirements as set by the Revenue Department. Thus, SMEs can receive considerable tax benefits if they comply with each rigorous requirement. SMEs have to be aware of many factors to enjoy the benefits of policy implementation. For example to receive tax benefits, SMEs have to understand the classification system for tax deduction purposes. Sometimes, the definition of SMEs is also difficult because the nature of its criteria and purposes are variable (Cameron & Massey, 2003). It seems that SMEs have to meet many conditions to run their businesses. Otherwise, they will lose the benefits that they have gained. They have to provide enough information about their own circumstances to enjoy tax benefits, so they may have to spend money to employ tax professional to help them.

The Number of SMEs

The number and ratio of SMEs has increased since 2007. In the year 2009, there was a total number of 2,896,106 SMEs, making up 99.8% of the overall number of enterprises in Thailand, significantly greater than the number of large enterprises (4,653 or 0.2% of the overall number of enterprises) (Office of Small and Medium Enterprises Promotion, 2009) (see Table 2). Due to the large number of SMEs in Thailand, they have the potential to make a significant contribution to the Thai economy.

TABLE 2: THE NUMBER AND RATIO OF ENTERPRISES

Size	Number of Enterprises			Percentage/Enterprises		
	2007	2008	2009	2007	2008	2009
SMEs	2,366,277	2,827,633	2,896,106	99.6	99.7	99.8
Large Enterprises	9,091	4,586	4,653	0.4	0.2	0.2
N/A		4,158	-		0.1	-
Total	2,375,368	2,836,377	2,900,759	100.0	100.0	100.0

Source: Office of Small and Medium Enterprises Promotion (2007-9)

The percentage contribution of SMEs to Thailand's GDP for the years 2007, 2008 and 2009 was 38.7%, 38.1% and 37.8% respectively (See Table 3). The number of SMEs has increased recently but the value of GDP has fallen. Although the number of SMEs is larger than the number of large enterprises, the large enterprises contribute more to Thailand's GDP. This shows that there is still a mismatch, so tax policy needs to enhance robust SME productivity. If constructive policy is formulated to support SMEs, the GDP of SMEs to Thai economy may increase.

TABLE 3: THE GDP OF ENTERPRISES

Size	GDP (%)		
	2007	2008	2009
SMEs	38.7	38.1	37.8
Large Enterprises	46.3	45.8	45.9

Source: Office of Small and Medium Enterprises Promotion (2009)

SMEs Taxation in Thailand

Taxation in Thailand is under the authority of the Revenue Department (RD) as personal income tax (PIT), corporate income tax (CIT), petroleum income tax, value added tax (VAT), specific business tax, and stamp duties. CIT and VAT are the main taxes faced by the business sector. This paper will focus only on CIT. Taxpayers (individual and business organisations) have a legal duty to declare their income and pay tax to the RD elaborated in the self-assessment system. As a result, income declaration and tax payments are assumed to be correct. In some cases, assessments may be conducted by the RD in certain circumstances, such as failure to file tax returns or filing of false or inadequate tax returns.

Corporate Income Tax

Basically, SMEs are registered under business organization law, are subject to taxation as stipulated in the Tax Code and are subject to income tax on income earned from sources within and outside of Thailand. This is known as 'Corporate Income Tax' or 'CIT'. In general, CIT ("Revenue Code," 1938) is a direct tax levied on net profit by subtracting all allowed deductible expenses from total sales. The allowed deductible expenses are subjected to conditions commonly found in the Thai tax code. CIT rate in Thailand is 30% on net profit. Reduced rates are applied depending on the type of tax payers. More specifically, the Thai government provides CIT rate for SMEs with paid-up capital less than 5 million baht as follows: for net profit less than 150,000 baht - tax rate is exempt; for net profit between 150,000 to 1 million baht - tax rate is 15%; for net profit between 1-3 million baht - tax rate is 25%; and for net profit more than 3 million baht - tax rate is 30% (Fiscal Policy Office, 2008)(See Table 4).

Moreover, net losses of CIT can be carried forward for up to five consecutive years. Taxes are due on a semi-annual basis within 150 days of the close of a six-month accounting period. Except for newly incorporated companies, an accounting period is defined as a 12 month period. Returns must be accompanied by audited financial statements. SMEs must file a half-year return and pay 50% of the estimated annual income tax by the end of the eighth month of the accounting period.

TABLE 4: CORPORATE INCOME RATES OF SMES

Taxpayer	Tax Base	Rate
Small company which refers to a company with paid up capital less than 5 million Baht at the end of each accounting period.	Net profit not exceeding 150,000 baht	Exempt
	Net profit over 150,000 baht up to 1 million baht.	15 %
	Net profit over 1 million baht up to 3 million baht.	25 %
	Net profit exceeding 3 million baht.	30 %
Company listed in Market for Alternative Investment (MAI)	Net profit for first 20 million baht. Remark: for 3 accounting periods beginning on or after January 1 st , 2008.	20 %
	Net profit for the amount exceeding 20 million baht	30 %

Source: The Fiscal Policy Office (2008)

In the 2009 fiscal year (October-September), the CIT collected was 392,172 million baht (14,487.4 million AUD dollars)^v. The CIT collection ranked second in the list of total tax collection in Thailand. The highest revenue is VAT (see Table 5).

TABLE 5: TAX COLLECTION IN FISCAL YEAR

Tax Type	Fiscal Year 2009	
	Tax Collection (Million Baht)	Percentage
Personal Income Tax	198,095.44	17.40
Corporate Income Tax	392,171.86	34.44
Petroleum Tax	90,712.40	7.97
Value Added Tax	431,775.38	37.92
Specific Business Tax	18,099.04	1.59
Stamp Duty	7,487.83	0.66
Other Income	222.95	0.02
Total	1,138,564.90	100.00

Source: The Revenue Department of Thailand (2009)

The RD is the main department among three main agencies (i.e. the Revenue Department, the Excise Department and the Customs Department) under the Ministry of Finance that collects more than half of the total tax collection in Thailand. Each year, Thailand's tax collection is expected to exceed Government targets. Enhancements to the tax system's efficiency and profitability are sought, and tax base expansions are expected to increase. Presently, the RD increases tax collection by improving the audit system. However, the level of tax

compliance costs should be considered by promulgating a Taxpayer's charter. The reducing of tax compliance costs can also show the RD's concern for the Thai taxpayers because it reduces the taxpayer burden. This might enhance voluntary taxpaying, especially from the SME taxpayers. The large number of SMEs can play a vital role in contributing to tax revenue for the Thai economy. Changing taxpayers' perceptions is a constructive strategy that the RD should implement.

The Effects of Tax Policy on SMEs

Tax compliance costs are the costs taxpayers incur when dealing with the tax authority to comply with their legal requirements (Sandford, Godwin, & Hardwick, 1989), and in this case it is a private sector cost. Besides private sector costs, public sector costs are incurred by the revenue authority. To understand 'public sector costs' it is clearer to use the term 'administrative costs' to identify the cost of salaries and wages, including national insurance contributions and superannuation costs; accommodation costs (including rents, rates, heating, lighting and cleaning); postage, telephone, printing, stationery; travel; and computing and other equipment costs of all staff in the revenue department (Sandford, et al., 1989).

In order to reduce administrative costs, the RD might have to shift the burden to taxpayers by transferring administrative costs to compliance costs. Thus, the differences between public costs and private costs identify an area of high compliance costs, indicating the importance of administrative costs and especially compliance costs to policy makers (Sandford, et al., 1989); both these costs are by no means independent (Oliver & Bartley, 2005).

The level of compliance costs are a major concern to small business because most politicians like to provide tax incentives without concerns about tax compliance costs (Pope, 2008). Tax compliance costs become a tax burden for SMEs when they have to deal with complicated compliance rules. As identified by Ariff and Pope (2002), what is needed for such small and medium businesses is for tax compliance costs to be minimal. Adding to the compliance costs in the United States is the impact coming from the complexity of taxing income by lawmakers attempting to achieve political goals using tax policy, such as assigning tax burdens based on income level, and encouraging various socially beneficial activities (Moody, Warcholik, & Hodge, 2005). Factors contributing to tax system complexity include the economic environment faced by taxpayers, taxpayer behaviour, and the administration of tax policy such as compliance and administrative costs. These concerns demonstrate that the effects of tax policy can be to increase both the number and complexity of the rules and regulations leading to higher reporting requirements and hence higher compliance costs. The following will discuss the effects of tax policy on Thai SMEs which can be a tax burden to SMEs.

The content of tax policy tends to become complex and confusing

When the tax policy is passed in Parliament and becomes legal, the tax policy tends to become complex and confusing. Most Thai SMEs lack of tax knowledge, so they have to use tax professional staff to help them with filing tax, record keeping and dealing with the RD. This is the obstacle of the SMEs that cannot keep tax compliance costs low.

The self- assessment system

The self-assessment system is a way of transferring the public cost to tax payers. The self-assessment system in Thailand is a responsibility the government places on taxpayers to administer themselves. SMEs are required to register as taxpayers, file taxes, keep records and prepare for audit by tax auditors or the CPA (Certified Public accountant). SME taxpayers are legally responsible for the accuracy of the information they provide in their tax declarations. If the RD check the accuracy of the information and find information missing or incorrect, SMEs will be subject to penalties. It is the legal duty of the SME taxpayer to pay the correct tax amount, so it is hard for them to have a low compliance costs in the self-assessment system.

According to the Thai tax code, SMEs are the same as large enterprises in the self-assessment system. There is no exemption for SMEs in reducing declaration of filling tax process. Although they are different sized enterprises, they have to comply with the same process of declaration of filling tax. SMEs have to prepare the documents for audit by auditors just like the large enterprises. It is not surprising that the estimation of a large share

of small business activity is carried out underground rather than in the official economy (Schneider, 2005). A reduce in formalities for SMEs might significantly ease compliance costs and might thereby help SMEs keep compliance costs low, thus increasing the number of SME voluntary taxpayers.

Awareness of tax compliance costs in policy making process

Studies related to tax compliance costs research have been conducted in many countries throughout the world (for example: see Table 6) and it is widely recognised that there is a problem with the regressive nature of tax and other burdens on small businesses (Evans & Walpole, 1997; Pope, 2005; Sandford, et al., 1989).

TABLE 6: SUMMARY OF TAX COMPLIANCE COSTS STUDIESS

COUNTRY	AUTHOR	YEAR
AUSTRALIA	Pope	1992, 1993
	Wallschutzky & Gibson	1993
	Pope	1995
	Evans, Ritchie, Nam, & Walpole	1998
	Rimmer	1998
	Tran-Nam, Evans, & Walpole	2000
	Pope & Rametse	2002
	Tran-Nam & Glover	2002
	Tran-Nam & Glover	2003
	Glover & Tran-Nam	2005
	Rametse & Pope	2005
	McKerchar, Hodgson, & Walpole	2009
Australia & New Zealand	Rametse & Yong	2009
Canada	Plamondon & Zussman	1998
	Valliancourt & Clemens	2007
Ethiopia	Yesegat	2009
Hong Kong	Chan, Cheung, Ariff, & Loh	1999
India	Chattopadhyay & Das-Gupta	2002
Malaysia	Hanfah, Ariff, & Kasipillai	2001
	Abdul-Jabbar & Pope	2008
	Abdul-Jabbar	2009
New Zealand	Sawyer	2002
	Alexander, Bell, & Knowles	2004
Philippines	Ang & Folloso	2007
Singapore	Ariff, Ismail, & Loh	1997
	Ong & Imm	2007
Slovenia	Klun	2004, 2009
Slovenia & Croatia	Klun	2005
Tanzania	Shekidele	1999
U.K.	Godwin	1978
	Sandford, Godwin, & Hardwick	1989
	Chittenden, Kauser, & Poutziouris	2005
U.S.A.	Blumenthal & Slemrod	1992
	Oster & Lynn	1995
	Mills	1996
	Slemrod & Blumenthal	1996

Several studies and reports imply that compliance costs are very important and have an impact on the tax system. Unfortunately, the Thai government sector has undertaken policy implementation to support SMEs without consideration of tax compliance costs.

Six phases or periods for developing compliance costs of taxation in a policy area have been identified by Pope (1992; 1993): Phase one is the period where the issue of compliance costs is denied; phase two is the recognisable period of compliance costs by experts; phase three is the signal period to estimate the tax compliance costs to experts; phase four is a period where there is compliance costs recognition by policy makers; phase five is the formulating period of policy actions in compliance costs; and phase six is the monitoring period to estimate the compliance costs. Thailand's development of compliance costs is in phase two or three; therefore, more can be done to close the gap in the development of compliance costs in the Thai tax system. It is probably time, then, to attempt to measure income tax compliance costs for SMEs in Thailand.

The conflict between tax benefit policy and tax collection growth policy

Tax revenue is the main source of income for Thailand to finance government spending on goods and services. The main duty of the three major revenue agencies (i.e. the Revenue Department, the Excise Department and the Custom Department) is tax collection; their duty is to increase tax collection annually. The RD in particular is the primary tax collection agency. Providing tax benefits is likely to decrease the level of tax revenue. This appears to be a confused policy, but it is a common approach for the Thailand tax system.

Too many rules and regulations for SMEs

It is common now to hear about integration among government departments from government spokesmen. To start the integration process among government departments, the Ministry of Industry, Ministry of Commerce and Ministry of Finance should work with all sectors for such integration, and address. The example of the problem is: There are too many variable definitions of SMEs which currently prevent companies from receiving the benefits. This will be a joint initiative among all government departments. Moreover, the reduction of rules and regulations for SMEs should be considered by government departments. It will help SMEs to keep tax compliance costs low to receive tax benefits by reducing the complicated system.

The paper presents the effect of tax policy on SMEs in Thailand and it increases SME tax compliance costs. The measure of compliance costs will be helpful for Thai SMEs. First, the study of SME tax compliance costs will identify the impact of SME compliance costs when they comply with tax requirements, showing the hidden costs in the Thai tax system and the Thai economy; second, the study will develop recommendations to support SMEs in reducing their compliance costs and will assist in increasing efficiency to help SMEs operate in a competitive global economy. Third, the study will develop a model to increase theoretical and practical awareness of the importance of SME compliance costs to the general economy; it will help both the public and private sectors to be more alert and responsive to tax compliance costs in the Thailand tax system. Fourth, the study will identify constructive policy recommendations to inform Thailand policy makers, and alert them to the importance of tax compliance costs in the policy making process. Finally, this study will lay the foundation for further study in the field of compliance costs in Thailand.

Conclusions

Currently, there is no tax compliance cost study in Thailand, and it is the first attempt to measure the compliance costs in Thailand. The effect of tax policy is tax burden for SMEs in Thailand at this time. The measure of tax compliance costs is needed to prove the effect to Thai SMEs tax policy and to reduce the burden on the SME sector. Most SMEs would probably prefer a simple system and lower levels of tax compliance costs. This is something that policymakers and politicians should reconsider, because current tax policy tends to increase tax compliance costs.

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ⁱ Royal decree 394 B.E. 2545, CIT rate of 15% on net profit up to 1 million Baht (Effective for accounting period starting on or after 1st January B.E. 2547), Royal decree 431 B.E. 2548

ⁱⁱ Royal decree 395 B.E. 2545

ⁱⁱⁱ Royal decree 396 B.E. 2545, Minister of Finance Notification: securities business license

^{iv} Royal decree 396 B.E. 2545 – Ministerial regulation no.126 clause 2(58)

^v AUD1 dollar equals to 27.07 Thai Baht (Foreign Exchange Rate as of 26 May 2010 by Bank of Thailand) www.bot.or.th/english/statistics/financialmarkets/exchangerate/layouts/Application/ExchangeRate/ExchangeRate.aspx

Factors that Influence Sukuk Retail in Indonesia

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Abstract

Retail Sukuk is developed by ministry for domestic investors in bond market to strengthen the government's bond against volatility due to foreign investors movement. It helped to finance the budget deficit. The question is that what variables affect the price of retail Sukuk. This paper will examine what factors that affect individual investors to buy retail Sukuk 01(SR01). Investigating factors that affect SR01 price is crucial because Indonesia, as the world's most muslim populous country, is supposed to have muslim investors who are more concerned to Islamic finance products to invest. Thus, the government has a potential new market segment (diversification of investor base) to finance the budget through domestic market. The result suggests that only interest rate (conventional) affects the price. It implies that the investors are only concern on the return; the religious factor apparently does not come in the picture.

Introduction

The Sukuk market has emerged in 2002 with Malaysian government's US\$600mn. Sukuk issuance has been dominated in parts of Asia and GCC countries. The development of the Sukuk market has been facilitated by sovereign benchmark issues. In value of terms, about 36% of Sukuk issues originated in Asia (Malaysia, Pakistan, and Brunei), and 62.1% in the GCC during period 2001-2007. Corporate issuance has grown rapidly around 2,380.7% from year 2003 to year 2006. Sukuk al Ijara (43.6%) was the most popular amongst corporate and governments wanting to raise funds in the Islamic debt markets. It is followed by Sukuk al Musharakah (27.5%), and Sukuk al Mudaraba (18.4%) (El-Quqa, et.al., 2008).

Indonesia government issued sovereign Sukuk legislation in May 2008. It is a bit late because a private sector already issued Sukuk since 2003. A recent report from Ernst and Young (2009) also shows that between 2007 and 2009 Sukuk are still largely originated from Malaysia and the GCC. Issuance from other jurisdictions such as Indonesia is increasing, but it is still negligible. Thus, private sector is an initiator of Sukuk development in Indonesia. With the legislation, it is expected that the Sukuk market will be more developed, and finally it will be able to attract foreign investors, especially from Middle East, even though the retail Sukuk is now focused for domestic market/investors.

According to Sunarsip (2008), Indonesia's Sukuk market faces few challenges: first, shari'a financial market is not liquid, the reasons are: first, a small market that is less than 5% out of the whole financial market, and regulation of Bank Indonesia; the liquidity is also a concern in global market, as suggested by Zaidi (2007) - CEO Islamic International Rating Agency, Bahrain - "at present, the size of the secondary market is relatively small although secondary trading of Sukuk is on the rise". Second, there is uncertainty about a tax; third, most of shari'a financial products are debt-based or debt-likely products.

Throughout 2009, Indonesia capital market showed an uplifting growth. It was shown from sharia product growth in Indonesia capital market: 14 Sukuks of 8 (eight) Issuers got effective statement from Bapepam-LK. Accumulatively, up until December 2009, there were 43 Sukuks was issued or an increase by 48.28% compared to 2008 which was only 29 Sukuks (Bapepam-LK, 2009).

The first Indonesia global Sukuk – dollar denominated Sukuk- was sold oversubscribed seven times. The investors were from Asian (32%), Middle East (30%), US (19%), European (11%), and Indonesia (8%)(Suharmoko, 2009). However, around September 2010, Indonesia was reviving sales of Islamic bonds two months after consecutive auctions fell short of target because of insufficient trading volume. To overcome this problem, Waluyanto – director general of the Debt Management Office – said that the government would continue to add to the number of Sukuk issuances to further boost the liquidity in the secondary market (Permatasari and Manurung, 2010). Regarding to retail Sukuk (SR), the Sukuk is designated to individual investors and only for Indonesian (domestic) investors. As Arab News reported that "in January 2009, the Indonesian Ministry of Finance issued the country's debut sovereign retail local currency rupiah Sukuk – an offering which raised 5 trillion rupiah (\$540 million) from domestic market as part of its public borrowing requirement".

Retail Sukuk is developed by ministry for domestic investors in bond market to strengthen the government's bond against volatility due to foreign investors movement. There are 14,295 investors purchasing the Sukuk (Suharmoko, 2010). The first and second retail Sukuk (SR 01 and 02) were sold like hot cakes. It helped to finance the budget deficit. The question is that what variables affect the price of SR. Due to the absence of appropriate Sukuk pricing model, then model of conventional bonds price as proxy for Sukuk pricing is employed here. Moreover, to study whether the investors consider the religious factor, I use sharing profit and loss rate as well as conventional interest rate in the model.

This paper will examine what factors that influence individual investors to buy retail Sukuk 01(SR01). Investigating factors that affect SR01 price is crucial because Indonesia, as the world's most muslim populous country, is supposed to have muslim investors who are more concerned to Islamic finance products to invest. Thus, the government has

a potential new market segment (diversification of investor base) to finance the budget through domestic market. Moreover, the government does not need to have exchange rate exposure relates to non domestic currency denominated Sukuk.

Literature Review

Sukuk

Sukuk are “certificates of equal value representing undivided shares in ownership of tangible assets, usufruct, and services or (in the ownership of) the assets of particular projects or special investment activity” (AAOIFI, 2008). The difference bond from Sukuk is that “bond is a contractual debt obligation whereby the issuer is contractually obliged to pay to bond holders on certain specified dates, interest and principal; while Sukuk holders are entitled to share in the revenues generated by the Sukuk assets as well as being entitled to share in the proceeds of the realisation of the Sukuk assets” (Thomas, Cox, and Kraty, 2005).

According to Jobst (2007), two stage verification process are required to implement Islamic securitization: (1) the type of underlying assets and generation of returns, and (2) the transaction structure. Furthermore, several conditions must be met in adapting conventional securitization for Islamic securitisation. Those are as follows: (1) “there should be a real purpose behind raising fund, and the type of collateral assets realizing the securitised revenues must be clearly identified and cannot be consumed; (2) there should be fair share of risk and return among participants; (3) collateral assets should be free from debt, and prohibited (haram) activity; (4) “the structure should provide investor compensation for business risk from direct participation in securitized assets and should not imply an exchange of debt for interest-generating investment return; (5) investor should hold an unconditional and unsecured payment obligation and not a guaranteed promissory note”; (6) investors must possess the assets; (7) the investment proceeds of investors must not be reinvested in short-term cash instruments or interest bearing debt; (8) the underlying assets and securitised obligations must be not used for speculative purposes, and turn over should be kept low; (9) takaful should be employed for replacing conventional insurance; (10) “any form of credit enhancement and/or liquidity support and limitations of prepayment risk must be in a permissible form” (Jobst, 2007).

There are two ways to create Islamic financial securities: direct structuring of securities and process of asset securitisation. In direct structuring process, securities are issued first, then the proceeds/funds are used to finance the certain assets/projects with the client company. The profits from the project/assets will be distributed among security holders. While in asset securitisation process, the existing assets of the client company are identified, pooled, and then are securitised (El-Quqa, et.al., 2008)

Regarding to Sukuk structure, there is a debate whether the structure is asset-backed or asset-based. In asset-backed Sukuk, the originator sells the asset to special purpose vehicle (SPV) that issues the Sukuk. SPV owns the asset, and uses the asset to obtain return. Most of Sukuk structure are not asset backed. Furthermore, the Sukuk holders do not have recourse to the originator. Asset-backed Sukuk are closer to an equity position, while asset-based Sukuk are closer to debt because Sukuk holders have recourse to the originator if there is a shortfall in payments (Hayat, 2010). According to Nassif et. al. (2009), to increase Sukuk share in financial market, the flexibility of the Sukuk instrument is required. As they mentioned that most Sukuk issues have been debt-like, the structure might be designed as an equity instrument through convertibility. It could access a much wider investor base.

In addition, El-Quqa, et.al. suggest that the issuance of Sukuk with asset-based structure will have an impact on their ratings. In asset-based Sukuk, the holders rely for payments on the company in the same way as in corporate bond issue. “More importantly, in an asset-based Sukuk, the market value of the underlying assets has no bearing on the redemption amount as this is fixed at the outset when the relevant undertakings are agreed. More recently, the market has seen issuance with a mix of cash and assets, and in several cases, Sukuk have been issued for a new business with no tangible assets. The issuance of convertible and exchangeable Sukuk are more recent developments”.

The use of Sukuk in the world of Islamic finance has become increasingly popular in the last few years, both because they provide the means to raise government finance through sovereign issues, and as a way of companies obtaining funding through the offer of corporate Sukuk Benjamin (2007, as cited in Mohamad, et.al., 2010).

Reasons why Sukuk is attractive to investors could be identified as follows (Benjamin, 2007 cited in Mohamad, et. al., 2010):

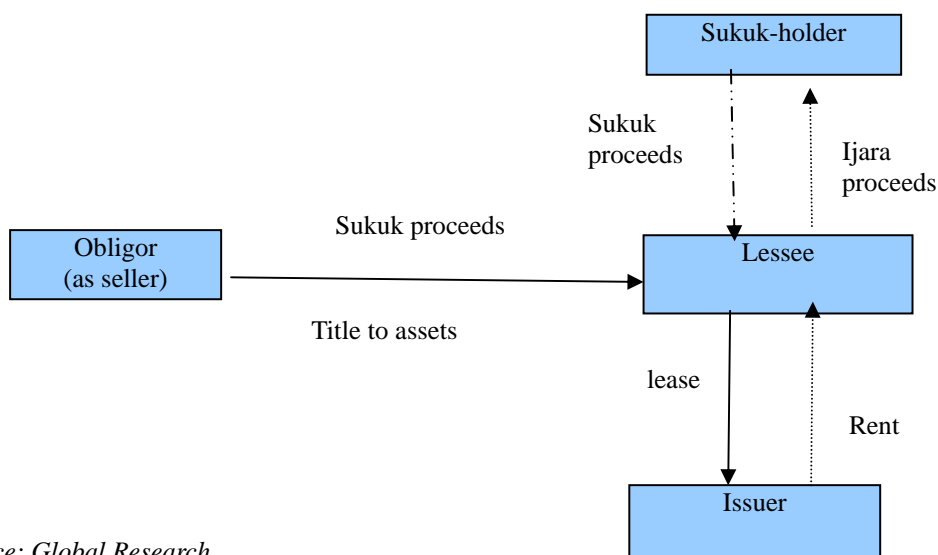
- It is asset-back securitization that is, there must be an underline asset or Special Purpose Vehicle (SPV).
- It pools investors’ resources together to satisfy their yearning for profit while satisfying the financial needs of the issue.
- Sukuks bring a new source of funds, generally at attractive rates
- They are vital to developing deeper and more liquid Islamic capital markets
- Sukuk are based on an investment process which involves investors mixing their funds with other investors’ funds in order to make profits.

- They are a tradable Shariah-compliant capital market product providing medium to long-term fixed or variable rates of return.
 - They are assessed and rated by international rating agencies. They provide regular periodic income streams during the investment period with easy and efficient settlement and a possibility of capital appreciation .
- In Indonesia case, retail Sukuk is attractive due to some reasons below:
- it is risk-free instrument since it is guaranteed by the government.
 - The return is higher than conventional interest rate
 - The return is fixed and paid monthly
 - it is tradable, since there is secondary market for this instrument
 - it has positive expected return
 - it can be utilized as a collateral
 - it is shariah compliance

Sukuk Structure

There are different kinds of Sukuk. They are as follows (Usmani, 2006):

1. Ijarah (leasing) Sukuk: the company sells certain assets to the Sukuk issuer who pays the assets using the proceeds of the Sukuk issuance, and holds title of the assets on trust for the Sukuk holders. Then, the issuer leases the assets back to the originator for a fixed period of time. At the maturity date, the originator/obligor may have the right to purchase the assets back from the issuer at a price which would represent the redemption value for the Sukuk holders at maturity (El-Quqa, et.al., 2008). Figure 1 below describes Sukuk al ijara structure.



Source: Global Research

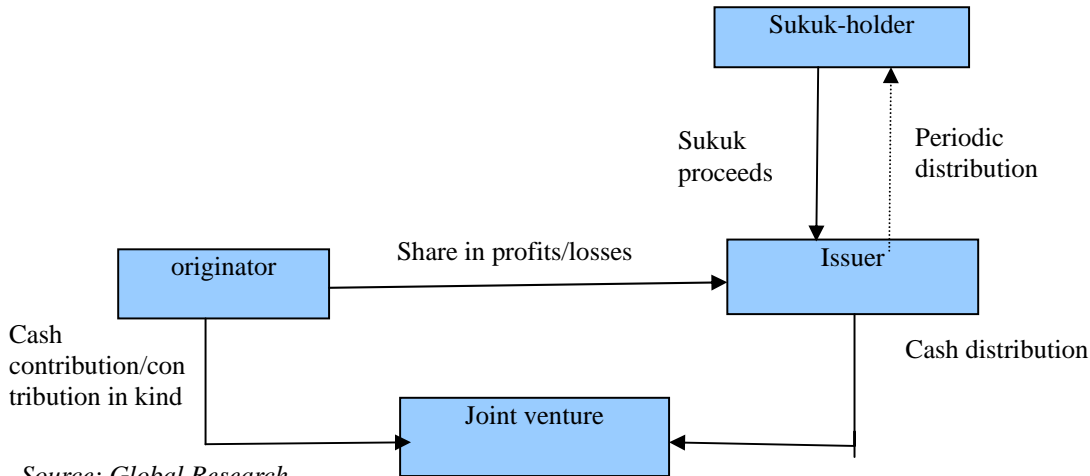
Figure 1: Sukuk Ijara structure

There are three forms of ijarah Sukuk (Usmani, 2006):

- a) Sukuk of ownership in leased assets: the Sukuk are issued by the owner of leased asset or by a financial intermediary represent the owner of the asset with the goal of selling the asset and recovering its value through subscription so that the holders of the Sukuk become owners of the assets. The holders share profits and losses on the basis partnership. The Sukuk is tradable at the market price and it is redeemable at a rate agreed upon between the certificate holder and the issuer.
- b) Sukuk of ownership of usufructs of assets: Sukuk are issued by the owner (or usufruct or lessee) of an existing asset with the goal of leasing the asset (or subleasing the usufruct) and receiving the rental from the revenue of subscription, thus the usufruct of the assets passes into the ownership of the holders of the Sukuk. However, when the assets are sub-leased, the Sukuk represents rent receivable, and it becomes non-tradable because rent receivable is a debt owed by the second lessor.
- c) Sukuk of ownership of services: "Sukuk issued for the purpose of providing services through a specified provider (such as educational benefits in a nominated university) and obtaining the service charges in the form of subscription income so that the holders of the Sukuk become owners of these services". It is tradable as long as it is not sub-leased.

Regarding to Indonesia retail Sukuk, it is ijarah Sukuk with the mechanism as follows: the debut benchmark Indonesia international Sukuk is being issued by Perusahaan Penerbit SBSN Indonesia (PPSI-I), the special purpose vehicle (SPV) is set up and wholly owned by the Indonesian Ministry of Finance. PPSI-I will issue trust certificated based on parcels of assets owned by the Indonesian government but transferred to the SPV till maturity of the certificates. The assets will be leased back to the Indonesian government, which will pay a rental to the SPV, some of those proceeds will be used to service periodic payments to Sukuk certificate holders.

2. Musharaka Sukuk: musharaka means sharing of profit or loss by the partners of a joint venture. Thus, partners can hold a musharaka certificate which represent their assets proportion in the venture. The Sukuk can be traded in the secondary market. Thus, the Sukuk holders are entitled to their share in the profits and they bear a loss in proportion to the financial value represented by his certificates. One of the forms of musharaka Sukuk is mudaraba Sukuk. The certificates are based on mudaraba activities. Thus, the Sukuk holders (subscribers) own the assets, while the issuers are mudarib. They are entitled to an agreed ratio of profit, whereas only the subscribers bear the loss. Figure 2 below describes Sukuk musharaka structure.

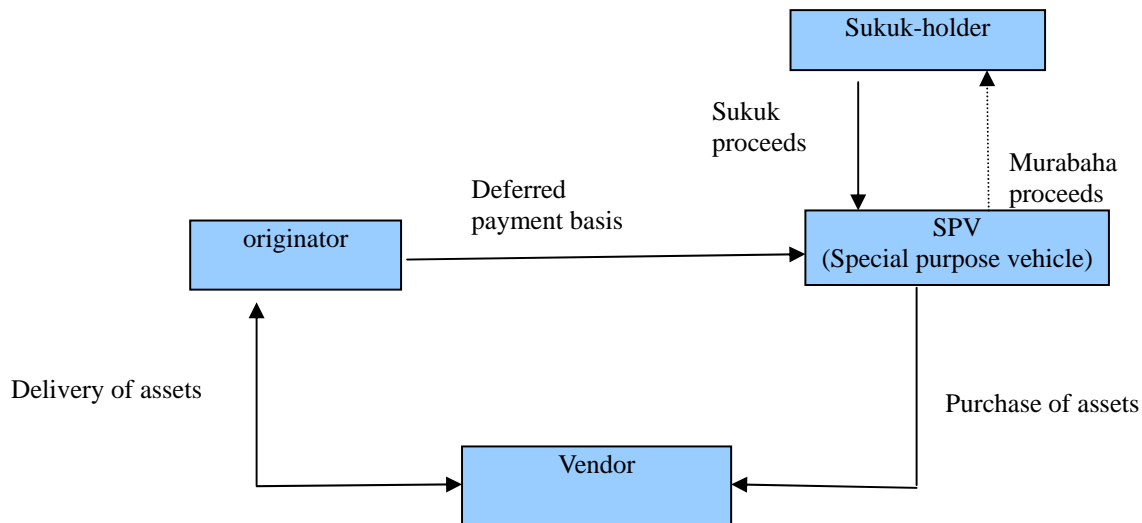


Source: Global Research

Figure 2: Sukuk musharaka structure

Different forms of Sukuk musharaka are discussed below (Usmani, 2006):

- a) participation certificates: Sukuk are issued representing projects on the basis of musharaka by appointing one of the partners or another person to managed the operation.
 - b) Mudaraba Sukuk: Sukuk are issued on the basis of mudaraba. Thus, the issuer is the mudarib, that is a person who manages an operation of the project; the subscribers are the owners of capital, and the realised funds are the mudaraba capital. The Sukuk holders and mudarib share the agreed profit sharing, while only Sukuk holders ear the losses.
 - c) Investment agency Sukuk: Sukuk are issued on the basis of an investment agency. The issuer of the Sukuk is the investment agent; and the subscribers are the principals and the realised funds are the entrusted capital or investment. The Sukuk holders share profit and losses, while the agent is entitled to an agency fee, he or she is not related to profit or loss of the business.
3. Murabaha Sukuk: murabaha is a specific kind of sale where the commodities are sold on a cost-plus basis. Islamic financial institutions usually use this murabaha mode of financing by purchasing goods on behalf on client, and its resale to the latter on deferred payment basis. Murabaha Sukuk are certificates based on murabaha activities. The issuer is the seller of commodity, the subscribers are the buyers of that commodity. The Sukuk holders are entitled to murabaha commodity and its sale price. The Sukuk is not tradable since murabaha activities are based on deferred payment basis, in other words, it is a debt payable by the client. However, trading of the Sukuk is permissible after purchasing of murabaha commodity (not on debt basis) and before selling it to the buyer.
 4. Salam Sukuk: salam is a contract in which advance payment is made for goods to be delivered later on. The seller undertakes to supply some specific goods to the buyer at a future date in exchange of an advance price fully paid at the time of contract. The seller of salam is Sukuk issuer, the subscriber is the buyer of the salam goods. Thus, the holders of Sukuk are the owners of the salam goods, they are entitled to the sale price of the salam goods sold. Salam Sukuk is not tradable during the term of Sukuk since the underlying asset is a debt. This debt will be converted into a tangible asset at the maturity date.



Source: Global Research

Figure 3: Sukuk al murabaha structure

5. Istisna' Sukuk: isti'na is the deferred sale of commodity. So, the purchaser orders to manufacturer to make the required goods. The price is fixed and specification of the goods is settled between parties. Furthermore, it is not necessarily that the price is paid in advance, but it may be deferred to any time according to the agreement of the parties. The supplier/seller is Sukuk issuer; the Sukuk holder owns the product. Istina' Sukuk is tradable when the funds have been converted into assets owned by Sukuk holder.

The Shari'ah Board of the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) advises Islamic Financial institutions and Shari'ah Supervisory Boards to decrease their involvements in debt-related operations and to increase true partnerships based on profit and loss sharing in order to achieve the objectives of the shari'ah (AAOIFI, 2007).

Risk of Sukuk

There are few risks embedded at Sukuk (El-Quqa, 2008; Zaidi, 2007; Tariq, 2004):

1. **Market risk:** interest risk and foreign exchange risk are two amongst market risk that are related to Sukuk. Interest rate risk is the rate of return risk. Sukuk which is based on fixed rate has the same exposure as conventional bonds, that is the price of Sukuk will go down when the interest rate increases. Sukuk certificates are also exposed indirectly to interest rate fluctuation through the widespread benchmarking with LIBOR in their financing operations. I think it shows that the investors treats Sukuk as conventional bonds, i.e. they compare Sukuk with conventional variable (interest). The issuance of Sukuk is meant to be widening investments alternatives for muslims. They are supposed to compare the Sukuk return with profit sharing (equivalent rate) of others Islamic financings. For sovereign Sukuk, the price of Sukuk is influenced by GDP, instead of interest rate. "If GDP growth rose relative to inter-bank rates, demand for the Sukuk would increase given its return, hence the price would rise", and the other way around. Thus, in the case of Sukuk benchmarked against GDP growth, then the Sukuk price is influenced by performance of a country growth (Wilson, 2006). Exchange rate risk arises from unfavourable exchange rate fluctuations when Sukuk is denominated on foreign currency.
2. **Credit and counterparty risk:** credit risk is an investor's risk of loss arising from a borrower who does not make payments as promised. Counterparty risk refers to the risk when the counterparty does not fulfill the contract. Major Sukuk issuance are mainly based on Ijarah, Istina, Salam, and Murabaha contracts. Salam and Istina contracts are exposed to the risk that commodities will not be supplied on time or to the agreed quantity. While Murabaha contracts are exposed to the risk that the client can not make a payment on time.
3. **Price/collateral risk:** the risk of differences the underlying asset fair-market value and the reported values. The assets must be depreciated and the maintenance cost is also the issue. Ijarah Sukuk is most likely exposed by this risk since the depreciation will cause the assets value will fall below the prevailing market values.
4. **Liquidity risk:** the risk relates to the limited growth of the secondary market. Thus, the investors are challenged to trade or liquidate their holdings.
5. **Sharia compliance risk:** sharia compliance risk refers to the loss of asset value as a result of the issuer's of its fiduciary responsibilities with respect to compliance with sharia. Islam is the way of life for muslims, thus, Islamic finance has to reflect the essence of the faith. The challenge here is how to preserve the competitiveness as well as

the rule. Sometimes, the balance between shariah conformity and project feasibility is disturbed, then jurists and shariah consultants play a continuously integral role in the formulation of the Sukuk prospectuses.

6. Operational risks: there are several risks, namely, default risk, coupon payment risk, asset redemption risk, SPV specific risks, investor specific risks, and risk related to the asset. Basically, the risks are attached to the structure of the issuance rather than the underlying Islamic principles.

Risk of Bonds

There are risks associated with bonds (Newman, P. et. al., 1997), those are listed below:

1. Interest rate risk: as mentioned above, the interest risk is the rate of return risk, that is the risk that a bond will have to be sold at a loss. The holding period return is affected by the uncertainty about the future price of a bond. The uncertainty is because of the future interest rate uncertainty and hence prices. [Interest rates](#) and bond prices has negative relationship; when interest rates fall, the price of bonds trading in the marketplace generally rises, and the other way around. "This happens because when interest rates are on the decline, investors try to capture or lock in the highest rates they can for as long as they can. To do this, they will scoop up existing bonds that pay a higher rate of interest than the prevailing market rate. This increase in demand translates into an increase in bond price" (Curtis, n.d.)
2. Reinvestment risk: the risk when future interest rates at which the coupon can be reinvested will be less than the yield to maturity at the time the bond is purchased.
3. Credit or default risk: the risk that the issuer will not pay its obligation. Usually, the lower-quality-rated bonds will pay higher yield than the higher-quality-rated bonds. However, the government bonds will have the least credit risk, even in some countries the bonds do not have credit risk.
4. Call risk: the risk when the issuer retire all or part of a bond at disadvantageous time, that is when the interest rate declines relative to the coupon rate. "this creates an asymmetric risk for the holder who suffers the full burden of any rise in interest rates through fall in price but will not reap the benefit of higher price through lower interest rates".
5. Inflation or purchasing power risk: it arises when purchasing power of investment returns is eroded by increase of inflation. Nominal interest rate usually reflects the inflation.
6. Exchange rate or currency risk: when bond is denominated in foreign currency, then domestic currency cash flows will depend on the foreign exchange rate at the time the payments are received.
7. Event risk: the risk of "the ability of an issuer to make interest and principal payments changes seriously and unexpectedly because of either (1) a natural or industrial accident or some regulatory change, or (2) a takeover or corporate restructuring".

Looking at the risks of conventional bonds and Sukuk, some of them are similar. In this paper, we investigate government domestic retail Sukuk, thus only few of the risks above can be used as variables which affect Sukuk price, namely, interest rate, and inflation. Moreover, I add shariah profit sharing return as proxy interest rate to observe whether retail investors consider others shari'a financial instrument to invest in Sukuk.

Sukuk Challenges

The challenges of Sukuk are coming from legal framework, economic, and regulatory. Hayat (2010) raised the issue of treatment Sukuk under the Islamic law as well as the secular law. El Quqa et.al.(2008), Jobst, et. al. (2008) also suggested that legal uncertainty arising from the fact that the transaction structure needs to satisfy commercial as well as Islamic law, especially in non-Islamic countries. Moreover, the on going efforts from Islamic regulators, such as AAOIFI, are still having differences in interpretation. The need for global standards was needed when "AAOIFI issued a statement on Sukuk in February 2008 amid criticism that majority of Sukuk were structured such that they were not in strict compliance with Islamic teachings" (Hayat, 2010). "Greater standardization would enhance the valuation and efficient pricing of Sukuk and improve secondary market liquidity within regulatory frameworks that are cast in a way to be flexible enough to adapt to the characteristics of new Islamic capital market securities while preserving universal standards of market supervision and financial surveillance" (Jobst, et. al., 2008).

Nasif, et. al. (2009) suggest four considerations in order Sukuk financing to become primary instruments of financing the projects. First, "greater clarity in transaction structures. Improved documentation, increased standardization, and lower overall complexity". Second, "consensus among Islamic scholars around the world, including better issuer and investor education about Sukuk and sharia compliance generally". Third, create a more liquid secondary market. Fourth, a more certain legal framework, especially surrounding the enforceability of collateral.

Regarding to economic and financial challenges, Jobst et. al. (2008) state several points: the identification of underlying asset that meet both shariah requirements and attractive returns; the absence of structural features that are

standard in conventional securities but which are not normally contractually permissible in an Islamic principle; lack of shariah compliant risk management; limited historical performance data on shariah compliant assets; buy and hold strategy, and limited diversify of Sukuk investor create illiquid secondary markets and inhibit efficient price discovery; and tax disincentives.

Methodology

The research employs multiple regression model with retail Sukuk as dependent variable; inflation and interest rate (conventional as well as shariah equivalent rate) as independent variables. Since we use OLS, then assumptions under linear regression model - namely heterocedasticity, normality, autocorrelation, linearity, multicollinearity - are tested in order to obtain best linear unbiased estimators (BLUE).

Data is from 26 of February up till 11 of November, 2010. The detail of data is as followed:

- Monthly data of retail Sukuk 01 (SR01).
- Monthly profit and loss sharing (equivalent rate) as a proxy of shari'a return rate
- Monthly inflation
- Monthly BI certificate - 1 month as a proxy of conventional interest rate

The result is shown at the table below:

Table-1: OLS, using observations 2009:02-2010:11 (T = 22)

Dependent variable: Sukuk

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	118.275	6.01214	19.6727	<0.00001	***
inflation	-11.8349	19.0137	-0.6224	0.54146	
shari'a12*	4.77147	91.9772	0.0519	0.95920	
con1**	-160.342	38.0263	-4.2166	0.00052	***

*shari'a12 is profit and loss sharing equivalent rate 12 month

**con1 is conventional BI certificate 1 month rate

Result

From the table 1 above, we can conclude that the signs of variable inflation and conventional interest rate are in line with suggested theory. Conventional bond theory suggests that inflation and interest rate increase, then the bonds price decrease. While shari'a return rate has positive sign, which is not inline with the theory. However, it is not significant, in other words, shari'a return rate has no influence on the price of retail Sukuk. The result is surprising because the price of retail Sukuk is only influenced by conventional interest rate. It means that the investors compare the return of retail Sukuk to conventional interest rate. They are supposed to compare it with others shariah financial instrument, in this case is mudarabah deposito 12 months. This finding is also supported by Syafirdi (2006, cited in Siswanto, n.d.), inflation does not affect the price of Sukuk. It also noted by Dahlan Siamat, the Director of shariah Financing, he said that the investors are keen on conventional interest rate (BI rate-8.25%) and inflation, which is much smaller than retail Sukuk return 12% (Suprpto, 2009). The implications of the result above are discussed below.

First of all, I assumed that the investors of retail Sukuk are devoted Muslims, however, the result does not support it. The investors apparently are not concerned with shari'a instrument, as suggested by Jabeen and Javed (n.d), “not surprisingly when the target investors are muslims and knowing that sharia'h permissibility is an important element in their decision-making, such products would flourish and there is still a huge latent market waiting for it. This product is not confined to the muslim world alone. If Sukuk enable the muslim ummah to rid itself of the yoke of riba and debt-based financing, and develop the taste for risk and reward sharing, this would be considered as a major achievement in history”. It suggests that retail Sukuk is influenced by the same variable as conventional bonds. However, the investors apparently only concern on the return, they do not look at the inflation rate. It is suggested by analyst at PT Mandiri sekuritas “the investors will be demanding a premium of as much as 50 basis points over non-Islamic debt”. It is similar to European investors that in order to consider investing in Sukuk, it should be priced at a premium over conventional bonds. As, we know Europe is not continental which is dominated by muslim. Thus, comparing the Sukuk return with a return of conventional product is making a sense. Moreover, interviewing four SR01 selling agent, two of them said that most of investors are non-muslim, and the other two informed that most of investors are muslim. Thus, we can assume that investors' profile - regards to religion – is around 50 % muslim and 50% non-muslim, if it is the case, then it is most likely a reason of muslim investors is not due to a religious factor but solely due to a economic reason (return). However, I believe that there are huge potential new muslim investors who do not invest their money in the financial instruments. They are

reluctant investing in financial instruments might be the reason of low financial literacy. It is worth it to investigate further.

Godlewski, et.al (2010) study whether Islamic investment certificates are special. They look into two perspectives: first, the opinion of stock markets regarding to differences between Sukuk and conventional bonds; second, whether Sukuk are likely to replace conventional bonds. They conclude several implications, one of them is that “there might be several motivations for firms to issue Sukuk, including religious factors. However, the fact that stock markets negatively perceive Sukuk seems to indicate that the use of these securities should not be favored for economic reasons”. Thus, Zaini's (2007) opinion on the fact that Muslim investors are increasingly choosing Islamic financial products and services over the conventional ones does not happen in Indonesia.

Conclusion

Retail Sukuk is developed by ministry for domestic investors in bond market to strengthen the government's bond against volatility due to foreign investors movement. It helped to finance the budget deficit. The question is that what variables affect the price of retail Sukuk.

This paper will examine what factors that affect individual investors to buy retail Sukuk 01(SR01). Investigating factors that affect SR01 price is crucial because Indonesia, as the world's most muslim populous country, is supposed to have muslim investors who are more concerned to Islamic finance products to invest. Thus, the government has a potential new market segment (diversification of investor base) to finance the budget through domestic market. Moreover, the government does not need to have exchange rate exposure relates to non domestic currency denominated Sukuk.

The result suggests that only interest rate (conventional) affects the price. It implies that the investors are only concern on the return; the religious factor apparently does not come in the picture. I supposed that the potential muslim investors – devoted one, who concern on shari'a compliance of financial investment – are reluctant investing in financial instruments. the reason might be low financial literacy. It is worth it to investigate further.

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Net Interest Margin and Asset Liability Management of Banks in India: An Empirical Investigation

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ABSTRACT

The present paper investigates the impact of bank specific factors on the determinants of Net Interest Margin (NIM) for the public sector, private sector and foreign banks operating in India for the year 2010. The calculation of NIM is crucial since it includes important information about the efficiency of the banking system and identifying the determinants of net interest margin would help to provide policy implications for the banking environment. We examine the impact of the recent changes on the NIM by dividing the data into two subparts: Model 1 for public sector, private sector and foreign banks and Model 2 for only public sector banks in India. The results suggest that for Model 1 Asset Quality, Operating Expenses, Capital Adequacy and Return on Assets have a significant impact while for Model 2 Operating Expenses, Capital Adequacy, Return on Assets and Gap are significant determinants of the net interest margin of banks.

Introduction

The banking industry has undergone a rapid transformation in the last decade and the recent trends of shrinking margins and increasing competitive pressures have changed the face of banking industry beyond recognition. Recent changes in the banking business due to rapid technological development, increased competition and diversity in banking operations have made the process of ALM complex. With increasing pressure on the banks bottom lines, ALM continues to be a much - debated topic for both regulators and policy makers.

Though the Asset Liability Management (ALM) process is too complex to practice, it is perhaps the only solution for banks to survive in this rapidly changing environment where the composition, duration and risk profile of their assets and liabilities have an important bearing on their growth and profitability. An efficient ALM technique aims to manage the volume, mix, maturity, rate sensitivity, quality and liquidity of the assets and liabilities as a whole so as to earn a predetermined acceptable risk/reward ratio. The technique views the financial institution as a set of interrelationships that must be identified, coordinated and managed as an integrated system (Moynihan,G.P., Purushothaman,P,Mcleod,R.W. and Nichols,G,2002). In fact a sound ALM process helps the banks to evaluate balance sheet risk and take prudent decisions that enable them to remain financially viable as economic conditions change.

With competition rising in the banking sector more and more focus is on effective asset liability management of banks so as manage the risk and consequently achieve desirable returns. Thus to appreciate the ALM in its existing state in the interest volatility scenario, it is useful to study the relationship between Interest rate risk and maturity gaps as they exist in Indian banks and also the key determinants of NIM . Some of the recent studies on the determinants of NIM are Saunders and Schumacher(2000) , Maudos and Solis(2009) , Kasman et al (2010) .

NIM is an indicator of both performance and efficiency in the banking system. According to RudraSensarma and SaurabhGhosh (2004), a competitive banking system is expected to foster efficiency which should get reflected in lower NIM. Too high NIM is reflective of lack of competition in the industry. However, too low NIM can also put a stress on the profitability of banks. As NIM is an indicator of both performance and efficiency in the banking system, it is interesting to explore its determinants.

In the context of the current international financial crisis, results from the study will allow us to shed light on some of the possible effects on determinants of bank performance and the resulting banking net interest margins. The Indian banking system is an important sector of the economy which is robust and has not suffered much in spite of the successive international and domestic crises that the countries have gone through over the years. According to recent reports two Rating agencies – Care and Fitch, expect FY11 to see a rise in bank non-performing assets. The year 2011 is likely to be a tough one for banks in terms of profit margins. Banks which saw their net interest margins improve in 2010 may see margins come under pressure due to tight liquidity and increasing cost of funds (Hindustan Times, January, 2011). Analysts feel that margins of banks peaked in 2010 and protecting the current level will be a challenge specially for the public sector banks. This means that banks need to cut their operating cost and increase efficiency by generating more fee based income in the coming years. This will help them to increase their profitability in spite of a decrease in NIM.

The rest of this paper proceeds as follows. Section 2 briefly presents the relationship between interest rate risk and Gap analysis. Section 3 reviews the relevant literature. Section 4 describes the data and methodology used for the study. Section 5 presents the results and discussion of our study. Section 6 presents the policy implications and Finally Section 6 concludes.

Financial Risk, Interest rate Volatility and Asset Liability Management

The function of asset-liability management is to measure and control three levels of financial risk: interest rate risk (the pricing difference between loans and deposits), credit risk (the probability of default), and liquidity risk (occurring when loans and deposits have different maturities).

A primary objective in asset-liability management is managing Net Interest Margin (NIM), that is, the net difference between interest earning assets (loans) and interest paying liabilities (deposits) to produce consistent growth in the loan portfolio and shareholder earnings, regardless of short-term movement in interest rates. The rupee difference between assets (loans) maturing or repricing and liabilities (deposits) is known as the rate sensitivity gap (or maturity gap). Banks attempt to manage this asset-liability gap by pricing some of their loans at variable interest rates.

GAP and Net Interest Margin

GAP is defined as the absolute difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL) for each time bucket. The sign and magnitude of GAPS in various time buckets can be used to assess potential earnings volatility arising from changes in interest rates. Positive GAP indicates that RSA are more than RSL and from an earnings perspective, the position benefits from a rise in interest rates. A negative GAP on the other hand indicates that RSL are more than RSA and from an earning perspective the position would benefit from a fall in interest rates.

If the bank wants to keep its net interest income immune from changes in interest rates it must closely monitor and manage its GAP carefully. Net interest income is defined as the difference between interest income and interest expenses and provides the life blood of a bank's earnings.

$NII = \text{Interest Income} - \text{Interest Expenses}$

The GAP also affects a bank's net interest margin and is defined as follows: -

$$\text{NIM} = \frac{\text{Net interest income (NII)}}{\text{Interest earning assets (EA)}}$$

Or

$$\text{NIM} = \frac{\text{NII}}{\text{EA}}$$

Also, change in net interest income will result in a change in net interest margin, so that symbolically we have

$$\Delta \text{NIM} = \frac{\Delta \text{NII}}{\text{EA}}$$

Substituting the value of ΔNII in the above equation we get

$$\Delta \text{NIM} = \frac{\text{GAP} \times \Delta r}{\text{EA}}$$

Thus, the focal variable of ALM from the accounting perspective is net interest margin in its ratio form (NIM / EA). In this context the ALM objective is to maximize net interest margin for a given level of risk as reflected by the variability of interest rate changes. Management of interest rate risk is one of the critical components of risk management in banks.

Review of Literature

The measurement of interest rate and liquidity risks on the banking book of a bank has had a prominent place in ALM. Some of the early studies include Platt (1986), Farin (1989), and Fabozzi and Konishi (1991). Most of the existing literature in this area suggests that banks may choose to focus on two approaches to measure interest rate risk (Basle Committee, 1997; Dermine and Bissada, 2002). The first approach to measure interest rate risk is with respect to the impact of a change of interest rate on the Profit & Loss account, in other words, is the impact on the net interest income (NII) of the bank. The second approach measures the impact of a change in interest rates on the fair economic value of the equity of a bank.

This study focuses on the first approach. Since NIM is an important measure of efficient ALM in banks, it is important to identify the determinants of NIM. Various studies have been conducted to identify the determinants of NIM. In their seminal work, Ho and Saunders (1981) defined bank as an intermediary between intermediary between lenders and borrowers, and stated that the optimal pure spread depends on four variables: the degree of risk aversion, the market structure (proxy for competition), the average size of bank transactions, and the variance of the interest rate on loans and deposits (market risk). Since then number of studies have been carried out in this direction. Most of the studies in this context have used variables such as bank size (Bikker and Hu, (2002); Ben Naceur and Goaid (2008)), credit risk, and equity (Maudos and De Guevara (2004) & Ben Naceur and Goaid (2008)) as internal determinants of bank performance.

Few studies have investigated relevance of size as a determinant of NIM. Kasman et al (2010) evaluate the effects of financial reforms on the determinants of commercial bank net interest margin in the banking systems of the new EU member countries. The results show that size and managerial efficiency are negatively and significantly related to net interest margins. However, Bikker and Hu (2002) and Ben Naceur and Goaid(2008) find positive and significant relationship between size and bank performance.

Studies have evaluated another variable, equity, as a determinant of NIM. Saunders and Schumacher (2000) carried out a study to identify the determinants of bank NIM in selected European countries and the US during the period 1988-1995 for a sample of 614 banks. They found out that the regulatory components in the form of interest-rate restrictions on deposits, reserve requirements and capital-to-asset ratios have a significant impact on banks NIMs. As Macro interest-rate volatility was found to have a significant impact on bank NIMs, they propose that macro policies consistent with reduced interest-rate volatility could have a positive effect in reducing bank margins.

Doliente (2005) finds that bank-specific factors, such as loan quality, capital, operating expenses and liquid assets, and volatility of interest rates and non-competitive market structure of banking system explained net interest margins for the south east Asian banks. Ben Naceur and Goaid (2008) also find positive relationship and significant relationship between capitalization and bank performance.

Operating costs is yet another variable that finds a significant place in the literature. Maudos and Solis (2009) analyze net interest income in the Mexican banking system over the period 1993–2005. Their study models the net interest margin simultaneously including operating costs and diversification and specialization as determinants of the margin. They have attributed high margins mainly to average operating costs and to market power. They find that although non-interest income has increased in recent years, its economic impact is low.

Few studies find credit risk as an important determinant for NIM. Angbazo, L. (1997) show that the net interest margins of commercial banks reflect both default and interest-rate risk premia. The results in their study state that the net interest margins of money-center banks are affected by default risk, but not by interest rate risk, which is consistent with their greater concentration in short-term assets and off-balance sheet (OBS) hedging instruments whereas (super-) regional banking firms are sensitive to interest-rate risk but not to default risk. Miller and Noulas suggest a negative relationship between credit risk and profitability. Thus we find that size, equity, credit risk, operating costs and inflation amongst others are some of the key variables used in the literature.

Data and Methodology

In this section we discuss the data sources, variables definitions, and the model specification employed in our investigation. Two models were tested in the present paper.

Model 1 includes data from 55 banks (28 Public sector banks, 20 Private sector banks and 7 Foreign banks) operating in India for the year 2010. Model 2 includes only the data for 28 public sector banks. The data for all the banks were obtained from the various issues of Report on Trend and Progress of Banking in India, Statistical Tables Relating to Banks in India and the annual reports of the banks.

The detailed description of the variables used in the study is as discussed in Table 1.

Dependent variable

The dependent variable here is Net Interest Margin (NIM) or spread which is the difference between cost of deposits and yield on loans earned by a bank divided by its total assets. In the Indian banking industry, NIM has come down subsequent to banking sector reforms but the decline has been very slow (RudraSensarma and SaurabhGhosh, 2004).

Independent Variables

As the NIM of a bank is an indicator of bank performance and efficiency, it is very important to study what are the explanatory factors that affect NIM. The seven independent variables considered in the study are:

Book Value of Equity divided by Total Assets (EQTA), Borrowings divided by Total assets (BORTA), Non Performing Assets divided by Total Assets (NPTA), Return on Assets (ROA), Operating Expenses divided by Total assets (OETA), Log of Total assets (TA) and GAP (calculated as the difference between rate sensitive assets and rate sensitive liabilities for 1 year) divided by Total assets.

TABLE 1: DEFINITION OF RESEARCH VARIABLES USED IN THE ANALYSIS AND EXPECTED SIGNS OF COEFFICIENT

S.No.	Variables	Definition	Predicted Sign
1	EQTA	EQUITY CAPITAL / TOTAL ASSETS	+
2	BORTA	BORROWINGS / TOTAL ASSETS	+
3	ROA	RETURN ON ASSETS / TOTAL ASSETS	+
4	NPTA	NON PERFORMING ASSETS / TOTAL ASSETS	--
5	OETA	OPERATING EXPENSES / TOTAL ASSETS	--

6	TA	TOTAL ASSETS (TAKEN IN LOGS)	+
7	GAPIYR	GAP/ TOTAL ASSETS	
8	NIMTA	NET INTEREST MARGIN / TOTAL ASSETS	

Most of the empirical approach is based on the hypothesis that the variables used in the analysis are stationary. It is always useful to provide statistical support for this hypothesis as there is increasing evidence that the variables used are not stationary. The frequency of the series as well as the time period plays a major role in the results of these tests and they cannot be generalized from one case to another. Furthermore, if it were the case that the series are non-stationary, co integration procedures could be used and would provide statistically more reliable results.

Using **EIEWS 7.0**, we model the equation using the Multiple Regression method of estimation. The program will generate the values of α and β on the basis of the actual data. These values of α and β are such that they minimise the error in the model as represented by ϵ_t

When we performed the unit root test for stationarity, we found that out of the seven independent variables identified, six variables (EQTA, ROA, NPTA, OETA, TA and GAP 1 YR) were stationary at level and only one variable (BORTA) was non stationary at level. For the public sector banks all the variables were stationary at level. The dependent variable (NIMTA) was stationary at level for both the models examined. If the series being tested for regression are non stationary at level, but stationary at first difference, then the results could be spurious. As such, we had no option but to drop BORRTA from our analysis for Model 1 and then perform the multiple regression analysis.

The Linear multiple regression model used by our analysis is specified as follows:

$$Y_{it} = \alpha + \beta X_{it} + \epsilon_t$$

Here Y_{it} is the dependent variable (NIMTA) and X_{it} is the set of independent variables (EQTA, NPTA, ROA, OETA, TA, GAPIYR)

The above model can also be written as

$$NIMTA = \beta_1 + \beta_2 EQTA + \beta_3 NPTA + \beta_4 ROA + \beta_5 OETA + \beta_6 TA + \beta_7 GAPIYR + \epsilon_t$$

where

β_1 is the constant and ϵ_t is the error term

This study also tested the assumptions of the linear multiple regression model, viz., multicollinearity.

Results and Discussion

Model 1: Public Sector, Private sector and Foreign banks

Our study tested the variables for multicollinearity. Table 2 presents the results of the correlation among the independent and dependent variables. None of the two independent and dependent variables are highly correlated and hence, there is no problem of multicollinearity in the variables chosen for our analysis.

TABLE 2: CORRELATION AMONG INDEPENDENT AND DEPENDENT VARIABLES

Variables	NIMTA	EQTA	BORRTA	NPTA	ROA	OETA	TA	GAPIYR
NIMTA	1.000000	0.234461	0.547811	0.602171	0.186418	0.520649	0.225979	-0.083452
EQTA	0.234461	1.000000	-0.101501	0.248574	0.186923	0.243779	0.259864	0.072144
BORRTA	0.547811	0.101501	1.000000	0.031978	0.445871	0.266692	0.120853	-0.174338
NPTA	0.602171	0.248574	-0.031978	1.000000	0.302381	0.362923	0.139118	0.000224
ROA	0.186418	-	0.445871	0.302381	1.000000	0.173004	-	-0.083077

		0.186923					0.161981	
OETA	0.520649	-	0.266692	0.362923	0.173004	1.000000	-	-0.025331
TA	0.225979	0.259864	-0.120853	0.139118	0.161981	0.082532	1.000000	-0.092212
GAP1YR	0.083452	0.072144	-0.174338	0.000224	0.083077	0.025331	0.092212	1.000000

Results of the multivariate regression models

Table 3 summarizes the impact of the explanatory variables on the net interest margin. The results show that the data seems to fit the model reasonably well and the explanatory variables present the expected signs and are statistically significant.

Table 4 shows the model summary of the regression for the sample banks. The R-Square of the model equals to 80.48% and the R-Square adjusted of the model equals to 77.62%. This means that 77.62% of the changes in the dependent variable (NIM) are due to the variations of the independent variables used in this model. A few other factors which could probably have an influence on the NIM are management efficiency, liquidity, nature of ownership, and non interest income.

The major findings emerging from the analysis can be summarized as follows:

NIM is not significantly associated with size of banks.

Return on Assets is associated with higher NIM.

Non Performing Assets has a statistically significant impact on NIM.

Higher Capital Adequacy Ratio is associated with higher NIM.

NIM is inversely related to Operating Expenses and they are statistically significant at 5% level.

Gap as a crude measure of interest rate risk is not significantly related to NIM.

TABLE 3: DETERMINANTS OF NET INTEREST MARGIN

Variable	Coefficient	Standard Error	t	Probability
Constant	0.143927	0.145571	0.988704	0.3286
EQTA *	0.000187	2.29E-05	8.193229	0.0000
NPTA*	-0.336331	0.040976	-8.208041	0.0000
ROA *	0.001638	0.000378	4.334031	0.0001
OETA **	0.186938	0.094087	1.986866	0.0536
TA	-0.023761	0.016042	-1.481190	0.1462
GAP1YR	-0.013832	0.038478	-0.359472	0.7211

* Significant at 1%.

** Significant at 5%.

*** Significant at 10%.

TABLE 4: R VALUES FOR THE MODEL

Model 1	R Squared	Adjusted R Squared	Standard Error of Regression
	0.804807	0.776242	0.776242

Dependent Variable: NIMTA

Independent Variables: (Constant), BORTA, NPTA, ROA, OETA, TA, GAPIYR

Model 2: Public Sector Banks

Tables 5 and 6 summarize the impact of the explanatory variables on the net interest margin. The results show that Operating expenses, Return on assets, Capital adequacy and GAP are the most important drivers of net interest margin. Borrowings, Non Performing Assets and Size have no impact on the NIM of the bank.

The major findings emerging from the analysis can be summarized as follows:

NIM is not significantly associated with size of banks.

Capital Adequacy Ratio is significantly associated with NIM.

Non Performing Assets is not a significant variable in determining NIM.

Operating expenses are an important determinant of profitability.. NIM is inversely related to Operating Expenses and has a statistically significant impact.

Return on assets has a statistically significant impact on NIM.

Borrowings are statistically insignificant and are not related to NIM.

Gap is significant and is related to NIM

TABLE 5: DETERMINANTS OF NET INTEREST MARGIN

Variable	Coefficient	Standard Error	t	Probability
Constant	-0.008077	0.005980	-1.350601	0.1834
BORTA	0.012632	0.029392	0.429778	0.6694
EQTA*	0.013366	0.004171	3.204492	0.0025
NPTA	-0.000739	0.000667	-1.107345	0.2739
ROA*	0.007683	0.001318	5.830197	0.0000
OETA *	1.132138	0.117184	9.661214	0.0000
TA	0.000572	0.000457	1.251202	0.2172
GAPIYR**	-0.000132	6.00E-05	-2.208380	0.0322

TABLE 6: R VALUES FOR THE MODEL

Model 2	R Squared	Adjusted R Squared	Standard Error of Regression
	0.922575	0.910792	0.001638

Variable: NIMTA

Independent Variables: (Constant), BORTA, EQTA, NPTA, ROA, OETA, TA, GAPIYR

Capital Adequacy

In the multiple Regression model, Capital adequacy which is measured by the ratio of the book value of equity divided by total assets (*EQTA*) has a highly significant positive coefficient. In our model we find that the coefficient is significant and positive at 1% for both the models under study. The ratio has a positive relationship with NIM as banks need more interest income in order to maintain high levels of capital. This is consistent with the hypothesis that well-capitalized banks are subject to less expected bankruptcy costs and hence lower cost of capital (Berger, 1995). The ratio is also used as a sign of banks' credit worthiness with a higher ratio indicating that a bank is well capitalized with regard to the solvency risk in the near future. The positive and significant coefficient of equity divided by total assets as a measure of capital adequacy on net interest margin supports the findings of the study by Saunders and Schumacher (2000) and Brock and Suarez (2000). Thus, Capital turns out to be an important determinant of bank margins, in both the models emphasizing the need to maintain relatively high capital adequacy levels to ensure stability and maintain the confidence of depositors.

Asset Quality

The coefficient of NPA/ TA has the expected negative sign for both the models and is significant for model 1. Our results are consistent with the findings of RudraSensarma and SaurabhGhosh (2004) who argue that banks with high NPAs are expected to have shifted their loan portfolio away from risky activities which would have otherwise adversely affected their spreads. The less risky activities where these banks would have moved into would bring them lower returns. Empirical literature also suggests that poor asset quality and low levels of liquidity are the two major causes of bank failures.

Size

The total assets of the banks are taken as a proxy for size in our model. Since all the other explanatory variables were deflated by total assets in the model, we use log of total assets in our calculations. According to empirical researches, size is introduced to account for existing economies or diseconomies of scale in the market. Smirlock (1985) finds a positive and significant relationship between size and bank profitability. Demirguc-Kunt and Huizinga (2000) suggest that the extent to which various financial, legal and other factors (e.g. corruption) affect bank profitability is closely linked to firm size. The coefficient of total asset is insignificant in both our model indicating that size is not a determining variable for NIM.

Operating Expenses

A high NIM alone cannot make a bank profitable as a substantial portion of NIM can be eroded by operating expenses and credit costs, including provisions for bad assets and write-offs (Mint, October 31, 2010). Operating expenses appear to be an important determinant of profitability closely related to the notion of efficient management. Our results show that operating expenses are an important driver of net interest margin as the coefficient of operating expenses is positive and statistically significant at 5% for model 1 and 1% for model 2. The positive and significant ratio indicates that banks with high operating expenses have to strive for higher intermediation margins to cover their higher operating costs. Our results are consistent with that obtained by Kasman A (2010), Brock and Suarez (2000), Abreu and Mendes (2003) and Maudos and de Guevara (2004).

Return on Assets

Return on assets is defined as net profit divided by total assets and measures the ability of the management to convert the assets of the bank into net earnings. (Sarkar et al. 1998). It is a measure of bank profitability and gives an idea as to how efficient management is at using its assets to generate earnings. ROA in many studies emerges as the key ratio for the evaluation of bank profitability (IMF, 2002). The ratio is significant for both the models in our study.

Borrowings

Abreu (2002) found that well capitalized banks face lower expected bankruptcy costs and thus lower funding costs and this resulted into better profitability. Borrowings are not significantly associated with NIM of a bank. The coefficient is insignificant for model 2 and is not stationary for model 1.

GAP

GAP which is calculated as the difference between RSAs and RSLs is used as a crude measure of interest rate risk. Interest rate risk arises in bank operations because banks' assets and liabilities generally have their interest rates reset at different times. This leaves net interest income vulnerable to changes in market interest rates. The magnitude of interest rate risk depends on the degree of mismatch between the times when asset and liability interest rates are reset (Katerina Simons, 2004). Management of Interest rate risk is one of the critical components of market risk management in banks. Excessive interest rate risk adversely affects a bank's financial condition in the current year as also in the future. For Model 1 GAP is not significant. For Model 2 Gap is significant at 5% level of confidence. This finding is in accordance with the interpretation that public sector banks with a greater degree of interest rate risk will require higher net interest margin to compensate for higher risk of default.

Policy Implications

The paper studies the effects of the determinants of bank net interest margins and attempts to identify the factors that affect NIM. NIM is an important indicator of performance of banks in India and has emerged as a key indicator of asset productivity, since a high NIM is indicative of the effective use of earning assets and a sensible mix of interest-bearing liabilities (Sophocles N. Brissimis, Manthos D. Delis, Nikolaos I. Papanikolaou, 2008).

Following the recent economic crisis and the increased pressure on the bottom-line of the banks, the investigation of bank net interest margins is crucial since they include important information about the efficiency of banking systems. Identifying the determinants of net interest margin would help to understand the changing scenario and trends in bank efficiency and provide the policy maker implications for the banking environment. The need for risk management in the banking sector is inherent in the nature of the banking business. Poor asset quality and low levels of liquidity are the two major causes of bank failures. The Basel accords have raised the stakes of Indian banks. Under Basel 2, banks need to maintain a tier 1 requirement of 6% of total capital and 9% of risk weighted assets.

The analysis suggests that banks may require an extra net interest margin to cover the high operating expenses as the results show that this is a very significant driver of net interest margin. Similarly, it will be of interest to policy makers and regulators to understand that higher equity to total assets ratio not only influences the performance of a bank positively but also lowers the need for external funding. The ratio is used as a signal of banks' credit worthiness with a higher ratio indicating that a bank is well capitalized with regard to the solvency risk in the near future. Our results clearly show the importance of capital adequacy rules as a means to prevent banks from taking excessive risks and as a tool for maintaining depositor confidence. Finally, high NPAs in a bank reduce the spread and are associated with low NIM.

Conclusions

We employ a multiple regression model using data from 55 banks for 2010 to identify the determinants of NIM. We find that Capital Adequacy, Asset Quality, Operating Expenses, Return on assets and GAP have a significant impact while borrowings and size of the bank have no impact on NIM.

The above findings also suggest that well capitalized banks face lower probability of going bankrupt. Also, higher bank equity ratios may influence bank performance positively when loan rates do not vary much with bank equity. For example for the year 2010, HDFC Bank had an NIM of 4.2%, probably the highest in the Indian banking industry. IDBI Bank 1.06% NIM is the lowest. However, it is important for the policy makers to understand that though NIM is an indicator of performance of banks, a high NIM alone cannot make a bank profitable as a substantial portion of NIM can be eroded by operating expenses and credit costs, including provisions for bad assets and write-offs.

The public sector banks account for about 75% of the Indian banking industry in terms of assets. Their operating expenses are also higher than their private sector peers. With the slowdown in the borrowers' ability to repay loans, banks are likely to pile up stressed assets in the future. According to a recent report by Care ratings (Economic

Times, June 2, 2010) managing credit growth and asset quality while sustaining earnings growth would be key challenges for the banking industry.

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Debt incorporation to the capital structure in Mexico: A study with panel data.

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Abstract

The purpose of this research was to identify the main factors of the country and the firm, as well as assess and determine the mathematical relationship of individual exercise, by incorporating debt into the capital structure of companies located in Mexico. The analysis was conducted with the financial information published in the Mexican Stock Market, during the period between 2000 and 2007. An empirical study was performed where long-term debt was the dependent variable and by using the E-views 4.1 program and the technique known as panel data, the mathematical relationship which independent factors execute were estimated, that were previously identified and analyzed. The study results are from theoretical and practical interest, identifying and understanding the relationship of the main factors by including debt in the capital structure, facilitates and contributes to the normative postulates' construction.

Keywords: Capital Structure, Company Factors, Country Factors.

Introduction

The investigation arises from not finding in the company's real world capital structure policy, rule or model for its development, highlighting and raising the need to review the theories, empirical studies, existing hypotheses as well as the assumptions that underline and adopt different approaches to the study of the factors and their relationship to form the structure of capital. The review of theories and empirical studies gave a solid foundation to the questions, challenges and problems that we considered.

Theoretical Framework

The lack or existence of an optimal capital structure for the company, as well as how it should be determined have been one of the most controversial issues in the finance literature since Modigliani and Miller (1958), published their article and presented their proposals for the irrelevance of capital structure on the enterprise value. It's been 53 years since the publication of this seminal work which gave rise to corporate finance we know today and which in turn causes a study of the capital structure of companies to capture and received much attention from the finance and economic areas. Notwithstanding the extensive developed researches, the capital structure theory does not provide conclusive answers.

The theoretical models developed in recent years have tried to validate and generalize, sometimes, the thesis of the irrelevance of (Modigliani and Miller 1958), or some others, to adapt the thesis of maximum debt (Modigliani and Miller 1963). From convergence of both research lines in the decade of the sixties a renewed theory of capital structure emerged, which postulates the existence of an optimal solution to the raised problem.

In the actual investigation were reviewed among others the following theories: optimal capital structure, tax base theory, asymmetric information theory, theory of preferences hierarchy or pecking order theory (POT), which was formally proposed by Myers(1984) and by Myers and Majluf (1984) built on the preliminary work of Donaldson (1961), theory of agency costs and the free cash flows theory, together with empirical studies that support these theories, highlighting among others the study made by (Rajan and Zingales 1995), and the study of (Wald 1999), these studies provided empirical evidence for the G-7 countries. They analyze some institutional

factors of the company, such as: the size of the firm, earnings, growth rate, and risk. As well as in the financial theories' study, knowledge has grown and evolved, however it has not been able to build a model that includes all the factors considered as determinants of capital structure in the various empirical research, citing just to mention some of them those by Filbeck and Gorman 2000, Bradley, Chung 1993, Van Der 1989, Kester 1986, Harrell and Kim 1984.

The empirical evidence suggests that in addition to company specific factors, macroeconomic and institutional factors in each country are important determinants of capital structure. Booth et al. (2001), Antoniou, Guney, & Paudyal, (2008), Bonales and Gaytan (2009), Dias, Thosiro, & Cruz, (2009) and Dias and Toshiro (2009). However, most of the theoretical and empirical debate on corporate finance has been conditioned by well-developed capital markets and financial well-structured architecture (Zingales 2000). Arias et al. (2009) propose that specialized research is needed on this issue about Mexican companies in order to achieve a better understanding of its financial decisions, and be able to design appropriate financial instruments to their needs that enable and facilitate their growth.

The Capital Structure and The Macroeconomic or Institutional Factors of the Country

Recent empirical evidence suggests that country-specific factors are important determinants of capital structure in emerging markets. Booth, Aivazian, Demirguc-Kunt, & Maksimovic, (2001); Antoniou, Guney, & Paudyal, (2008); Gaytan & Bonales (2009); Dias, Thosiro, & Cruz, (2009), and Dias & Toshiro (2009). Suggest that specific factors about explaining the decisions of indebtedness of the company are related to the economic environment and institutional arrangements in each country, as the structure of the financial sector, taxation, the tradition of the legal system and accounting practices generally accepted.

In this study were considered the macroeconomic and institutional variables about countries in which empirical studies have been previously shown to have a significant impact as determining factors in the capital structure of enterprises: i) inflation (Dias, Thosiro, & Cruz, 2009), (Dias and Toshiro, 2009) (Gaytan and Bonales 2009). ii) the interest rate, (Barry, Mann, Mihov, Rodriguez, 2008). iii) the exchange rate (Burgman, 1996). iii) the exchange parity.

Capital Structure and the Enterprise Specific Factors.

It has been extensively searched how to identify the enterprise-specific factors that might be significant determinants on deciding the capital structure as well as the validity of the theories that gives them sustenance. Among the particular characteristics of the company that can act as determinants in the capital structure, Dias, Toshiro and Cruz. (2009), Bonales and Gaytan (2009), and Dias and Toshiro (2009) studied the mathematical relationship between the specific factors of companies established in Mexico and Latin American companies. His mathematical relationship to form the structure of capital, in their empirical studies related to the determinants of capital structure, they found significant evidence on the following factors: i) size, (Vigrén, 2009), (Rajan and Zingales (1995), (Frank and Goyal, 2009), (Titman and Wessels, 1988), (Chung, 1993) and (Ozkan, 2001), (Dias, Toshiro and Cruz, 2009) and (Dias and Toshiro (2009). ii) profitability, (Rajan and Zingales (1995), (Ozkan, 2001), (Frank and Goyal, 2009), (Teker, Tasseven and Tukul, 2009), (Dias, Toshiro and Cruz, 2009) and Dias and Toshiro (2009). iii) risk (Vigra, 2009). iv) growth (Antoniou, Guney and Paudyal, 2008), (Rajan and Zingales, 1995), (Myers, 1977) (Hall, Hutchinson, and Michaelas, 2000), (Dias, Toshiro and Cruz, 2009) and (Dias and Toshiro, 2009).

Objective

Studies on the structure of capital in Mexico are essential, and due to the lack of a robust model to explain the financing decisions of Mexican companies in each sector, this study aimed to identify key institutional factors of the country, as well as institutional factors of the company and its positive or negative relationship with the addition of debt when forming the capital structure used by companies traded steadily in the period from 2000-2007 in the Mexican Stock Market.

Hypothesis

The main factors of national and company's concern that relate to the addition of debt when forming the capital structure used by firms in the areas of trade, services, telecommunications, mining, construction and transformation that are traded on the Mexican Stock Market are: interest rate, inflation, exchange rate and income tax, as well as company size, sales growth, profit and risk.

Methodology

The econometric model of panel data will be used to process information, which includes a sample of factors for a determined period of time, so it combines temporary dimension and cross-sectional data. The model is also known as longitudinal joint, grouped data, combination of data in time series and transversal, micro panel data, event history analysis (Gujarati, 2003).

The panel data technique allows developing and testing complex models, according to Carrascal (2004), applies on the following areas: a) forecast sales, b) studies and forecasting costs, c) Financial analysis, d) Macroeconomic prediction e) Simulation, f) Analysis and evaluation of any statistical data. It also allows to observe the causal inferences of independent factors on the dependent factors, such inferences of causality would be very difficult to understand if isolated it was only applied the technique of "cross-sectional data" or the technique of time series data".

The panel data analysis (or longitudinal) joint simultaneously the cross-sectional study with the time series study which captures the heterogeneity of economic agents and incorporates the dynamic analysis. (Rivera, 2007), (Mayorga & Muñoz 2000).

The key feature of panel data, which distinguishes them from the combinations of cross section, is the fact of having and following the same entities or companies over a sustained period of time (Wooldridge, 2001). In the comments organization, the data for the eight years of each company are located contiguously, the first year before the second. For almost all practical purposes, this is the usual sort of panel data sets. The availability of information is presented, therefore, in two dimensions, generating multiple punctual observations for each economic unit (Mur & Angulo, 2006).

In economics is frequent that data sets combine time series with cross-sectional units or cross-sectional (firms, countries, states, etc.), so that an application of techniques for separate study leaves unanswered questions. The panel data analysis studies the group putting together the cross-sectional data technique with time series. (Rivera, 2007), (Mayorga & Muñoz 2000).

A panel data set (or longitudinal) states simultaneously from cross-sectional data and time series. This is when you have comments on certain characteristics of a set of agents (individuals, countries, companies, etc..) over a continuous period of time. The available information is presented in two dimensions, generating multiple punctual observations for each economic unit (Mur & Angulo, 2006).

The model recognizes two effects, firstly the individual effects which refer to those who affect unequally each of the agents contained in the sample study and second to the temporary effects which affect both all individual units of study that do not vary with time. This allows studying changes in the benefits of a single company over a period of time as well as a variation on the benefits of several businesses together (Pindyck, 2001).

Thanks to this method the effects that are not observable in data purely cross-sectional or time series can be detected and measured, thus they enrich the empirical analysis in a way that would not be possible if only the other methods were used in an isolated way. (Rivera, 2007), (Gujarati, 2003).

General Specification of the Panel Data Model.

The general specification of a linear analysis of panel data on a regression model according to Pindyck and Rubinfeld (2001) is as follows:

$$Y_{it} = X_{it}\beta + \varepsilon_{it} \quad (1)$$

Where the subscript i takes the values $i = 1, 2, \dots, N$ and indicates the cross-sectional unit, $t = 1, 2, \dots, T$ indicates the different periods of time, Y_{it} are the dependent variables or explained (*back*), X_{it} are independent or explanatory variables (*regressors*), β is the vector of parameters to estimate and ε_{it} is the error term or random disturbance. These are the components of classical linear regression model.

If for each unit of cross section there is the same number of temporal observations, that is, if $T_{it} = T$ for each i , we say that the panel data is balanced or unbalanced. Otherwise, the panel is not balanced or unbalanced.

The estimate of β in this model by Ordinary Least Squares (OLS) is consistent and efficient. However, there are generalizations of this model, more common in econometrics, for which the OLS estimates are inconsistent, (as shown below). It is customary for the study of different available estimates assume that the random error is decomposed into two terms, $\varepsilon_{it} = \alpha_{it} + U_{it}$, where α_{it} is the specific individual effect for each unit of cross section and is considered constant over time.

Thus, the general specification of a regression model with panel data to estimate is as follows:

$$Y_{it} = \alpha_{it} + X_{it} + \beta + U_{it} \quad (2)$$

With $i = 1, \dots, N$; $t = 1, \dots, T$.

Where i refers to individual or unit of study (cross section), t to the time dimension, α_{it} its vector of intercepts of n parameters, β is a vector of K parameters and X_{it} is the i -th observation at time t for K explanatory variables. The total sample of observations in the model is given by $N \times T$.

The Specification of Panel Data in Error Terms.

Panel data models can also be interpreted through its error components. The error term U_{it} included on the equation (1), can be broken down as follows:

$$U_{it} = U_i + \delta_t + U_{it} \quad (3)$$

U_i represents the unobservable effects that differ between the units of study but not in time. They are generally associated with entrepreneurship firm (Burdisso, 1977).

δ_t is identified with non-quantifiable effects that vary over time but not among the units of study.

U_{it} refers to the purely random error term.

According to Burdisso, (1997), most applications which include panel data use the error component model known as "one way " in which $t = 0$. Different variants of the "one way" model ($t = 0$) from error components arising from different assumptions made about the term i , so three possible cases can be presented: using a simple model with fixed or random effects.

Alternative Models for Combining Time Series Data and Cross-Sectional.

There are several ways of specialization panel data from the general model. Different variants for the "one way" model ($t = 0$) from error components arising from different assumptions made about the term it . Various possibilities may arise, (Mayorga & Muñoz, 2000):

Regular Term

The simplest case is the one that considers the $i = 0$, so, that there is unobserved heterogeneity among individuals or firms. Given the above, it meets all the assumptions of general linear model, whereby the method of classical least squares estimation produces the best linear unbiased estimator and has the advantage of providing more degrees of freedom.

$$Y_{it} = \alpha_{it} + \sum_{k=1}^k \beta_{kit} + U_{it} \quad (4)$$

Where all coefficients are constant, $\beta_{kit} = \beta_k$ and e_{it} is heteroskedasticity and autocorrelated. However, the presence of random effects invariant on α_i time implies the appearance of persistent unobserved heterogeneity and failure of the assumption of homoscedasticity (constant variance disturbances) and no autocorrelation (variance 0 of the present comments from the same cross unit). As estimated by OLS will not lead to best linear unbiased estimator. Then, there are different frameworks for dealing with these models presented below.

In panel data analysis there are two models: fixed effects and random effects. (Gujarati, 2003), (Mayorga, 2000), (Wooldridge, 2000).

Fixed effects or intra group model (within).

Second possibility is to assume a fixed effect to i and different for each firm and individual effects are independent from each other. Each explanatory variable has a single coefficient (has the same impact on the dependent variable, but each individual or company has a different constant). In this case, the unobserved heterogeneity enters the model constant.

This model considers that the explanatory variables affect both the cross-sectional units and that they differ in characteristics of each other, measured by the intercept. That is why the N intercepts are associated with dummy variables with specific coefficients for each unit, which must be estimated. For the i -th unit of cross section, the equation is:

$$Y_i = i\alpha_i + \beta X_i + U_i \quad (5)$$

Where the subscript i represents a column vector of ones where α_i is an unknown parameter to be estimated. Y and X are the T observations of the i -th unit and U_i the vector $T \times 1$ of associated errors. This model presents a significant loss of freedom degrees.

In the fixed effects model despite the fact that the intersection can vary for each individual, each intersection itself does not vary with time, is invariant over time. (Gujarati, 2003).

Random Effects Model: Generalized Least Squares.

The third alternative is to treat i as an unobserved random variable that varies between individuals but not in time. Unlike the fixed effects model, this model assumes that individual effects are not independent of each other, but instead, they are distributed randomly around a given value. A common practice in regression analysis is to assume that the large number of factors that affect the value of the dependent variables but have not been explicitly included as independent variables of the model can be properly summarized in the random disturbance (Mayorga and Munoz, 2000.) Thus, this model considers that both, the impact of explanatory variables as the characteristics of each bank are different. The model is algebraically expressed as follows:

$$Y_{it} = (\alpha + U_i) + \beta' X_{it} + \varepsilon_{it} \quad (6)$$

Where "i" comes to represent the random disturbance that would distinguish the effect of each individual in the panel. Is the random error which characterizes the i -th observation and is steady over time (Greene, 1999). For estimating purposes stochastic components are included, and the following relationship obtained:

$$Y_{it} = \alpha + \beta' X_{it} + U_{it} \quad (7)$$

Where $U_{it} = \delta_t + U_i + \varepsilon_{it}$ becomes the new term of disturbance, U is not homoskedastic, where $\delta_t, U_i, \varepsilon_{it}$ correspond to the error associated with the time series (t), to the disruption of cross section (U_i) and the combined effect of both (ε_{it}).

In this case, the Ordinary Least Squares method (OLS) may not be an option because no assumptions are known that allow the estimator be consistent. Therefore it is preferable to use the Generalized Least Squares (GLS) whose estimates are higher than OLS when they do not meet the traditional assumptions and are similar on the other hand. An estimate by GLS random effects is a regression of Y_{it} partial deviations over the same partial deviations of X_{it} .

Advantages and Disadvantages of Panel Data Technique

The panel data technique has a number of advantages and disadvantages compared with time series and cross section models. The most relevant according to Baltagi (1995) are the following:

Advantages:

1. The technique allows economic researchers, having a greater amount of observations increasing the freedom degree and reducing the collinearity among the explanatory variables and, ultimately, improves the efficiency of econometric estimates.
2. The technique allows capturing unobservable heterogeneity either between individual units of study as well as time units. Based on the foregoing, the technique allows implementing a number of hypothesis trials to confirm or reject such heterogeneity and how to capture it.
3. Panel data involve and incorporate the fact that individuals, companies, banks or countries are heterogeneous on the analysis. The time series and cross section analysis shall not try to control this heterogeneity run the risk of obtaining biased results.
4. The panel data allow a better study the adjustment processes dynamics. This is mainly true in studies focused on the permanence degree and permanence of certain levels with economic status (unemployment, poverty, wealth).
5. Allows developing and testing relatively complex behavior models compared with time series and cross-sectional analysis. Clear examples of this type of models are those focused on trying to measure technical efficiency on the individual economic units side (firms, countries, etc).

Disadvantages:

Overall, the disadvantages associated to the panel data technique relates to collection and evaluation of statistical information processes related to individual units of study, when the data is obtained through surveys, interviews or using some other means to obtain the data. Examples of such constraints are: coverage of the target population, response rates, confusing questions, deliberate distortion of responses and the high economic costs etc.

E-VIEWS (Econometric Views)

The software used on processing the gathered information to apply the panel data technique, was the econometrics package E-VIEWS (viewer econometric) version 4.1. on its Windows version, originally designed for TSP (*Times Series Processor*). The program can be used for the time series study, timeless series and panel data. (Carrascal, Gonzalez and Rodriguez, 2004).

Software E-Views 4.1 provides several specialized tools that help you work with grouped data and help to operate in any of the temporal dimensions series or cross section, and implement estimating methods that show a joint structure of the data.

Within the statistical estimation there are several factors that help us to interpret the results as the coefficients associated with each of the explanatory variables, its standard or typical estimated deviation, the

statistical error of individual significance and likelihood probability on itself. (Carrascal, Gonzalez and Rodriguez, 2004).

In turn, each estimated equation shows in the bottom part a block of statistics which allows us to partially evaluate executed regression: R-squared, Adjusted R-squared, SD dependent var, S.E. of regression Sum squared resid, Log likelihood, F-statistic, Durbin-Watson stat, Prob (F-statistic).

Source and Data Gathering

Data from company specific variables were obtained from financial statements published in annual financial statements of the Mexican Stock Market, being this a very reliable source, taking on consideration that according to specific laws, companies which are listed on the Stock Market, are required to generate reports at the end of each quarter (Schneider, 2001). The data of macroeconomic variables were obtained from databases and publications produced by the Mexican Bank.

The study sample was not random because there were considered all the companies that consistently chosen by sector were listed in the period 2000-2007. Based on the Stratification published in the Federation Official Journal of June 2009 all businesses are classified as large companies.

On the application of the econometric model the long-term debt was considered as an independent variable (contracted debt). The independent variables are represented by total assets (firm size) risk or capital (equity + minority) Net sales (growth), profit (operating income), income tax (tax rate) interest rate (cost of corporate financing) exchange parity (annual average of FIX exchange rate), inflation (national index of consumer prices).

Each of the variables were individually reviewed, so we could measure whether each variable is or is not individually significant in explaining the behavior of the endogenous variable on the period frame and together to determine changes in the correlations when considering other factors.

Model Specification

It was used the fixed effects model. This model takes into account the unique characteristics of each unit (company) of the cross section, causing the intercept vary for each unit, however, assumes that the angular coefficients are consistent between the units. The estimation was performed using the method of least squares (GLS) because it provides the most robust results for the characteristics of our study sample, at the same time the White contrast was used to identify heteroscedasticity and this was corrected by cross section weighting.

The dependent variable is represented by the long-term liabilities presented by each of the companies in the sample, also, within the regressors and as the independent variables, are the integration of each of the internal factors of the firm that could affect the debt integration in capital structure, which are specified within a common factor, so, EViews will include a single coefficient for each variable; to correct the heteroskedasticity problem the calculation of variances and standard errors consistent to White heteroskedasticity will be included; to avoid the multicollinearity problem, initially each of the variables will be analyzed on a bivariate way and jointly afterwards, adjusted by the exclusion of factors technique; to verify a possible autocorrelation, we will use the statistic from Durbin-Watson.

The model that we will follow is the fixed effect, establishing a ratio of interception by differential intersection dichotomous variables, with the journey across weighting option, using the following equation:

$$Y_{it} = \alpha_1 + \alpha_2 D_{2i} + \alpha_3 D_{3i} + \dots + \alpha_n D_{ni} + \beta_{1i} + \beta_2 X_{2it} + \beta_3 X_{3it} + \dots + \beta_n X_{nit} + \mu_{it}$$

With $i = 1, \dots, N$; $t = 1, \dots, T$.

Where:

i = refers to the individual or unit of study (cross section)

t = time dimension

α = vector of intercepts of n parameters

β = is a vector of K parameters

X_{it} = is the i-th observation at time t for the K explanatory variables

The total sample of observations in the model would be given by: $N \times T$. (Mayorga and Muñoz, 2000) and (Pindyck and Rubinfeld, 2001).

Analysis and Interpretation of Results

The obtained results after applying the statistical tests by using the panel data technique, show that the main factors of national and company's concern relate to the addition of debt to form the capital structure used by business enterprises from the service sector, trade, services, telecommunications, mining, construction and transformation in Mexico, are not the same nor they do not have the same mathematical relation to each of the sectors. This can be seen in the summary tables shown in chart No.1 and No.2.

Null hypothesis was rejected where the various independent variables as determinants of capital structure, are not related to the incorporation of debt used by service sectors, trade, telecommunications, processing, construction and mining in Mexico. $H_0: B_j = 0$ where j corresponds to the independent variable at the significance level of 5%, because the evidence given by the E-views in all cases is less than (5%).

Table:1 Output results from E_VIEWS software from the compared sectors

SERVICE SECTOR				
Dependent Variable: PASIVO?				
Method: GLS (Cross Section Weights)				
Date: 01/15/11 Time: 09:29				
Sample: 2000 2007				
Included observations: 8				
Total panel (unbalanced) observations 118				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Sales?	0.625878	0.079517	7.871005	0.0000
Int_Rate?	-2340524.	798638.5	-2.930643	0.0040
Inflation?	5705869.	1846925.	3.089389	0.0025
Income Tax?	1975572.	551611.0	3.581458	0.0005
Utility?	1.180083	0.415215	2.842101	0.0052
Weighted Statistics				
R-squared	0.981939	Mean dependent var	3997260.	
Adjusted R-squared	0.978437	S.D. dependent var	4214064.	
S.E. of regression	618805.6	Sum squared resid	3.75E+13	
F-statistic	1331.999	Durbin-Watson stat	1.647648	
Prob(F-statistic)	0.000000			
CONSTRUCTION SECTOR				
Dependent Variable: PASIVO?				
Method: GLS (Cross Section Weights)				
Date: 01/15/11 Time: 11:35				
Sample: 2000 2007				
Included observations: 8				
Total panel (unbalanced) observations 116				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Sales?	0.845287	0.012200	69.28362	0.0000
Int_Rate?	-6250474.	1294881.	-4.827064	0.0000
Parity?	-234555.7	33057.32	-7.095424	0.0000
Inflation?	13138762	2967976.	4.426843	0.0000
Weighted Statistics				
R-squared	0.907053	Mean dependent var	26197187	
Adjusted R-squared	0.889805	S.D. dependent var	25396886	
S.E. of regression	8430665.	Sum squared resid	6.89E+15	
F-statistic	315.5342	Durbin-Watson stat	1.063583	
Prob(F-statistic)	0.000000			

COMMERCE SECTOR				
Dependent Variable: PASIVO?				
Method: GLS (Cross Section Weights)				
Date: 01/15/11 Time: 09:31				
Sample: 2000 2007				
Included observations: 8				
Total panel (balanced) observations 120				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Int_Rate?	-17075101	3179499.	-5.370375	0.0000
Inflation?	33655650	7437906.	4.524882	0.0000
Income Tax?	-31559220	3228528.	-9.775110	0.0000
Sales?	-0.065929	0.023436	-2.813090	0.0057
Parity?	312994.5	54986.13	5.692245	0.0000
Utility?	2.797857	0.149861	18.66966	0.0000
Weighted Statistics				
R-squared	0.972696	Mean dependent var	19602594	
Adjusted R-squared	0.967180	S.D. dependent var	21812485	
S.E. of regression	3951624.	Sum squared resid	1.55E+15	
F-statistic	705.3637	Durbin-Watson stat	0.845289	
Prob(F-statistic)	0.000000			

MINING INDUSTRIES SECTOR				
Dependent Variable: PASIVO?				
Method: GLS (Cross Section Weights)				
Date: 01/15/11 Time: 09:46				
Sample: 2000 2007				
Included observations: 8				
Total panel (unbalanced) observations 118				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Sales?	-0.363248	0.093832	-3.871241	0.0002
Int_Rate?	-4980169.	282989.7	-17.59841	0.0000
Inflation?	11218166	633902.7	17.69698	0.0000
Income_Tax?	-2719202.	686579.5	-3.960505	0.0001
Assets?	0.646509	0.057267	11.28934	0.0000
Weighted Statistics				
R-squared	0.972046	Mean dependent var	23761573	
Adjusted R-squared	0.966627	S.D. dependent var	18559698	
S.E. of regression	3390555.	Sum squared resid	1.13E+15	
F-statistic	851.9477	Durbin-Watson stat	1.655668	
Prob(F-statistic)	0.000000			

TELECOMUNICACIONES SECTOR				
Dependent Variable: PASIVO?				
Method: GLS (Cross Section Weights)				
Date: 01/15/11 Time: 12:46				
Sample: 2000 2005				
Included observations: 6				
Total panel (unbalanced) observations 76				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Sales?	0.225786	0.050783	4.446114	0.0000
Parity?	491005.4	187872.4	2.613505	0.0106
Inflation?	42196434	17002529	2.481774	0.0151
Int_Rate?	-18861916	8572344.	-2.200322	0.0305
Utility?	0.165818	0.015183	10.92105	0.0000
Weighted Statistics				
R-squared	0.901921	Mean dependent var	16956676	
Adjusted R-squared	0.873174	S.D. dependent var	16954052	
S.E. of regression	6037784.	Sum squared resid	2.11E+15	
F-statistic	133.3404	Durbin-Watson stat	1.404695	
Prob(F-statistic)	0.000000			
TRANSFORMATION SECTOR				
Dependent Variable: PASIVO?				
Method: GLS (Cross Section Weights)				
Date: 01/15/11 Time: 09:39				
Sample: 2000 2007				
Included observations: 8				
Total panel (balanced) observations 120				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Sales?	0.596219	0.098859	6.030982	0.0000
Parity?	225636.7	74445.89	3.030882	0.0029
Income Tax?	20380604	4318738.	4.719111	0.0000
Capital?	-0.345594	0.061395	-5.629030	0.0000
Weighted Statistics				
R-squared	0.971537	Mean dependent var	10128165	
Adjusted R-squared	0.966464	S.D. dependent var	13696641	
S.E. of regression	2508226.	Sum squared resid	6.35E+14	
F-statistic	1149.159	Durbin-Watson stat	0.864867	
Prob(F-statistic)	0.000000			

Source: Own elaboration based on financial data from the Mexican Stock Market between the years in the period 2000-2007.

Table: 2 Main factors that relate by incorporating debt to the capital structures by sector

Concept	Sales	Inflation	Interest Rate	Income Tax	Parity	Utility	Assets	Capital
Commerce	*	*	*	*	*	*		
Services	*	*	*	*		*		
Telecommunications	*	*	*		*	*		
Extractive	*	*	*	*			*	
Construction	*	*	*		*			
Transformation	*			*	*			*
	6	5	5	4	4	3	1	1

Source: Own elaboration based on the output results of the E-Views software (see chart No.1)

Conclusion

The research focused on a particular object of study which was to identify some key quantitative factors that relate to the addition of debt when forming capital structure, also, identifying the positive or negative mathematical relationships using the statistical technique of "data panel" between the dependent and independent variables, as well as the discrepancies between the factors of service enterprises, trade, telecommunications, processing, construction and mining in Mexico. However, the factors arising from the qualitative characteristics such as culture, power, country risk, and personal values are factors that can influence and change the results, which is why we suggest them to be included on a future research.

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Statistical study of market value indexes as an optimal equilibrium portfolio in Spanish, Mexican, and New York Stock Exchanges from January 2002 to December 2010.

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Abstract

The present is part of a series of theoretical reviews that will deal with the question of financial efficiency in the United States, Spanish and Mexican market portfolios through time, in order to determine if there's external validity in Sharpe's (1964) and Lintner's (1965) Market equilibrium assumptions or if these can be used as mere neutral views as Black and Litterman (1992) propose for active portfolio management.

Three discrete event simulation using in the Markowitz-Tobin-Sharpe-Lintner (Markowitz, 1987) framework were developed with monthly data of DJIA, IBEX35 and IPC stock members from January 2000 to December 2010. The results were statistically compared with the Sharpe Ratio and showed that, in the short term, the equilibrium assumption doesn't stands, suggesting that the best application of it is the starting neutral view in the Black-Litterman framework for active management. In the long term there's a possible equilibrium that needs further research.

Keywords: Optimization Techniques, Simulation Modeling, General Equilibrium Models.

JEL classification codes: C61, C63, C68

Introduction

From its proposal in 1952, Harry Markowitz's standard portfolio selection model has become one of the key stones in the Financial Economics architecture, especially in the portfolio valuation and the Asset Allocation process among practitioners. From that starting point, several improvements have been made to the original proposal, starting with James Tobin's (1958) "*Liquidity preference as Behavior toward risk theory*" also known as the "*Two fund separation theorem*" that is the starting point of the Markowitz-Tobin-Sharpe-Lintner (MTSL) portfolio model and the so called market equilibrium assumptions proposed separately by Sharpe (1964) and Lintner (1965) in order to approximate the aggregate "rational choice" among investors. This lately lead to the proposal of Sharpe's Capital Asset Pricing Model (CAPM), its nonstandard forms such as Black (1972) zero beta, Amihud and Mendelson (1986) liquidity, Merton (1992) continuous time and Heaton and Lucas (2000) with no tradable assets versions and finally the Arbitrage Pricing Theory (Ross, 1976) that changes the focus of the presence of market disequilibrium in order to the presence of arbitrage, leading to a more general, flexible but not clearly definedⁱ multifactor model used widely today among asset and portfolio managers.

Even Though many of these equilibrium assumptions seem to be far from reality, many practitioners and theorist have use it in order to justify passive managementⁱⁱ and financial asset valuation. On the other side, some other had use them as a neutral views or starting points for quantitative methods of active portfolio management (Black & Litterman, 1992, pp. 29-33). The first approaches that tried to solve the portfolio optimization problem using market equilibrium assumptionsⁱⁱⁱ were made by Treynor and Black (1973) and by Elton, Gruber, and Padberg (1976). The first case is, perhaps, the first approach that solved the quantitative portfolio optimization and active management problem by defining the optimal risky portfolio (in the MTSL framework) as a combination of a

market portfolio (the conformation of a stock index made with a previously determined statistical criteria) and an optimal, efficient but not well diversified^{iv} one calculated using the information ratio. The second approach is a straightforward model that attains the optimal (but perhaps not well diversified in terms of cardinality) portfolio by ranking the Treynor ratio (Treynor, 1965) in the investment universe and determining the optimal investment level with a reference quantity known as the C-cutoff rate (Elton, Gruber, & Padberg, 1976, pág. 1348). After these approaches the most recent development^v is due to Black and Litterman (1992) and Xu & Liu (2011) who propose (the former) the use of market equilibrium assumptions not as a part of the theoretical framework for asset allocation and portfolio management but as a neutral view or starting point for portfolio optimization, using a Bayesian transformation of the inputs in the analysis to achieve the optimal risky asset. The latter propose a portfolio model that contemplates the resolution of a discrete quadratic programming problem using the so called “paring constraints”, related to the minimum investment level among assets and number of trades and assets allowed.

The use of market betas as a measure of asset risk and the development of CAPM is notoriously criticized at the beginning by Black, Jensen and Scholes (1972) due to the lack of statistical significance (t test) of the beta coefficients in the S&P500 index. As an answer to this finding and also as one of the most notorious critiques to CAPM, Roll (1977) observes that this situation comes around due to the fact that the market portfolio is not efficient. This means that it lays in a point below the efficient frontier and outside the efficient set. Because many of the assumptions proposed by Sharpe and Lintner are not achievable in real life capital markets and that the market portfolio is not as efficient^{vi} as it should be compared with the optimal one attained in the Markowitz-Tobin-Sharpe-Lintner (MTSL) framework; and also because this equilibrium assumptions could be used as a neutral view or starting point in the active management process, the main motivation of the present document emerges: There have been previous studies in the US, Spanish and Mexican Stock Markets but these make a static comparison of the efficient frontier against the market portfolio in fixed periods of time.

What had happened for the American market of the 30 blue-chips of the Dow Jones Stock Index, the 35 in the IBEX35 and the Mexican IPC from January 2000 to December 2010 in a monthly period analysis evaluation of the MTSL model?, Have the Dow Jones, the IBEX 35 and the IPC been, as market portfolios, laid in the efficient set? If the answer is no, What would be the explanation of these inefficiencies? and Is it possible that this behavior of financial efficiency and convergence between the market portfolio and an MTSL optimal one can be observed in the long term as part of the Economic Theory would expect? The core subject of the present work will be the first two questions leaving the third one to a proper and more exhaustive review related to Economic Theory, signaling just a few features noted in the empirical results.

The first studies of this kind for the Dow Jones Index were the ones initially made by Black, Jensen and Scholes (1972), latter Frankfurter (1976) studies the effect that has the design of the market portfolio (rules and composition) in the CAPM related portfolio optimization models. He concluded that some better references should be performed in order to make CAPM theoretically and practically correct and that there is no significant impact of the benchmark selection in the linear relation among betas and expected returns in the aforementioned model. Following him, Roll (1977) complements and gives an explanation (as mentioned in latter paragraphs) to Black, Jensen and Scholes findings. Elton and Gruber (1983) repeated Roll's tests in some nonstandard CAPM models such as the one for non marketable assets of Mayers (1972), The International CAPM of Solnick (1974), Friend, Landskroner and Losq (1976) or the inflation and international versions of Grauer, Litzenburger and Stehle (1976) or the one of Chen and Bones (1975). Lately, Kandel and Stambaugh (1989), (1995) propose, following Roll findings, a ratio of relative efficiency between de market portfolio proxy (market index) and the theoretically ones in the efficient set that shares the same risk and/or the same return.

In the Spanish market there are some other empirical studies related to the IBEX35 as the market portfolio. Among them, the works of Ferruz and Sarto (1997), Acosta and Gonzalez (1999) and Jara and Martinez (2000) are focused in the convenience of the use of the IBEX35 as the market portfolio instead de Indice General de la Bolsa de Madrid (IGBM). This result was later confirmed by Lucas who observed that the use of the IBEX35 as proxy of the market portfolio is due to benchmarking for mutual fund performance among practitioners. Gomez-Sala and Yzaguirre (2003) analyze the effect that the changes in the IBEX35 membership have in stock prices and Miralles and Miralles (2005) study the effect of eight European stock indexes in the optimal portfolio calculation from 1995-

2002 also Martínez, De la torre and Bilbao (2010) made a first dynamical and intertemporal approach like the present one for the Spanish stock market^{vii}.

For the Mexican stock market little research has been done related to the geometrical and efficiency relationship between the Índice de Precios y Cotizaciones index (IPC: the market portfolio) and its counterparties in the efficient set. As one of the most notorious developments, the work of Lopez Herrera (2000) can be quoted where similar conclusions than Frankfurter are attained for the IPC and Índice Mexico (INMEX), noting the impact of their stock membership rules in the observed levels of Beta in the short term. For the multifactor CAPM (the conditional model) Del Castillo (2006) concludes about the convenience of the model (and the assumption of market equilibrium) in Mexico if the model is running with non parametric econometrics (kernel regression) using the IPC index, the industrial activity index, the M4 monetary aggregate, the USDMXN percentage variation, the percentage variation of the Dow Jones Index and the spread between the CETES (riskless asset in Mexico) with the Mexican commercial paper as state variables. Finally, and consistently with Del Castillo conclusions, Sansores (2008) remarks that the classical CAPM cannot be applied in emerging economies financial markets due to the limitations in the assumptions for the model, leading him to conclude that it would be better to use a multifactor CAPM such as the one proposed by Fama, MacBeth and Schwert (1977).

From all the aforementioned theoretical reviews a common factor is the observance of the lack of equilibrium in markets due to systemic aspects such as the influence of inflation, tax or other rational or irrational elements and also to the natural financial inefficiency of the market portfolio proxy due to its statistical or market volume calculation parameters, leading to the acceptance of the market equilibrium assumptions only as a neutral or starting view in quantitative models of active portfolio management. Therefore it is of interest to know What had happened from January 2000 to December in the efficiency of the main 30 to 35 blue-chip stocks in the US, Spanish and Mexican market? This first question is part of a serial of future questions on this subject and its relation with passive but, specially, active portfolio management.

The Markowitz-Tobin-Sharpe-Lintner Framework and The Statistical Test

The general Markowitz-Tobin-Sharpe-Lintner framework uses a portfolio optimization algorithm that starts with the derivation of the efficient set through a quadratic programming problem using the specific investment weight in the i^{th} asset $w_i, w_j \in W$ and its expected return μ_i and covariances $\sigma_{i,j}$ for the calculation of portfolio return R_p and variance σ_p^2 :

$$\text{Maximize } \sigma_p^2 = \sum_{i=1}^N \sum_{\substack{j=1 \\ j \neq i}}^N (w_i w_j \sigma_{i,j})$$

Subject to:

$$w_i, w_j \geq 0$$

$$\sum_{i=1}^N w_i = 1$$

$$\sum_{i=1}^N w_i \cdot \mu_i = R_p$$

(1)

With the efficient set, a curve known as the “Capital Allocation Line” that comes from Risk free asset (r_f) to each point ($R_{p,i}$ and $\sigma_{p,i}$) in the efficient frontier (the geometrical representation of the efficient set) is used in order to determine the optimal risky asset W following another optimization problem shown in figure 1:

$$\text{maximize } \theta = \frac{R_{p,i} - r_f}{\sigma_p}$$

Subject to:

$$\sum_{i=1}^N x_i = 1$$

$$x_i \geq 0$$

(2)

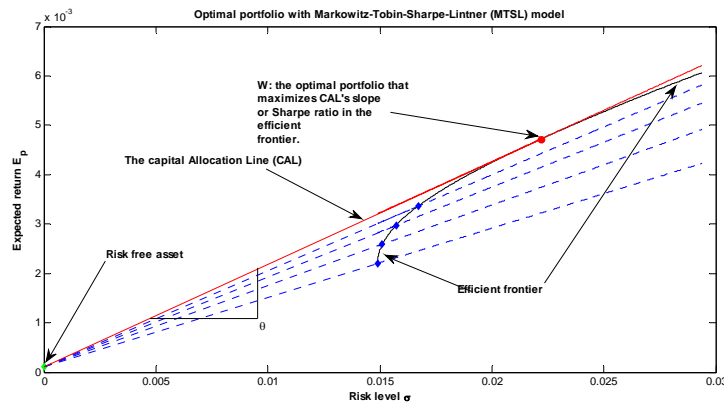


FIG. 1 THE MARKOWITZ-TOBIN-SHARPE-LINTNER FRAMEWORK

According to Sharpe (1964) and Linter's (1965, p. 15) equilibrium assumptions, if all the investor are rational, use the present framework in order to value the optimal portfolio and have homogeneous expectations (Samuelson, 1973) the portfolio W would become the optimal one for all agents in the market, defining this one as the "Market Portfolio" M . The hypothetical market portfolio should have all the traded assets in the market (therefore the importance of assuming that all assets are liquid ones) and its conformation is the same one for all $w_i, w_j \in W = M$ with W derived in MTSL framework. That's the key part of this first work: If the optimal portfolio W and Market portfolio M were the same, its Capital Allocation Line slope θ would be the same for both cases through time, assuming that the expectations are homogeneous but dynamic according to economical and social factors reflected in stock (market) prices^{viii}.

In portfolio performance measuring the slope θ of the Capital Allocation Line is known as the Sharpe Ratio (Sharpe W., 1966) or S that lead to the next statement:

$$\forall w_i, w_j \in W = M \Leftrightarrow S_w = S_M$$

(3)

In order to probe (3) a discrete event simulation was programmed in MATLAB and performed using monthly historical data of stock prices and index memberships from January 2000 to December 2010 for the Dow Jones and IPC indexes and from February 2001 for the IBEX35. All data comes from Bloomberg (2010) databases. The time series of returns in the i^{th} assets were calculated directly from asset prices using percentage return formula. The Sharpe Ratio was calculated using the objective function in (2) for both W attained with MTSL framework and M calculated by Bloomberg. The historical values of the efficient frontier of W and M generated during simulation where calculated with 30 month return data^{ix} plotted and visually compared with the Capital Allocation Line and the geometrical location of the market portfolio. In order to determine S_w and S_M values, the US Treasury Bills with three months of maturity, the Spanish Treasury Bills with the same maturity and the Mexican CETES with 28 maturity where used as the risk free asset rate r_f . These values (S_w and S_M) where statistically compared with a one-

way Analysis of Variance (ANOVA 1) in order to confirm the presence of a difference in both time series and to determine the case with the highest financial efficiency level.

The Observed Behavior In The Markets Of Interest

In the case of the Dow Jones it is noted that the market portfolio (light triangle in the 3D plot of figure 2) is considerably below the historical set of efficient frontiers and the optimal risky portfolio (W and dark circle) attained with the MTSL model is notoriously efficient, giving the first suggestion of the lack of efficiency in M and confirming that the equilibrium assumption as long with the one of heterogeneous expectation and rational choice are questioned empirically. This is confirmed with the Sharpe Ratio historical plot (S_W and S_M) in figure 3 whose ANOVA 1 and Box Plot tests are shown in the table and chart of figure 4, confirming the convenience of the interpretation of market equilibrium not as a (theoretical) necessary and sufficient condition for portfolio management but as only a necessary assumption in order to have a reference, neutral view or starting point. Also the behavior of the market portfolio (DJIA) against W suggest the preference of active portfolio management from the passive one due to a much better risk-return trade-off.

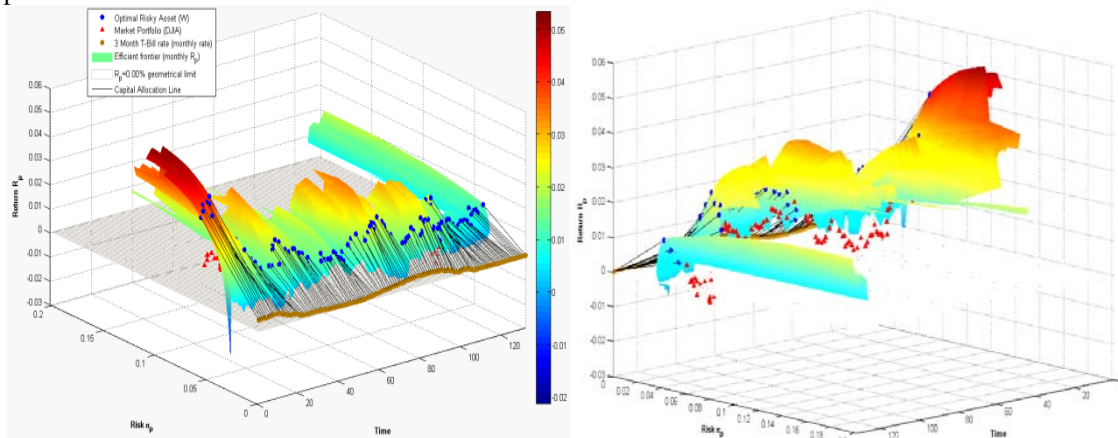


FIG. 2 HISTORICAL EFFICIENT FRONTIERS, OPTIMAL RISKY PORTFOLIO (W) AND MARKET PORTFOLIO FOR THE DOW JONES BLUE-CHIP STOCK MARKET

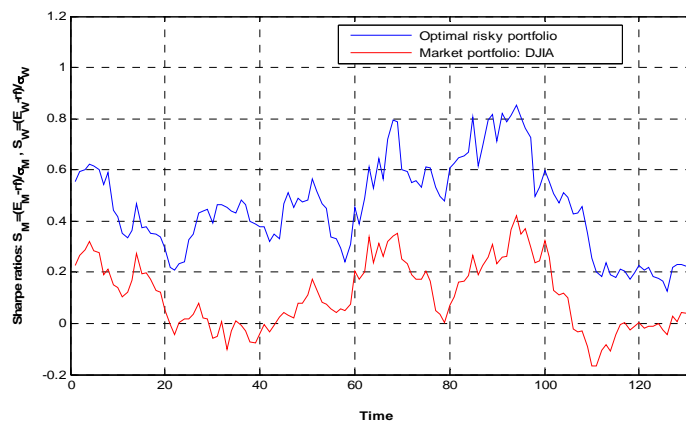


FIG. 3 HISTORICAL OBSERVED SHARPE RATIOS IN MARKET PORTFOLIO AND OPTIMAL RISKY ONE (US MARKET)

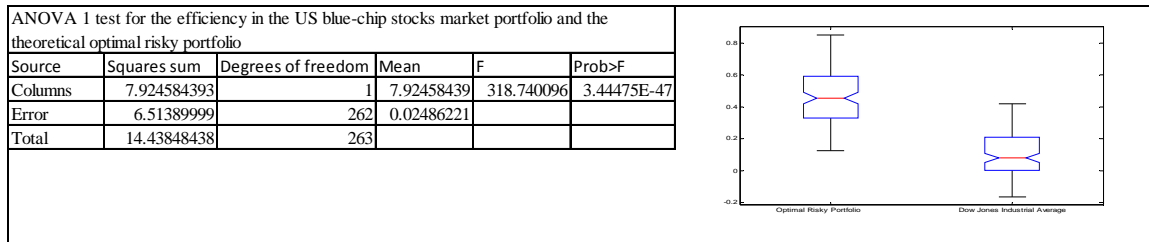


FIG. 4 ANOVA 1 TEST AND BOX PLOT OF THE EFFICIENCY IN THE MARKET PORTFOLIO OF THE BLUE-CHIP STOCKS OF THE DOW JONES INDUSTRIAL AVERAGE.

In the case of the IBEX35 index, the same results were attained, noting that, as in the Dow Jones case, there have been some market portfolios with expected return below to zero, as is the case of year 2010. This is due to the economical situation and market volatility as a result of the speculative attack that the Spanish and Euro economy had in its currency (the euro) and the relative uncertainty about the fiscal and economic growth health in such country. Also, at the beginning of the simulation (year 2002) and in 2005 there have been some notorious jumps in the efficient frontier and also in the Capital Allocation Line slope (Sharpe ratio). Some of the most plausible explanations of this behavior are 1) the behavior of the membership of the delisting process of stocks such as Amadeus Global IT and, 2) the properties of portfolio optimization that leads to extreme investment levels when short selling is not allowed (Black & Litterman, 1992, p. 34) showing investment levels of only three to thirteen assets (in average) each month in the optimal portfolio and 3) the economical cycles of Spanish economy: The 2001-2004 period was conducted by the consequences of the 9-11 terrorist attacks in worldwide markets, the latter corporate scandals such as Enron or world.com that affect worldwide stock markets certainty levels; From 2004 to 2007 there has been a strong economic growth in the country lead by the real estate boom due to global liquidity levels and from 2007 to 2010 there has been a notorious level of volatility due to the restricted levels of liquidity, economic growth and employment in worldwide economies, specially the Spanish one.

For this reason an ANOVA test was performed in three separate stages (for statistical consistency reasons): 2001-2004, 2004-2007 and 2007-2010, leading to the same results of a lack of efficiency in the market portfolio, compared with the optimal one in the MTSL context, as shown in figure 7.

This also suggest the convenience of active management instead of a passive one and the convenience of the equilibrium assumptions only as reference, neutral or starting portfolios for a much complete and specific active portfolio management.

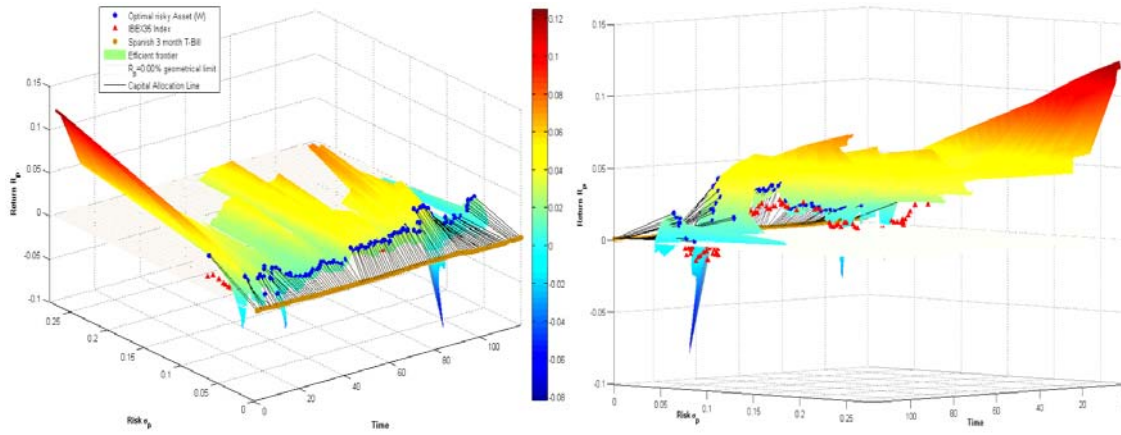


FIG. 5 HISTORICAL EFFICIENT FRONTIERS, OPTIMAL RISKY PORTFOLIO (W) AND MARKET PORTFOLIO FOR THE IBEX35 BLUE-CHIP STOCK MARKET

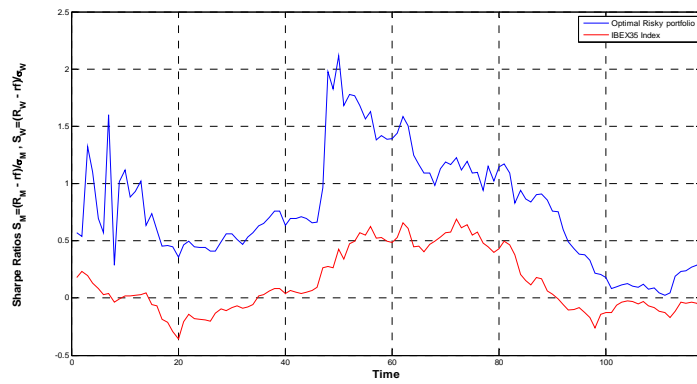


FIG. 6 HISTORICAL OBSERVED SHARPE RATIOS IN MARKET PORTFOLIO AND OPTIMAL RISKY ONE (SPANISH MARKET)

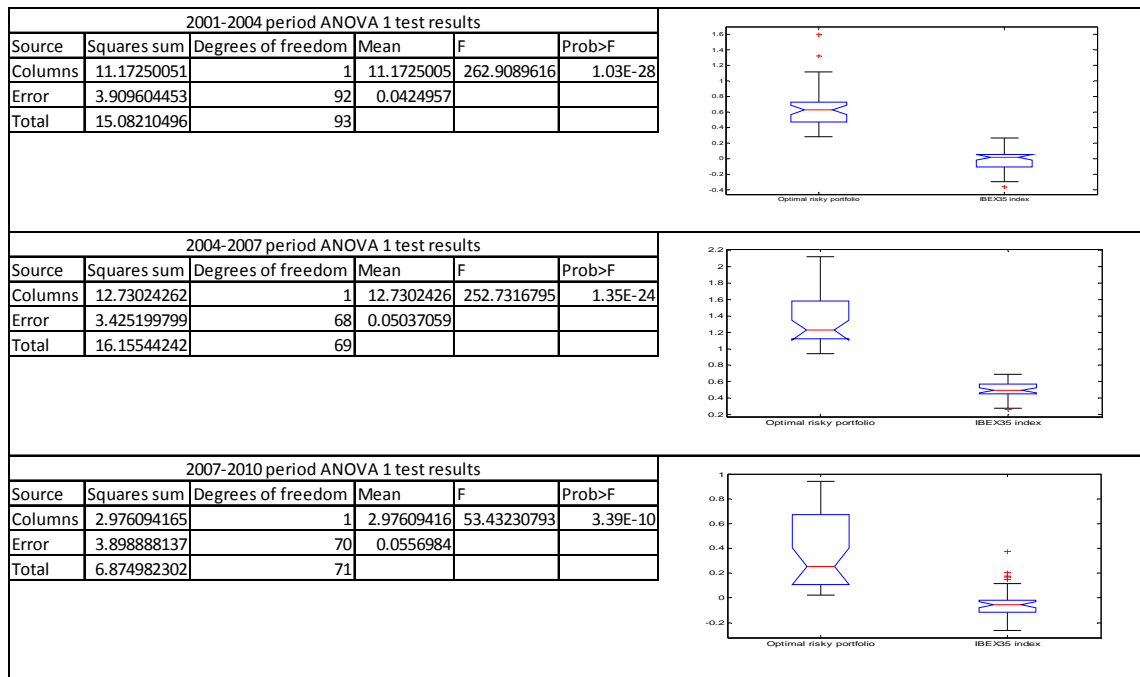


FIG. 7 ANOVA 1 TEST AND BOX PLOT FOR THE EFFICIENCY IN THE MARKET PORTFOLIO IN THREE SEPARATE PERIODS (2001-2004, 2004-2007 AND 2007-2010) FOR THE IBEX35 BLUE-CHIP STOCKS MARKET IN SPAIN

In the Mexican Stock Market a notorious irregular periods were observed in the investment opportunities set and in the efficient frontier due to several changes in the membership of stock indexes^x. Also the extreme behavior of the solutions of the optimization problem in the MTSL framework was observable were the average number of assets in the optimal risky portfolio was two to nineteen in average. Also, due to the dependency of this stock market to international investors expectations and to the same economical cycles and situations than the previous market in the worldwide economy (except for the Real Estate crisis in Spain), the ANOVA 1 and box plot test were made separately for the 2001-2004, 2004-2007 and 2007-2010 periods, leading to consistent results with the two previous markets, suggesting the lack of efficiency in the market portfolio and the convenience of active asset management instead of a passive one (index or market portfolio tracking), leaving equilibrium assumptions not for realistic acceptance but as neutral or starting view in active portfolio management.

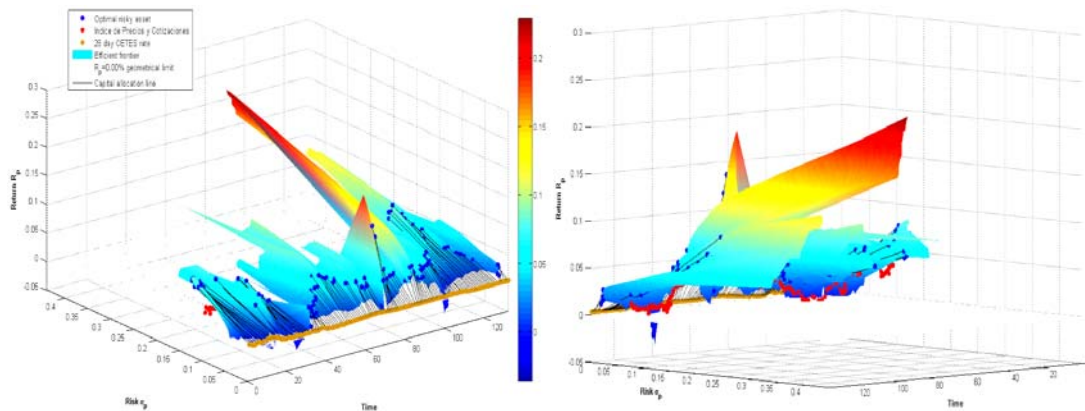


FIG. 8 HISTORICAL EFFICIENT FRONTIERS, OPTIMAL RISKY PORTFOLIO (W) AND MARKET PORTFOLIO FOR THE MEXICAN INDICE DE PRECIOS Y COTIZACIONES BLUE-CHIP STOCK MARKET.

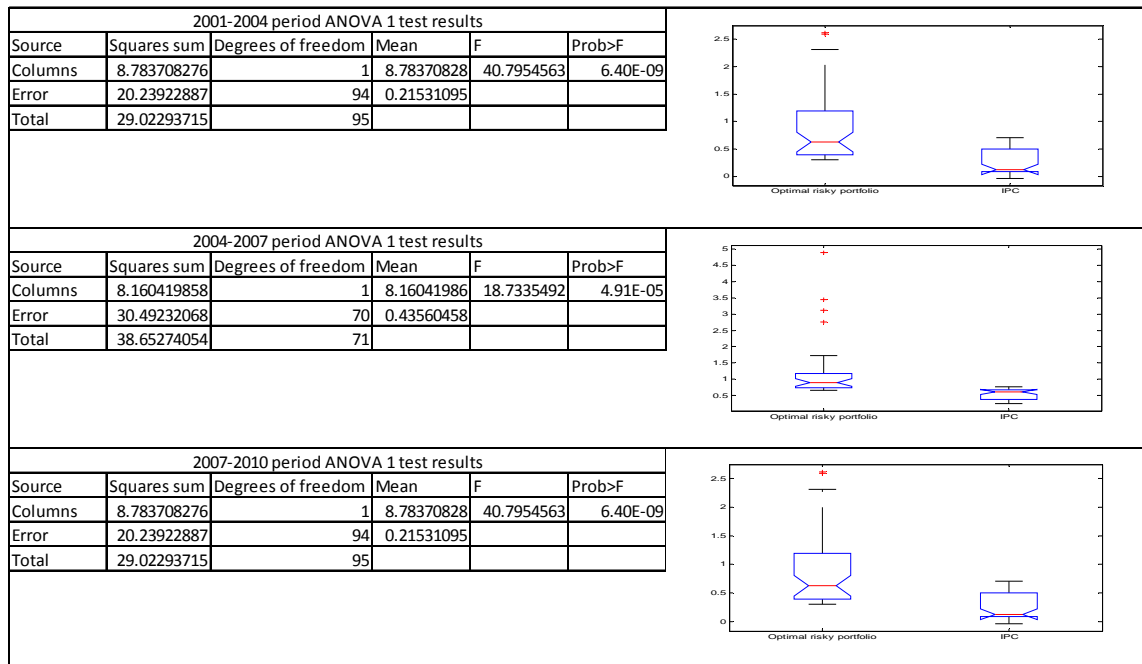


FIG. 9 ANOVA 1 TEST AND BOX PLOT FOR THE EFFICIENCY IN THE MARKET PORTFOLIO IN THREE SEPARATE PERIODS (2001-2004, 2004-2007 AND 2007-2010) FOR THE INDICE DE PRECIOS Y COTIZACIONES BLUE-CHIP STOCKS MARKET IN MEXICO.

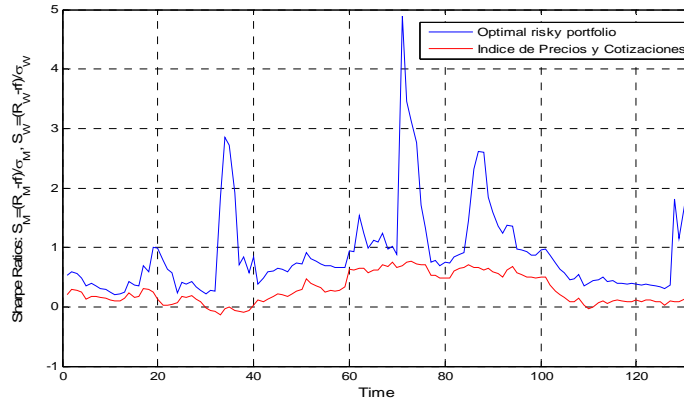


FIG. 10 HISTORICAL OBSERVED SHARPE RATIOS IN MARKET PORTFOLIO AND OPTIMAL RISKY ONE (MEXICAN MARKET)

Concluding Remarks

The empirical test performed through monthly discrete event simulation from January 2000 to December 2010 suggest that the equilibrium assumptions do not hold and that the homogeneous expectations does not apply for the modeling of the aggregate decision making process among investors in the US, Spanish and Mexican stock markets. This also confirms Roll’s findings that the possible restriction of CAPM or other multifactor models is due to the inefficiency of the market portfolio proxy compared to the elements of an efficient set conformed with portfolios with the same investment opportunity set.

With these results can be partially concluded that the proposed assumptions of equilibrium and the use of a proxy of the market portfolio for asset valuation and portfolio optimization are only valid not as necessary conditions but as starting point or neutral views for portfolio management. This of course will need further research in light of the results attained in the applied aspects of this practice.

Due to this and for the observable efficiency (Sharpe ratios) of the risky portfolios calculated in the Markowitz-Tobin-Sharpe-Lintner framework in comparison with the market portfolio proxies, an Active Portfolio Management is preferable than a Passive one even if the aforementioned equilibrium assumptions are taken or not as starting point or neutral view of the quantitative model used for this purpose.

Also, as figures three, six and ten suggest, there’s a possible equilibrium (convergence between the optimal risky portfolio and the market one) conditions in the long term that must be studied with a more formal economic theory approach to achieve better conclusions. Also this observation must be supported with more data and stronger simulations, relaxing some of the main MTSL framework assumptions.

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End Notes

ⁱ Due to its flexibility and the heterogeneity in investors expectancies and factor selection.

ⁱⁱ Also assuming that there's a form of market informational efficiency (Fama, 1965).

ⁱⁱⁱ This mean by using market risk measured trough asset return's Beta (β) with another or other market or economic factors.

^{iv} Defining "diversification" as a combination of the appropriate (preferently high) number of stocks and financial efficiency.

^v It is important to note that some other portfolio model proposals were made such as Roy (1952) or Konno and Yamasaki (1991) but Elton, Gruber, Brown & Goetzman show that these are asymptotically equivalent to the Markowitz-Tobin-Sharpe-Lintner framework assuming that the asset returns are normally distributed.

^{vi} Financial efficiency in the sense of mean-variance efficiency as proposed in the Markowitz-Tobin-Sharpe-Linter framework.

^{vii} Results that are complemented in the present document with actual data and the comparison in other two markets.

^{viii} This lead to the concept of informational efficiency that is the core issue and not directly tested here but the data will lead to some remarks on this subject.

^{ix} In some cases such as the IPC this lead to some unstable graphical and statistical values due to the lack of historical data as a result of mergers or IPO's.

^x Due to mergers, acquisitions, IPO's of segregated stock of actual members and corporate events related, in cases such as February to June 2001, May to June, December2002 to January 2003 2002 and December 2008 to January 2009 the index had 36 members instead of 35. In the July to November 2002 period, had 37 members and in the March 2004 to January 2005 and June to July 2010 the index had only 33 members.

Comparative Analysis of Islamic Banks and Conventional Banks in the UAE

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Abstract

This paper is an attempt to study, analyze and compare performance of Islamic Banks and Conventional Banks in the one of the important GCC Country like United Arab Emirates. Globalization had lead to the increased competition in the financial markets as these act as intermediaries for suppliers and investors. After the Economic recession of 2008 especially people are more cautious and taking precautions to invest into the financial markets. Many regulations are introduced by the government authorities and policies are revised for the safe and transparent methods which lead to the diversification of financial product and services. Islamic banking based on the principle of Shariah is compared with the existing traditional conventional banks in UAE. Data is taken from the annual reports, Income Statements and balance sheet of major Conventional banks of Abu Dhabi, Dubai, Sharjah and the same for the Islamic Banks. Ratio analysis show higher performance and profitability of the conventional banks during 2005 and 2006 and later 2008 and 2009 it was almost stable. The study finds that conventional banks are more profitable whereas Islamic banks are less risky and have high liquidity.

Key words: Islamic Banking, ratio analysis, comparative performance, conventional banking.

Introduction

Banks are one of the most important components of a thriving, developed economy and financial system of a nation. Functional banking system helps to create an effective and successful society. Banks act as an intermediary for the surplus and deficit sides in the society. The increasing competition in the national and international banking markets, the changes towards monetary unions, technological innovations, major changes in banking environment, growing needs of the customers and other challenges of banks to make timely preparations in order to enter into new competitive financial environment had made banks to keep up the pace through offering a wide range of products and services of which Islamic banking is the one of them. Though Islamic banking has a history of more than 3 decades, after the global economic crisis of 2008, there is a lot of importance given to this industry by the specialists in the financial system and academic researchers. There is great focus for the relationship between Islamic banking and financial stability and it was reported by many market research agencies that Islamic banking was more resilient during the crisis and acted as shock absorber. It was concluded by the industry specialists and academic researchers that lack of exposure to the type of assets associated with the conventional bank experienced crisis where as the asset-based and risk-sharing nature of Islamic finance—have shielded Islamic banking from the impact of the crisis. According to the IMF Islamic banking is one of the fastest growing segments in the financial industry tracking a 10-15% growth over past decade. Globally, Islamic banking assets are estimated to grow around 15% year to \$1 trillion by 2016. This high growth expectation is due to the increasing demand from Muslims, growing oil revenues in the middle east countries and attractiveness of Shariah based financial services to non Muslim investors also. There has been a huge demand for Shariah-compliant products not only in the Middle East and other Muslim countries, but also by investors globally, thus making it a global phenomenon. Besides its vast geographical expansion, Islamic banking is witnessing rapid expansion across the whole spectrum of financial activities including retail banking, insurance and capital market investments.

The objective of the study is to compare study and analyze the actual performance of Islamic banks and Conventional banks of the United Arab Emirates. The UAE market is relatively competitive, with a large number of banks serving a limited population. Dubai International Financial Center was established in 2004 with the objective of making UAE one of the major global onshore financial hubs. Apart from this lot of incentives were introduced, most importantly a much more liberal business environment than in the rest of the country, specially in terms of foreign ownership where all the foreign banks are allowed to operate. Both Conventional Banks and Islamic banks are traded in the Dubai Financial Market. From the previous empirical studies and research reports it is evident that the Islamic banks have a small market share in the UAE but the global crisis has lead to the demand of the Islamic banks and the opportunity is utilized by many conventional

banks offering Islamic banking products and services simultaneously along with their conventional products and services. Ex HSBC Amanah.

Review of Literature:

According to (Delis and Papanikolaou 2009) investigations determinants like bank size industry concentration and the investment environment have a positive impact on bank's efficiency. Study done on unbalanced pooled time series dataset of 23 greek banks by (Kosmidou 2008) during the period of financial integration, he used the ratio of return on average assets and for the determinants he classified them into internal and external. The external set included the annual change in GDP, inflation rate, the growth of money supply, the ration of stock market capitalization to total assets, the ration of total assets to GDP and concentration, The results indicated that ROAA was found to be associated with well capitalized banks and with lower cost to income ratios, The results indicated that impact of the growth of GDP and size was positive while inflation had a negative impact. (Medhat Tarawneh 2009) classified the commercial banks of Oman in cohesive categories on the basis of their financial characteristics revealed by the financial ratios. A total of five Omani commercial banks with more than 260 branches were financially analyzed, and simple regression was used to estimate the impact of asset management, operational efficiency, and bank size on the financial performance of these banks. And he found that the operational efficiency, and asset management, in addition to the bank size, strongly and positively influenced regression analysis showed financial performance of the banks. This was agreed with the correlation analysis among the variables of the study, which indicated the existence of positive relationships Local financial institutions, and foreign ones have greater opportunity in economic development in the Arab countries. The development and performance of domestic and foreign banks in Arab gulf countries was studied by (Mazhar M. Islam, 2003) concluded that local and foreign banks in these countries have performed well over the past several years. Moreover, he added that banks in these economies are well capitalized and the banking sector is well developed with intense competition among the banks. Research in the efficiency, customer service and financing performance among Australian financial institutions (Elizabeth Duncan, and Elliott, 2004) showed that all financial performance measures like interest margin, return on assets, and capital adequacy are positively correlated with customer service quality scores. Hypotheses was framed and was concluded that Islamic banks are more efficient than conventional banks in terms of resource use, cost effectiveness, profitability, asset quality capital adequacy and liquidity ratios than conventional banks (Iqbal 2008; Hassan and Bashir 2005). Commercial banks, however, have a more favorable operations ratio (Hassan and Bashir 2005). A cross-country study was done by (Al-Jarrah and Molyneux 2005) on efficiency and it was concluded that efficiency is higher in Islamic banks compared to conventional banks This contrasts with the results of another cross-country study which suggests that Islamic banks have lower efficiency than conventional banks (Abdul-Majid et al 2008a). Both technical and cost efficiency are found to be lower for Islamic banks compared to conventional banks in Malaysia, and the difference is significant (Mokhtar et al 2008). (Wum et al.2007) investigated the impact of factors such as: financial development measured by financial interrelation ratio (FIR), the level of monetary measured by GDP and the level of capitalization, size, age of the bank, business orientation measured by the ratio of non-interest income, and per capita GDP on the Chinese commercial banks.

The results indicated that the higher the levels of financial development, the better ROA performance for banks. The results also indicated a positive impact of per capita GDP on bank performance. However, a negative impact of size and business orientation on the ROA was found. (Ali 1996) compared the relative efficiency of Islamic banking with conventional banking in Bangladesh. He found that the Islamic banks are relatively more efficient than conventional banks. (Samad 1999) evaluated the relative efficiency position of the Islamic bank during 1992-1996, and compared it with the conventional banks in the country. His finding was that Bank Islam Malaysia enjoyed relatively higher managerial efficiency than the conventional banks (Unal et al.,2007) conducted a comparative performance analysis between the Turkish state-owned and private commercial banks during the period 1997-2006. They used net profit-loss, return on assets and return on equity as proxies to measure profitability. To measure operating efficiency they used net profit, net assets efficiencies relative to total employment and total number of branches. The findings suggested that state-owned banks are as efficient as private banks. (Chirwa 2003) investigates the relationship between market structure measured by concentration and profitability of commercial banks in Malawi using time series data between 1970 and 1994. It was found that there was a positive relationship between concentration and performance. (Naceur and Goaid 2001) examined the determinants of the Tunisian deposit during the period 1980-1995. The results indicated that the principal determinants of a bank's performance were by order of importance: labor productivity, bank's portfolio composition, capital productivity and bank capitalization. Banking sector in Saudi Arabia has been examined by (Ahmed and Khababa1999) three measures of profitability as dependent variables; ROE, ROA and percentage change in earnings per share. On the other hand, they used four independent variables. These were: business risk measured by dividing the total loans of the bank by its total deposits, market concentration, the market size measured by dividing the deposits of the bank by the total deposits of the commercial banks under

study and the size of the bank. The results indicated that the business risk and the bank size were the main determinants of the banks' performance. (Kim and Kim1997) conducted a comparative study on the structure-profit relationship of commercial banks in Korea and the U.S. To assess the profitability of the sample banks, they used ROA and ROE as two dependent variables and seven independent variables namely: shareholders' equity to total assets, liquid assets to assets, total loans to total deposits, fixed assets to total assets, total borrowed funds to total assets, reserves for loans to total assets and a reciprocal value of total assts They concluded that the banks in Korea in terms of efficiency and profitability are much behind the US banks. The findings also indicated that the capitalization rate, reserves for loan losses, and the size of the bank were important factors affecting the profitability of the banks in both countries. (Zimmerman 1996) examined factors influencing community bank's performance in California during the early 1990s and concluded that the regional conditions and loan portfolio excessive reliance on lending caused decrease in the overall profitability. Lack of geographic diversification was important factor in community bank's performance. According to (Yudistira 2003), empirical analysis on efficiency provides new evidences on the performance of 18 Islamic banks over the period of 1997-2000. Data for this time period was extracted from balance sheets and income statements of the Islamic banks and was found that there was a small inefficiency around 10% for 18 Islamic banks, which is considerable as compared to many conventional banks. It was also found that Country specific factors mainly determine the efficiency differences across the sample data.

Measure efficiency of Islamic banks in Bangladesh, (Sarker 1999) utilizes Banking efficiency model and claims that Islamic banks can stay alive even within a traditional banking architecture in which Profit-and-Loss Sharing (PLS) modes of financing are less dominated. Further concludes that Islamic financial products have different risk characteristics and consequently need different regulations. (Abdus Samad 2004) in his paper examines the comparative performance of Bahrain's interest-free Islamic banks and the interest-based conventional commercial banks during the post Gulf War period 1991-2001. Using nine financial ratios in measuring the performances with respect to (a) profitability, (b) liquidity risk, and (c) credit risk, and applying Student's t-test to these financial ratios, the paper concludes that there exists a significant difference in credit performance between the two sets of banks. However, the study finds no major difference in profitability and liquidity performances between Islamic banks and conventional banks. Research done by (Kader and Asarpota 2007) utilizes bank level data to evaluate the performance of the UAE Islamic banks. Balance sheets and income statements of 3 Islamic banks and 5 conventional banks in the time period 2000 to 2004 are used to compile data for the study. Financial ratios are applied to examine the performance of the Islamic banks in profitability, liquidity, risk and solvency, and efficiency. The results of the study showed that in comparison with UAE conventional banks, Islamic banks of UAE are relatively more profitable, less liquid, less risky, and more efficient. They conclude that there are two important implications associated with this finding: First, attributes of the Islamic profit-and-loss sharing banking paradigm are likely to be associated as a key reason for the rapid growth in Islamic banking in UAE. Second, UAE Islamic banks need to be supervised in a different way as the UAE Islamic banks in practice are different from UAE conventional banks.

Data and Methodology:

In order to study, compare and analyze the performance of conventional banks and Islamic banks in the United Arab Emirates ratio analysis method is utilized. The use of ratio measures is one of the important and common methods used in the performance analysis in the literature. It was utilized by (O Connor 1973) and (Libby 1975) in the early 1970s. Since then, it has been found in many and recently by Samad (1999). The use of ratio method has many advantages. The most important benefit is that it compensates bank disparities. As Banking firms are not equal with respect to sizes. The use of ratio removes the disparities in sizes and brings them at par. In order to examine whether there is a difference in performance between Islamic banks and conventional banks of United Arab Emirates, secondary data sources published by the banks such as balance sheets, annual reports and the and income statement have been taken. Three major Islamic Banks and three major conventional banks one each from Abu Dhabi, Dubai and Sharjah are taken for the Study and the ratios are calculated for all the three banks individually in both categories and an average of three Islamic banks is compared with the average of conventional banks in each year from 2005-2009. As the data for 2010 for all the banks taken up for study is not available the study is limited for the mentioned period only.

These performance rations are classified into three categories:

- a. Profitability Performance
- b. Liquidity Performance
- c. Risk Performance

Profitability Performance

The profitability ratios are used to assess the performance of the bank with all its expenses and costs during a particular period of time, these are stated to be the basic financial ratios in order to know how well bank is performing in terms of profit. Three ratios under this category taken are as follows

a. Return on Assets (ROA) = net profit/total assets. ROA is a good indicator of a bank's financial performance and managerial efficiency. It shows how competent the management is in allocating asset into net profit. The higher the ROA, the higher is the financial performance or profitability of the banks.

b. Return on Equity (ROE) = net profits/equity. It shows a rate return on base capital, i.e., equity capital. The higher the ROE, the more efficient is the performance.

c. Profit Expenses Ratio (PER) = Profit before tax / Operating expenses.

Higher PER means the bank is cost efficient and is making higher profits.

Liquidity Performance

Liquidity is assumed to be the life of a bank. It means how quickly a bank can convert its assets into cash at face value to meet the cash demands of the depositors and borrowers. The higher the amount of liquid asset for a bank, the greater is the liquidity of the bank. Among the various liquidity measures, this study uses the following ratios

a. Loans to Deposit Ratio (LDR) = Loans/ Total Deposits

Bank with low LDR is considered to have excessive liquidity, potentially lower profits and hence less risk as compared to the bank with high LDR. Higher LDR indicates the stress taken up by the bank by making excessive loans.

b. Loans to Asset Ratio (LAR) = Loans/total assets.

Similar to LDR the bank with low LAR is considered to be more liquid as compared to the bank with high LAR, However high LAR is an indication of potentially higher profitability and hence more risk.

Risk and Solvency Ratios

This category of ratios measure the risk and solvency of the firm, these ratios are also referred as debt of financial leverage ratios. The extent to which a firm relies on debt financing rather than equity financing. These financial ratios are used for measuring loan/credit risk performance of a bank. They are

a. Debt- Equity Ratio (DER)

DER = Total Debt/ Shareholder's Equity.

This ratio is utilized to measure the ability of the bank capital to absorb financial shocks. A bank with lower DER is considered to be better as compared to the bank with higher DER.

b. Debt to Total Assets Ratio (DTAR)

This ratio measures the amount of total debt firm uses to finance its total assets. It is an indicator of financial strength of the bank, It provides information on the solvency and ability of the firm to obtain additional finance for potentially attractive investment opportunities. Higher DTAR means bank has financed its assets through Debt as compared to the equity financing. Higher DTAR indicates that bank is more involved in more risky business.

DTAR = Total Debt / Total Assets

Results and Discussions

Ratios analysis acts a signal for the depositors and gives a clear picture of the performance of the banks A comparative analysis is done for two sets of the banks both Islamic banking and conventional banking. In the operation of Islamic banks principles of shariah where interest is forbidden are been implemented whereas the

conventional banks have the old traditional method of operations with the concept of interest .Different elements of the reports are taken and then plotted against each other to understand the trend.

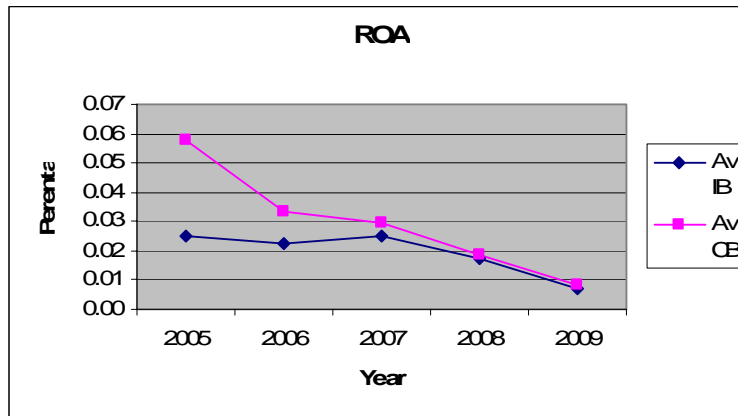
I. Profitability Performance

Return on Assets (ROA)

TABLE 1: ROA

	ROA	
	Average IB	Average CB
2005	0.03	0.06
2006	0.02	0.03
2007	0.03	0.03
2008	0.02	0.02
2009	0.01	0.01

Figure 1



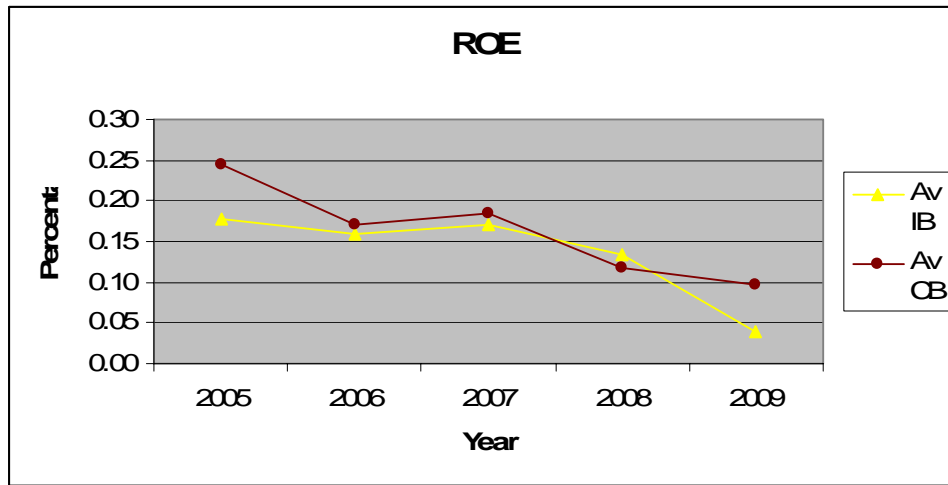
The results for year 2005, 2006 indicated high ROA for the conventional banks compared to Islamic banks which means higher performance and profitability, but from 2007 there was not much difference between the two banks they had almost the same profitability from 2008 onwards which shows that Islamic banks gained momentum during this period after recession. It is expected that results of 2010 will tell whether the Islamic banks have performed better than the conventional banks? Further it can be seen from 2005 to 2007 ROA was almost stable for the Islamic Banks.

2. Return of Equity (ROE)

TABLE 2: ROE

Year	Average IB	Average CB
2005	0.18	0.24
2006	0.16	0.17
2007	0.17	0.19
2008	0.13	0.12
2009	0.04	0.10

Figure 2



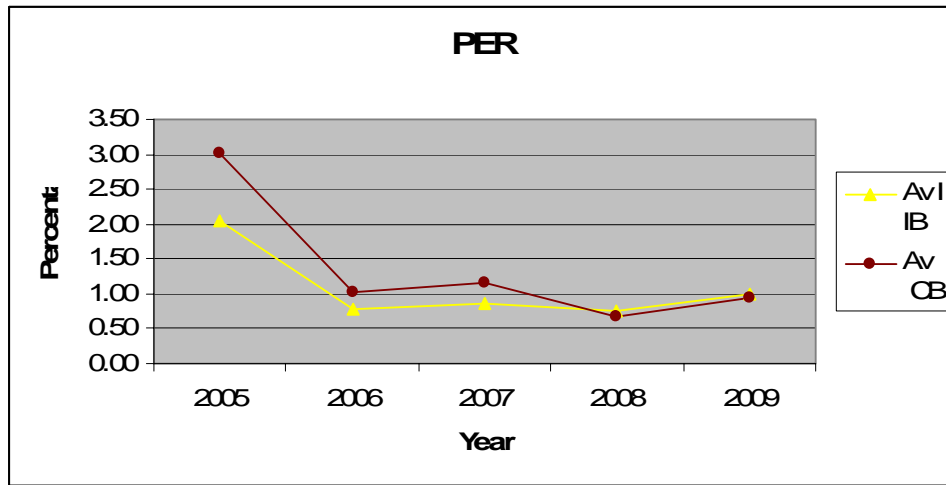
From the study of ROE for both Islamic banks and conventional banks it is found that in 2005 Conventional banks were performing better than Islamic banks but in 2006 to 2008 both were similar in 2009 the Islamic bank has relatively performed poorer.

3. Profit Expense Ratio (PER)

TABLE 3: PER

Year	Average IB	Average CB
2005	2.04	3.02
2006	0.78	1.02
2007	0.85	1.15
2008	0.77	0.66
2009	1.00	0.94

Figure 3



Measure of PER for 2005 in the conventional banks was high and gradually decreased in year 2006 until 2007 where both conventional and Islamic banks had a similar pattern whereas after 2008 the Islamic banks performance increased. It shows that Islamic banks are improving and performing slightly better than the conventional banks and had drawn the attention from the investors.

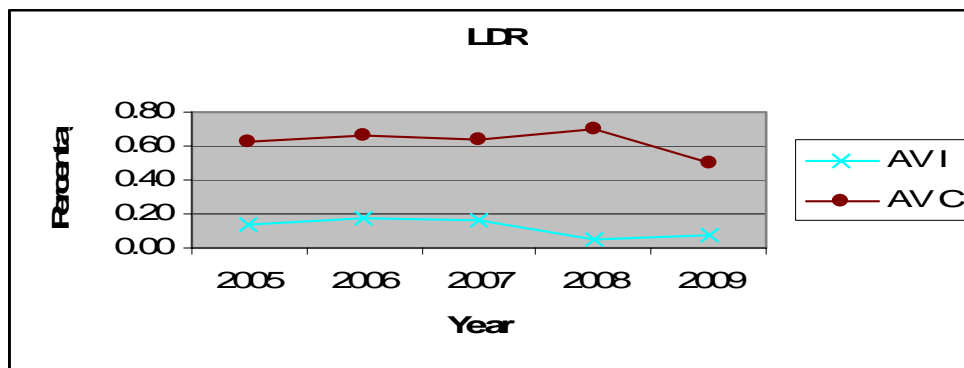
II. Liquidity Ratio:

4. Loan to Deposit Ratio (LDR)

TABLE 4: LDR

Year	AV I	AV C
2005	0.14	0.62
2006	0.17	0.67
2007	0.16	0.63
2008	0.06	0.70
2009	0.08	0.50

Figure 4



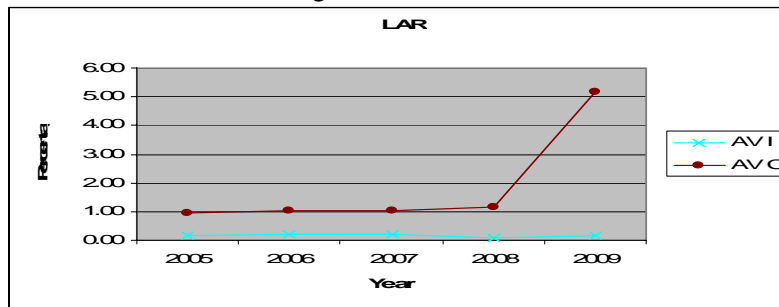
Results reveal that higher value is seen in the conventional banks from the year 2005-2009 which reveals that these banks have taken high risk by providing the excess loans. Whereas the Islamic banking figures are less and show that Islamic banks are risk averse.

5. Loan to Asset Ratio (LAR)

TABLE 5: LAR

Year	AV I	AV C
2005	0.17	0.93
2006	0.19	1.04
2007	0.22	1.05
2008	0.08	1.14
2009	0.15	5.16

Figure 5



Results of conventional banks for the year 2005 to 2008 were gradually increasing but after 2008 it had increased more than 4 times shows higher profitability and more risk and financial stress taken by the conventional banks. Low LAR of Islamic banks shows more liquid and less risky situation. The LAR slightly increased after 2008 which shows the popularity among the people towards Islamic banks and the loans taken from these banks. there is huge increase which shows that financial stress is taken by the conventional banks.

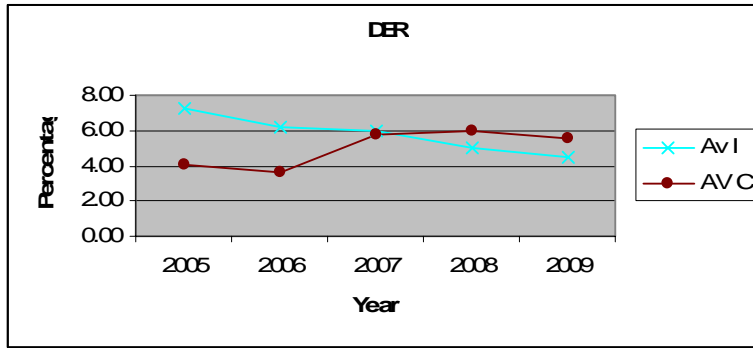
III. Risk and Solvency Ratios

6. Debt to Equity Ratio (DER)

TABLE 6: (DER)

	Av I	AV C
2005	7.24	4.04
2006	6.22	3.59
2007	5.97	5.80
2008	5.00	6.02
2009	4.50	5.56

Figure 6



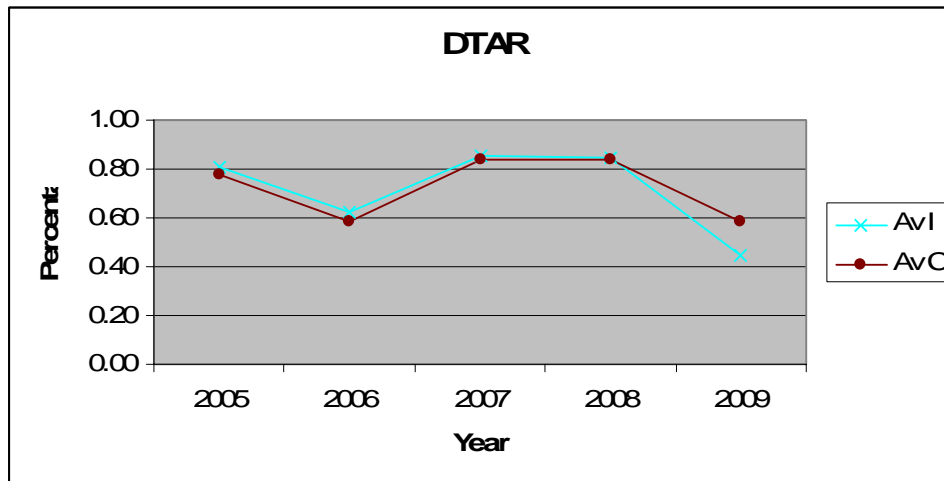
The above calculations indicate in year 2005 DER of conventional bank was less compared to DER of Islamic banks and had been increasing more and there was slight growth in 2008 and decrease is observed in Islamic banks from 2008 to 2009 which reflects better performance compared to the conventional bank. Thus shows that after the economic meltdown. Islamic Banks have gained importance in the financial services industry.

7. Debt to Total Assets Ratio (DTAR)

TABLE 7 (DTAR)

2005	0.81	0.78
2006	0.62	0.58
2007	0.85	0.84
2008	0.85	0.84
2009	0.45	0.58

Figure 7



The ratio calculation reflected the same results as of DER, In the e year 2005 DTAR was high for the Islamic bank and was almost equal to the conventional banking with a marginal difference the period of 2006 was nearly equal for 2007 and 2008 it was same after 2008 the DTAR ratio is less showing that bank is involved in less risky business there after whereas the higher DTAR of the conventional banks shows that are involved in high risk business.

Conclusions:

After examining and comparing the ratios of the two types of banks it is concluded that the conventional banks are more profitable compared to the Islamic banks. In terms of liquidity Islamic banks are highly liquid, have lower profits and less risk whereas the High LDR of Conventional banks indicates the stress taken by these banks by making excessive loans.

Further Scope:

As the reports of 2010 for all sample banks taken for study are not available the paper is limited to the period of 2005-2009. The sample for the conventional banks and Islamic banks in the United Arab Emirates is taken from the banks of Abu Dhabi, Dubai and Sharjah which can be extended to other emirates also.

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The Changing Landscape of the Indian Banking Industry: An Empirical Study

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Abstract

While global financial deregulation has led to liberalization of financial services and thus to modernization of commercial banking, industrialized economies are facing a financial meltdown. The health of major global banking industry is under severe stress but, that in the context of India continues to be strong. Despite cost prohibitive efforts in the introduction of a range of new products and services, banks in India are striving to emerge from an era of development banking into consumer oriented supermarkets. This paper studies the Indian banking industry with regards to its readiness to move on to the next generation.

Introduction

Following global financial deregulation, developing economies have been engaged in rapidly increasing of the efficiency of various industries in their respective countries. Any attempt to revamp their financial services industry will lead to a major integration of services and the introduction of a range of new products. This will also require a complete overhaul of technology starting from automated teller machines, internet banking, point-of-sale transaction processing, credit card operations, efficient telecommunication service for data transmission, and assisting investors with a whole plethora of alternative investment vehicles. Modernization of the financial services industry will be fruitful only when it is accompanied by adequate risk management. Risk management in the banking industry has thus become a global phenomenon. This is an area where the Bank for International Settlements (BIS) is working with various central banks to ensure the presence of a uniform and harmonized approach.

Literature Review

Banks are exposed to a variety of risks, namely, credit risk, liquidity risk, exchange risk, operational risk, transparency risk, reputation risk, interest rate risk, technology risk etc. The BIS recommends the need for an adequate amount of capital to help banks temporarily absorb any unexpected fluctuation and/or losses. Central banks of countries follow the guidelines of the BIS and introduce befitting policies and procedures in the context of their markets. As more products and services are introduced, the policies must be flexible enough to accommodate the requisite changes. The successful negotiation and implementation of Basel II Accord will lead to a sharp focus on the risk measurement and risk management at the institutional level [Arora, Garg and Ranjan, 2007]. Indian banking industry in general uses a credit committee for decision making and the managements of most banks perform industry study, make periodic credit calls, undertake regular plant visits, and conduct annual review of accounts for credit risk management. Irrespective of the bank size and sector, the credit risk framework follows guidelines provided by the country's central bank, namely, the Reserve Bank of India [Bodla and Verma, 2009]. The information contained in bank financial statements may be used to assess the risk management capabilities of banks and then ascertain the sensitivity of bank stocks to risk management [Sensarma and Jayadev, 2009].

The impact of credit rating on capital adequacy ratios of the state-owned banking industry needs short and long term perspectives [Nachane and Ghoshal, 2004]. The financial services industry is undergoing drastic changes through convergence between sectors and integration of products thereby requiring different type of regulation [Singhal and Vij, 2006]. If Indian banking industry follows the global trend of consolidation, critical issues must be

assessed regarding two important stakeholders, that is, shareholders and managers [Jayadev and Sensarma, 2007]. Operational risk is the risk of loss resulting from failure to administer efficient internal control processes within a bank. The regulators ensure that the management of the banking system is following the guidelines in this regard. Banks in India are directed to follow Basic Indicator Approach (BIA) for operational risk capital charge calculation [Bodla and Verma, 2008]. A survey conducted on select banks in India indicates insufficient internal data and difficulties in collection of external loss data. Hence it is imperative that banks devote time and resources to implement the advanced approach under Basel II [Janakiraman, 2008].

A study of the technical efficiency scores across a set of private and public sector banks reveals that the private sector banks have higher technical efficiency scores than their public sector counterparts [Sinha, 2008]. Management of interest rate risk in the banking system has become significant because there is the possibility of significant basis risk in addition to re-pricing risk [Saha, Subramanian, Basu, and Mishra, 2009]. Agricultural and other priority sector loan exposures may be typically managed on a portfolio basis. This will enable banks to diversify the risk and optimize the profit in the business besides strengthening a bank's relationship with its clients. Transparency in loan decision making process will continue to expand to reach benefits of corporate governance [Bandyopadhyay, 2008]. Finance companies that operate in the unorganized segments must also be required to become Basel II compliant but with a higher capital adequacy ratio [Ghoshal, 2008]. A modified and improved approach for the development of risk assessment must include an audit plan and an outline of the acceptable levels of risk for identifying risk mitigation measures [Khanna, 2008].

A Historical Perspective of the Indian Banking Industry

Following the nationalization of twenty major commercial banks starting in 1969, the government followed policies of financial repression for nearly two decades. The public sector commercial banks experienced rapid expansion of network of branches, including rural areas. They did not have any competition in their deposit mobilization efforts and using the depositors' funds in the disbursement of loans. While employment in the banking industry exponentially increased, the highly educated and motivated bank employees and managers had no discretion or autonomy in their decision making. Interest rates were administered by the Reserve Bank of India for deposits and loans. Direction of credit was also determined by the central bank and the government.

The cost burden continued to increase with high salaries for employees and high interest rates for deposits and that for loans was artificially kept low to suggest development banking. Depositors had no viable and dependable alternative investment vehicles. Commercial credit was at a high and unaffordable cost. Thus, the operating efficiency of public sector commercial banks rapidly declined due to the aforesaid reasons. The banking industry went through a transformation in the last decade due to the financial liberalization efforts of the government. Entry barriers were removed permitting fresh private banks to operate thereby making the industry competitive. Rate deregulation also was introduced in stages. The implementation of Basel I capital adequacy norms led to banks finding avenues for a fresh infusion of capital. Cost cutting was inevitable leading to generating fee based income sources. The public sector commercial banks have yet to fully expand their off-balance sheet activities compared to their traditional fund-based activities [Sinha 2008]. Fig 1 shows that the banking industry in India still commands a major market share in the financial savings of the household sector. While a range of new financial products has become available, the household sector is mostly risk averse and also not so financially literate to assess the relationship between risk and reward. Thus, the imperative for the banking industry is to scan the financial market on behalf of its clients for a superior rate of return for a fee.

Empirical Study of the Banking Industry in India

Any attempt to study the efficiency of individual banks and the effectiveness of the banking system will have to start with the segments within the industry. Our data comprises sector wise standing of the banking industry from 1979 to 2009 divided into State Bank of India & associates, nationalized banks (also known as public sector banks), regional rural banks, private banks, and foreign banks. The regional rural banks were constituted for a specific purpose of

“development of agriculture, trade, commerce, industry and other productive activities in the rural areas, credit and other facilities, particularly to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs”¹. We included twenty-nine ratios of the industry as a measure of the industry’s readiness to display efficiency, profitability and also proceed with Basel II implementations. The ratios that we studied are: Cash to deposit, Credit to deposit, Investment to deposit, Credit and investment to deposit, Deposits to total liabilities, Term deposits to total deposits, Priority sector credit to total credit, Term loan to total credit, Secured advances to total advances, Investments in non-approved securities to total investments, Interest income to total assets, Net interest margin to total assets, Non-interest income to total assets, Intermediation cost to total assets, Wages to intermediation cost, Wages to total expense, Wages to total income, Burden to total assets, Burden to interest income, Operating profits to total assets, Return on assets, Return on equity, Cost of deposits, Cost of borrowings, Cost of funds, Return on loans, Return on investments, Return on loans adjusted to cost of funds, and Return on investments adjusted to cost of funds. The correlation matrix for select variables is shown in Table 1. If the industry has sufficient products to invest in, its profitability will be visible in its return on assets (ROA). The same will also suggest the presence of liquidity risk, credit (default) risk, operational risk, and interest rate risk. So, we included key independent variables, namely, cost of deposits, cost of borrowing, cost of funding, return on loans, return on investments, intermediation cost, term deposits, priority sector credit, term liabilities, and total liabilities.

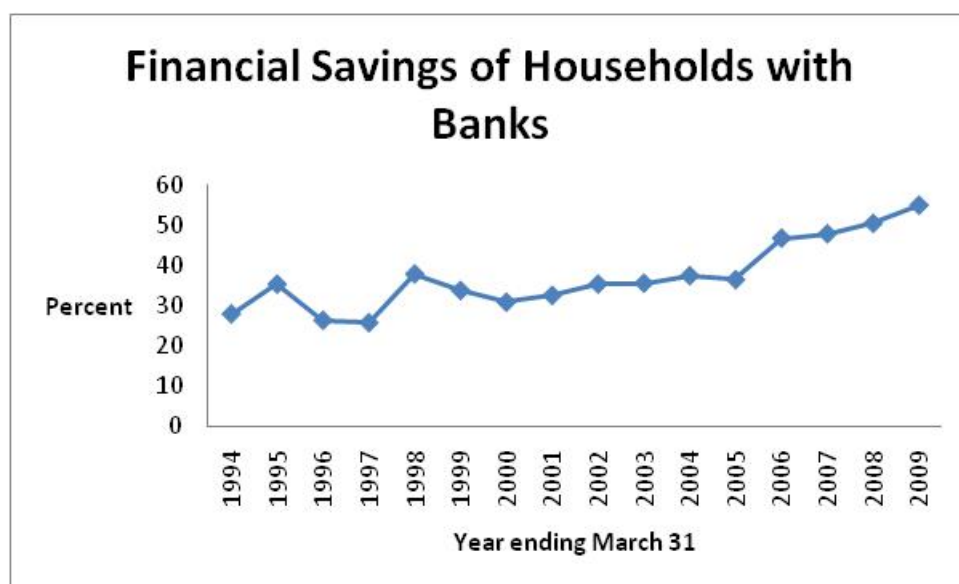


FIG 1: SIZE OF HOUSEHOLD SAVINGS WITH BANKS

Hypothesis 1:

$ROA = \alpha$ (constant) + β_1 (cost of deposits) + β_2 (cost of borrowing) + β_3 (cost of funding) + β_4 (return on loans adjusted to cost of funds) + β_5 (return on investments) + β_6 (intermediation cost of funds)

Hypothesis 1A:

$ROA = \alpha$ (constant) + β_1 (cost of deposits) + β_2 (cost of borrowing) + β_3 (cost of funding) + β_4 (return on loans adjusted to cost of funds) + β_5 (return on investments) + β_6 (intermediation cost of funds) + β_7 (Dummy variable for foreign banks)

Hypothesis 2:

$ROA = \alpha$ (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (non-interest income to total assets) + β_7 (operating profit to total assets)

Hypothesis 2A:

ROA = α (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (operating profit to total assets) + β_7 (Dummy variable for foreign banks)

Hypothesis 3:

ROA = α (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (operating profit to total assets)

Hypothesis 3A:

ROA = α (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (operating profit to total assets) + β_7 (Dummy variable for foreign banks)

India's foreign direct investment policy for the banking industry was fully liberalized in January 2000 and so we studied the same data using the same hypotheses for the years 2000 to 2009 separately. We also realized the need to examine the return on equity (ROE) as one of the dependant variables using similar hypotheses.

Hypothesis 4:

ROE = α (constant) + β_1 (Interest income to total assets) + β_2 (Net interest margin to total assets) + β_3 (Non-interest income to total assets) + β_4 (Intermediation cost to total assets) + β_5 (Wages to total income) + β_6 (intermediation cost of funds)

Hypothesis 4A:

ROE = α (constant) + β_1 (Interest income to total assets) + β_2 (Net interest margin to total assets) + β_3 (Non-interest income to total assets) + β_4 (Intermediation cost to total assets) + β_5 (Wages to total income) + β_6 (intermediation cost of funds) + β_7 (Dummy variable for foreign banks)

Hypothesis 5 (2000 to 2009):

ROE = α (constant) + β_1 (Interest income to total assets) + β_2 (Net interest margin to total assets) + β_3 (Non-interest income to total assets) + β_4 (Intermediation cost to total assets) + β_5 (Wages to total income) + β_6 (intermediation cost of funds)

Hypothesis 5A (2000 to 2009):

ROE = α (constant) + β_1 (Interest income to total assets) + β_2 (Net interest margin to total assets) + β_3 (Non-interest income to total assets) + β_4 (Intermediation cost to total assets) + β_5 (Wages to total income) + β_6 (intermediation cost of funds) + β_7 (Dummy variable for foreign banks)

The public sector banks lacked original equity and so started issuing new equity to the public. The entire State Bank group thrives on government accounts and also acts as an agent of the country's central bank thus, only the newly licensed private banks are funded by original equity. A few public sector banks have initiated the process of initial public offerings to infuse fresh and real equity into their financial health. Table 2 shows the number of issues by the banking industry and the amount of equity obtained from the market for the period 1996 to 2009. Until all banks are uniformly supported by original equity, the return on equity may not be a viable tool for sector-wise analysis. Similarly, we also studied the ratio of loans to deposits but, a high statutory liquidity and cash reserve ratios in the past undermine the relevance of this ratio.

Discussion of Results

Our models yielded expected signs for all the variables consistently. The key variables turned out to be statistically significant amidst development banking policies imposed by the government. This suggests that the country's central bank ensured maintenance of economic standards in its banking industry, however minimum levels such standards reached. Thus, the systemic risk was overall addressed prudently by the regulators. Our first model studied the importance of profitability for banks through return on assets (ROA) despite being under an administered banking environment. Tables 3 and 4 summarize our findings for the entire period of 1979 to 2009 and 2000 to 2009 respectively. The cost of funding has an immediate effect on the rate of return on loans and other investment

securities. As industry gets modernized on a continual basis, banks are likely to resort to inexpensive sources of funding. As and when the country's financial market harnesses its potential to offer short and long term products, banks will fund their own investments in loans through external borrowings. This may be a departure from the vanilla type of banking that the country has followed for two centuries. Traditionally, the Indian banking industry has relied upon domestic deposits as the only source of funding for all types of credit. The depositors with no alternative channel of investment were offered a high interest rate for their savings and term deposits. Besides, a sense of security for their deposits was prevalent as the banking industry represented the government itself. Depositors' overbearing reliance on interest income from transaction accounts left the government and the central bank with the only solution of offering interest rates that had no competitive market factors.

TABLE 2 EQUITY OBTAINED BY BANKS IN INDIA

Year (ending March 31)	Number of issues	Amount raised (US\$ millions)*
1996	17	1,790
1997	10	1,601
1998	8	568
1999	15	1,117
2000	15	927
2001	13	674
2002	14	1,055
2003	13	725
2004	11	1,234
2005	12	2,586
2006	12	2,797
2007	5	504
2008	6	7,760
2009	0	-

*Capital raised in Indian rupees converted and rounded off by the authors into US dollars at the interbank rate as of March 31 in each year. (Source: Securities and Exchange Board of India)

Cost of deposits was thus the primary factor in assessing the economic viability of the banking industry. Profitability increases whenever it is cheaper to borrow from the market than from mobilization of deposits. So, we modified our first model by including the cost of borrowings as an independent variable. The same performance ratio, ROA, was studied in the light of the length of the time period of loans and also the collateral security. The cost of deposit did not register a noticeable level of significance in all our models but the cost of borrowing and the cost of funding turned out to be highly significant. This is due to the absence of the term structure of interest rates in the past due to an administered environment. With the introduction of benchmark rates through short term treasury securities in 1997 and adoption of global standards, the reliance on deposits could be fading. Besides, the intermediation cost and employee salaries played a distinct role in reducing the overall profitability of the industry. We also noticed the return on loans and that on investment both adjusted to their respective costs registering significance. Similarly, our results comprehensively indicate that banks are likely to suffer from interest rate risk unless they are allowed to introduce hedging instruments for protecting themselves.

We ensured that the independent variables were significant by including a dummy variable for the foreign banks as a group and our results reinforced our findings regularly. The foreign banks constituted to be the only unique sector wherein the dummy variable was also significant thereby suggesting that the competitive field was not

open to foreign institutions for a long time. This sector operated strictly under market factors and ensured economic viability. Our final step was to understand how the industry operated with deposits as the major item on liability and the cost of deposits being the most expensive item on the income statement. We juxtaposed the factors of credit such as cash to deposit ratio for systemic health, priority sector credit for complying with development policies, secured credit to maintain safety and soundness, and term loans to total credit for the sake of steady cash flows. All variables registered a high level of significance wherein lies the systemic stability. When the market participants have placed a sizeable investment in banking stocks, the banking industry is under an obligation to cost reduction to render a better return on equity (ROE) consistently. Our scrutiny of the ROE as the variable dependent upon increasing interest income, maintaining a sustained net interest margin, offering more fee-based services, lowering intermediation costs, and reducing the wage expenses. The results summarized in Table 5 emphasize that the market participants do insist upon a satisfactory ROE. In this analysis, the domestic banks were on par with foreign banks.

Conclusion and Future Direction

With the advent of a significant presence of private banks and foreign banks, the Indian banking industry has the potential to become modern and sophisticated. The public sector banks need original equity from the public. If a fresh infusion of capital were to take place, the market will look for a privatized industry. In such an environment, bank managements are certain to be efficient but the responsibility of protecting the investors from the risk of moral hazard solely rests with the regulators. The foreign direct investment (FDI) policy of India permitted a complete ownership of banks by foreign investors since 2000 but there has been only one merger with ING's acquisition of the Vysya Bank Limited. Liberalization efforts have been steady but considerably slowed down due to resistance from pressure groups such as trade unions.

TABLE 5 REGRESSION RESULTS FOR THE INDIAN BANKING INDUSTRY, 1979-2009

Dependent Variable: ROE	Model 5	Model 5A	Model 6	Model 6A
	1979-2009	1979-2009	2000-2009	2000-2009
Constant	21.966 (2.437)*	23.481 (2.552)*	2.370 (1.186)	3.056 (1.421)
Interest income to total assets	-3.474 (-1.873)*	-4.252 (-2.054)*	1.869 (5.497)***	1.611 (3.578)**
Net interest margin to total assets	2.559 (0.552)	3.103 (0.663)	7.126 (4.944)***	7.275 (5.000)***
Non-interest income to total assets	2.677 (0.530)	4.181 (0.780)	2.833 (2.217)*	2.959 (2.295)*
Intermediation cost to total assets	10.350 (1.681)*	12.398 (1.873)*	-11.853 (-5.841)***	-11.223 (-5.202)***
Wages to total income	-1.184 (-2.960)**	-1.312 (-3.067)**	-0.041 (-0.319)	-0.076 (-0.564)
Foreign banks dummy		-6.987 9-0.850)		-1.378 (0.384)
Adjusted R ²	0.23	0.23	0.74	0.73
Number of observations	117	117	49	49

t-statistics appear in parentheses for each variable; * = significant at 90% confidence level;
** = significant at 95% confidence level; *** = significant at 99% confidence level

The reason that the financial services industry overall has suffered from the nonperforming assets (NPAs) and also a foreign investor may not fully comprehend what to expect as a measure of performance. In its assessment of Basel core principles as applied to the commercial banking industry in India, the Reserve Bank of India finds banks in India to be compliant with regards to capital adequacy, large exposure limits, and country & transfer risk. They are also largely compliant in the areas of credit risk, problem assets, provisions & reserves, operational risk,

internal control & audit, and abuse of financial services. The concern stems from banks found to be materially non-compliant in addressing risk management process, exposure to related parties, market risk, and liquidity risk. Most importantly, commercial banks are non-compliant in measuring and controlling interest rate risk in banking books. "Our study also reinforces the same point of view but we understand that the regulations may only pave the way for market evolution and infrastructure enhancement. The introduction of real time gross settlement (RTGS) recently is a major step to suggest that India's banking industry is prepared to be modernized which is consistent with industrialized economies. The risk management systems are mostly proprietary and so require each individual bank's commitment to enforce stringent internal control mechanism while bestowing a sophisticated degree of autonomy on the management. Adequate risk management systems determine the health of each institution cumulatively contributing to the robust systemic health. In order to fulfill this area, an expansion of this study must be undertaken from the perspective of each individual major bank under each sector in order to conclude which banks are likely to be fully compliant with regards to risk management systems. Implementation of core banking system is just the beginning of India's banking industry which was necessitated by the advent of rapid technology amidst its consumers. The same customers are engaged in the changing landscape of the whole industry.

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TABLE 3 REGRESSION RESULTS FOR THE INDIAN BANKING INDUSTRY, 1979-2009 (Dependent Variable: ROA)

Independent Variable	Model 1	Model 1A	Model 2	Model 2A	Model 3	Model 3A
Constant	0.403 (1.898)*	0.352 (1.731)*	0.194 (0.948)*	0.118 (0.570)	-0.924 (-0.945)	0.130 (0.230)
Cost of Deposits	0.996 (2.549)*	1.234 (3.229)**	0.925 (2.228)*	1.056 (2.605)*		
Cost of Borrowings	0.025 (0.611)	0.005 (0.110)	0.041 (0.811)	0.032 (0.641)		
Cost of Funding	-1.522 (-3.494)**	-1.598 (-3.830)***	-1.503 (-3.330)**	-1.546 (-3.466)**		
Return on loans adjusted	0.436 (5.530)***	0.395 (5.149)***	0.343 (4.668)***	0.298 (3.873)***		
Return on investments	0.278 (4.666)***	0.240 (4.101)***	0.232 (3.919)***	0.198 (3.231)**		
Intermediation cost	-0.512 (-2.694)**	-0.69(-3.610)**				
Foreign banks Dummy		0.914 (2.973)**		0.565 (1.810)*		-0.041 (-0.325)
Term Deposits to Total deposits					-0.021 (-2.093)*	-0.003 (-0.573)
Priority Sector Credit to total credit					0.004 (0.661)	0.006 (2.378)*
Term Loans to Total Loans					0.009 (1.631)	0.004 (1.946)*
Secured Credit to Total Credit					0.020 (2.815)**	-0.003 (-0.581)
Net Interest Margin to Total Assets					-0.581 (-5.518)***	-0.088 (-1.600)
Non-interest income to total assets						
Operating Profit to total assets					1.169 (9.856)***	0.517 (7.363)***
Adjusted R ²	0.42	0.43	0.37	0.39	0.68	0.69
Number of Observations	89	89	89	89	88	88

t-statistics appear in parentheses for each variable; * = significant at 90% confidence level; ** = significant at 95% confidence level; *** = significant at 99% confidence level

TABLE 4 REGRESSION RESULTS FOR THE INDIAN BANKING INDUSTRY, 2000 - 2009 (Dependent Variable: ROA)

Independent Variable	Model 1	Model 1A	Model 2	Model 2A	Model 3	Model 3A
Constant	0.232 (1.826)**	0.105 (0.920)	0.323 (2.296)*	0.110 (0.943)	-0.015 (-0.043)	-0.089 (-0.083)
Cost of Deposits	-08.90 (-0.399)	0.124 (0.620)	-0.062 (-0.248)	0.177 (0.880)		
Cost of Borrowings	-0.061 (-1.571)	-0.088 (-2.554)*	-0.053 (-1.213)	-0.091 (-2.585)*		
Cost of Funding	0.003 (0.013)	-0.107 (0.483)	0.033 (0.114)	-0.120 (-0.530)		
Return on loans adjusted	0.094 (1.874)*	0.124 (2.819)**	0.229 (6.042)***	0.176 (5.675)***		
Return on investments adjusted	-0.109 (-1.937)*	-0.035 (-0.670)	0.036 (0.817)	0.030 (0.870)		
Intermediation cost	0.603 (3.592)**	-0.274 (1.641)**				
Foreign banks Dummy		0.581 (3.958)***		0.701 (5.3988)***		-0.486 (-1.833)*
Term Deposits to Total deposits					-0.003 (-0.601)*	-0.018 (-1.729)*
Priority Sector Credit to total credit					0.006 (0.661)	0.007 (1.027)
Term Loans to Total Loans					0.005 (2.176)*	0.006 (1.046)
Secured Credit to Total Credit					-0.002 (-0.558)**	0.009 (0.983)
Net Interest Margin to Total Assets					-0.088 (-1.603)	-0.597 (-5.732)***
Non-interest income to total assets						
Operating Profit to total assets					0.521 (7.609)***	1.216 (10.158)***
Adjusted R ²	0.65	0.76	0.56	0.74	0.92	0.92
Number of Observations	49	49	49	49	48	48

t-statistics appear in parentheses for each variable; * = significant at 90% confidence level; ** = significant at 95% confidence level; *** = significant at 99% confidence level

Table 1 Correlation Matrix of Select Ratios of Indian Banking Industry (1979 to2009)

	TDDEP	PRADVTL	TRMLTAD	SECTADV	INTINTA	NIMTA	NONINT	INTERCST	WAGEIC	WAGETI	BURDTA	BURINC	BURDENII	OPPRTA	ROA	ROE	DEPCST	BORCST	FNDCST	ROLOAN	ROI	ROLADJ	ROIADJ	DUMMY
TDDEP	1.000																							
PRADVTL	-.741*	1.000																						
TRMLTAD	-.272*	.503*	1.000																					
SECTADV	-.0147	.334*	-.0192	1.000																				
INTINTA	.264*	-.0195	-.0116	-.286*	1.000																			
NIMTA	0.181	-.0173	-.0041	-.507*	.875*	1.000																		
NONINT	.386*	-.531*	-.0040	-.730*	.593*	.776*	1.000																	
INTERCST	-.0017	0.054	0.076	-.375*	.886*	.820*	.545*	1.000																
WAGEIC	-.628*	.655*	-.0011	.637*	-.194*	-.327*	-.672*	-.0133	1.000															
WAGETI	-.844*	.803*	0.203	.381*	-.279*	-.259*	-.542*	-.0022	.857*	1.000														
BURDTA	-.760*	.838*	.280*	.411*	-.260*	-.348*	-.601*	0.012	.796*	.940*	1.000													
BURINC	-.388*	.630*	0.130	.358*	.424*	0.175	-.348*	.597*	.495*	.494*	.589*	1.000												
BURDENII	-.660*	.830*	.278*	.422*	-.0141	-.298*	-.633*	0.125	.670*	.802*	.928*	.746*	1.000											
OPPRTA	.412*	-.538*	-.0116	-.667*	.503*	.773*	.912*	.343*	-.609*	-.550*	-.689*	-.489*	-.746*	1.000										
ROA	.194*	-.322*	0.046	-.400*	0.144	.429*	.595*	0.069	-.403*	-.377*	-.549*	-.493*	-.618*	.696*	1.000									
ROE	0.156	-.291*	-.0017	-.219*	0.174	.278*	.401*	0.148	-.342*	-.344*	-.406*	-.219*	-.347*	.387*	.746*	1.000								
DEPCST	0.091	-.0067	-.0084	-.0061	.884*	.606*	.255*	.814*	0.149	-.0024	0.026	.622*	0.126	0.128	-.0082	-.0032	1.000							
BORCST	.362*	-.325*	-.356*	-.327*	.714*	.636*	.563*	.547*	-.414*	-.407*	-.313*	0.012	-.0198	.557*	0.028	0.055	.497*	1.000						
FNDCST	0.190	-.0163	-.0164	-.0149	.969*	.753*	.479*	.821*	-.0020	-.0151	-.0112	.412*	-.0040	.419*	-.0047	-.0065	.975*	.662*	1.000					
ROLOAN	0.133	-.265*	-.0184	-.332*	.869*	.668*	.409*	.818*	-.0108	-.0171	-.0107	.479*	0.023	.273*	0.015	0.070	.894*	.790*	.930*	1.000				
ROI	0.118	-.0161	-.211*	-.0202	.933*	.849*	.519*	.828*	-.0029	-.0113	-.0170	.377*	-.0119	.524*	0.133	0.069	.896*	.592*	.913*	.865*	1.000			
ROLADJ	.236*	-.331*	-.0179	-.469*	.840*	.865*	.760*	.743*	-.466*	-.375*	-.368*	0.022	-.287*	.753*	.225*	0.138	.605*	.806*	.729*	.930*	.694*	1.000		
ROIADJ	-.0016	-.0110	-.216*	-.216*	.607*	.731*	.421*	.594*	-.0033	-.0026	-.0201	.218*	-.0194	.515*	.344*	.235*	.523*	.320*	.524*	.519*	.825*	.442*	1.000	
DUMMY	.213*	-.385*	-.0052	-.778*	.290*	.507*	.724*	.334*	-.761*	-.516*	-.513*	-.320*	-.441*	.656*	.390*	.315*	-.0062	.545*	0.139	.191*	.220*	.544*	.267*	1.000

*. Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

End Notes

i The Regional Rural Banks Act, 1976 (Act No. 21 of 1976), dated 9th February, 1976

ii The Reserve Bank of India, Report of the Committee on Financial Sector Assessment, Volume I, Page 25, Table III.1: Assessment of Basel Core Principles – Commercial Banks

Are Spillovers from Japanese FDI larger than from U.S. FDI?

Evidence from Backward Linkages in Mexico's Manufacturing Sector

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Abstract

Previous literature regarding technological spillovers from Foreign Direct Investment (FDI) in developing countries has turned out mixed and contradictory². This has also been the case in empirical studies that specifically compare Japanese and United States FDI Spillovers³. Theoretical contributions suggest that Japanese FDI should generate larger spillovers than U.S. FDI because of the characteristics embodied in each type of investment⁴. Using economic census data from Mexico's manufacturing sector we compare backward spillovers from Japanese and U.S. FDI. Results show that foreign presence in an industry increases productivity within the industry. The backward spillover coefficients were not statistically significant and this may be due to data limitations.

Introduction

Foreign Direct Investment has grown dramatically in the last 35 years, and this growth has been more accentuated in the last 20 years⁵. Even though FDI primarily seeks developed markets, developing countries have increased their participation as host countries of FDI inflows recently⁶. Specifically, the decrease of bank lending to developing economies during the 1980's prompted most of these countries invite Foreign Direct Investment by reducing restrictions on foreign capital, by offering subsidies and tax incentives to foreign investors (Carkovic & Levine, 2002). Görg and Greenway (2003) mention that in 1998, sixty countries made regulatory changes regarding FDI, where 94% were aimed to generate more favorable conditions to foreign investors. Mexico has also eased restrictions on FDI, especially after the debt crisis of the 1980's where foreign investment became the main source of financing after 1988 (Gurria, 1994). The Mexican government has since then pursued active policies to lower the entry barriers to investment from multinational enterprises (MNEs) in the hope that FDI would promote economic development through technological spillovers and faster growth of exports. The country has also transitioned from a highly protective import substitution to an export promotion strategy where FDI plays a central role. Since the middle of the 1980's, and more particularly since the implementation of the North American Free Trade Agreement (NAFTA) in 1994, FDI flows to Mexico increased. After receiving FDI inflows worth around 5.5 billion constant 2000 US

dollars in 1993, the amount in 1994 was over 11 billion US dollars in constant 2000 prices. Even though the increases of FDI inflows to Mexico and other developing countries have boomed since the 1980's, the spillover effects of FDI still remain unclear (Carkovic& Levine, 2002).

The economic foundations to offer special incentives to attract FDI derive from the idea that foreign investment is a composite bundle of capital, know-how, and technology which produces externalities, mainly through technology transfer as well as technology and skill diffusion in the countries that import FDI (Balasubramanyam, 1996). Romer (1993) mentions that there are important "idea gaps" between rich and poor countries, and that FDI may serve as a channel to transfer technological and business know-how to poor countries. Growth theory, which gives importance to Research and Development (R&D), human capital accumulation, externalities, and learning-by-doing, give theoretical bases to the motion that FDI can increase productivity in the host country. However, empirical studies have not always supported this claim.

The present paper uses economic census data from 1999, 2004 and 2009 to test whether the magnitude of vertical spillover from the United States and Japanese FDI differ in the Mexican economy. Two reasons give support to the claim that spillovers from Japan and the U.S. must be different. First, theoretical models on vertical linkages state that the share of intermediate inputs provided by multinational enterprises (MNEs) is positively correlated with the distance between host and home country (Rodrigues-Clare, 1996; Markusen&Venables, 1999)⁷. Larger shares of indigenous sourcing imply more contact between local and MNEs and greater opportunities for knowledge transfer. Therefore, it is expected that Japanese FDI should generate larger vertical spillovers than U.S. FDI.

Second, when it comes to a direct comparison between Japanese and U.S. FDI spillover effects on countries, different theoretical postures can be identified. The first posture claims that Japanese FDI generates larger spillovers than U.S. FDI. This theory is based on the idea that Japanese enterprises invest in sectors that are more suitable for developing countries, in terms of a more accessible, standardized and mature technology that can be easily absorbed by local firms (Kojima 1978, 1982; Kojima & Ozawa, 1984). This theory takes a macroeconomic approach where host economies are expected to increase economic growth and exports. The second posture claims that the spillovers from U.S. FDI are expected to be larger than those of the Japanese counterpart. This posture claims that technology transferred from the U.S. is more advanced than that of Japanese FDI and thus the spillovers expected are larger for the U.S. case (Kim, Lyn, &Zychowicz, 2003). This posture is more applicable to developed countries, which have higher levels of absorptive capacities to benefit from advanced technologies. The third theoretical posture claims that spillovers from Japanese or U.S. FDI depend on several factors (such as domestic government policies, investing firm's internal transaction motives, and nature of the investment project), all of which influence the outcome of the spillovers for each case (Lemi, 2004; Perez, 1998). Since Mexico is considered a developing country, it might be benefiting more from accessible and standardized technology than from the advanced case, due to low levels of absorptive capacity. This also implies that spillovers from Japanese FDI might be larger than from U.S. FDI.

Literature Review

Most empirical work searching for spillovers does so by analyzing changes in productivity of local firms. Intra-industry studies that apply cross-sectional data usually find positive spillovers from foreign presence, which may be due to estimation bias, as mentioned by Görg and Greenway (2001). When panel data estimation techniques are applied mixed results appear⁸. An explanation is that firms within the same industry have incentives for minimizing knowledge transfer within the industry (Kugler, 2001). On the other hand, domestic suppliers might benefit from multinationals presence in several ways. A multinational might help prospective providers setup production facilities; provide technical assistance to improve the quality of their products and thus facilitate innovation; and provide training of employees and transfer of management and organizational knowledge (Lall, 1980).

Recent empirical work seems keener to search for inter-industry spillovers as opposed to intra-industry spillovers. Results from inter-industry studies seem to support the claim that domestic suppliers benefit from foreign presence. Specifically, most studies show that for developing countries, domestic firms usually benefit from spillovers through backward linkages (Blalock & Gertler, 2008; Javorcik, 2004; Javorcik & Spatareanu, 2008; Liu & Lin, 2004; López & Südekum, 2009; Schoors & van der Tol, 2002). For Mexico, the previous study by López-Córdoba (2003) also supports this claim.

Empirically, comparing Japanese FDI and U.S. FDI has provided mixed results. Most studies have searched for macroeconomic spillovers, where contradicting results have been found (Hahm & Heo, 2008; Kim et al., 2003; Kojima, 1985; Lemi, 2004). We will encounter a problem when searching for macroeconomic FDI spillovers as this variable measured in aggregate terms is relatively small (for developing countries it generally represents less than 5% of GDP), so economy level spillovers may be unobservable. This may be a reason for the mixed and insignificant results found in this literature. Microeconomic studies on the other hand, have emphasized intra-industry spillovers and with contradicting results (Banga, 2003b, 2003c; Lee, 1984). One of the reasons for contradicting microeconomic results may be that in an intra-industry setting, foreign firms have the incentive to prevent any kind of positive spillovers to competing firms in the same industry. On the other hand, foreign companies that benefit directly or indirectly may promote spillovers with domestic firms with an input-output linkage so vertical spillovers are more likely to occur (Kugler, 2001).

The present study intends to compare inter-industry spillovers from Japanese FDI and U.S. FDI in Mexico's manufacturing sector.

Empirical Strategy

The Methodology applied to search for vertical spillovers from Japanese and U.S. FDI will follow that of Javorcik (2004) and Liu & Lin (2004). A Panel data estimation technique is applied where output is regressed on capital, labor, and other intermediate inputs. The model takes the following form:

$$\ln Y_{jt} = \alpha + \beta_1 \ln K_{jt} + \beta_2 \ln L_{jt} + \beta_3 \ln M_{jt} + \beta_5 \text{Horizontal}_{jt} + \beta_6 \text{BackwardUS}_{jt} + \beta_{10} \text{BackwardJAP}_{jt} + \alpha_t + \alpha_j + \varepsilon_{jt} \quad (1)$$

Where, Y_{jt} , K_{jt} , L_{jt} , and M_{jt} represent output, capital, labor and material inputs for industry j at time t . All variables are in constant 2010 prices. Output represents gross total output in an industry. Capital is measured as total fixed assets in an industry. Labor is measured by the total number of workers in an industry, and material inputs represent the value of intermediate material inputs used by industry. Horizontal and Backward variables are added to test the effects of foreign presence on industrial productivity.

The Horizontal variable measures foreign presence in the same sector and is defined as the share of industry j 's fixed assets owned by foreign investors⁹. It is defined as:

$$\text{Horizontal}_{jt} = \frac{\text{Total Foreign Fixed Assets}_{jt}}{\text{Total Fixed Assets}_{jt}} \quad (2)$$

The Backward variable is the share of an industry's output purchased by downstream foreign enterprises (Blalock, 2001). It is a proxy for foreign presence in downstream sectors, in other words it intends to capture the effect of foreign enterprises as customers of domestic suppliers. It takes the following form:

$$\text{Backward}_{jt} = \sum_{k \text{ if } k \neq j} \alpha_{jk} * \text{horizontal}_{kt} \quad (3)$$

In equation (3), α_{jk} is the proportion of upstream sector j 's output used by downstream sector k taken from the 2003 IO matrix. Two different measures of the Backward variable are calculated, one for Japanese capital and one for U.S. capital respectively. The direct comparison between the coefficients of both variables will indicate which type of capital is generating larger backward linkage spillovers in Mexico's manufacturing sector.

Estimation was carried out using pooled data OLS regression and panel data fixed effect and random effect econometric techniques.

Data Description

Data for production, capital, labor, and inputs obtained from Mexico's National Institute of Statistics and Geography (INEGI). Specifically, we used Economic Census data for the years 1999, 2004 and 2009 focusing on the manufacturing sector at a three-digit SCIAN disaggregated level. In total, we work with 21 industries of manufacturing activity¹⁰. Foreign Direct Investment data was obtained from Mexico's Secretary of Economy. FDI data however, was classified under CMAP and not SCIAN, so a conversion table from INEGI was used to make the data comparable.

We also used an input-output matrix (IO) provided by INEGI covering the year 2003¹¹. The IO matrix for the manufacturing sector accounts for 21 sub-sectors under three-digit SCIAN classification. Each industry was matched with the IO subsector classification based on its primary three-digit SCIAN code.

Results

Results from the econometric estimation are shown in table 1 using pooled OLS regression and panel data fixed effect and random effect estimations. Results from the three estimation techniques are quite similar. We find that the input variables (capital, labor and materials) are highly significant and positive. Generally speaking, a 1% increase in fixed assets, labor and materials genders a 0.06%, 0.1% and 0.87% increase in manufacturing sector output. The horizontal variable, which includes all foreign participation within an industry, resulted to be significant in all three models as well. The positive sign also indicates that competing firms within an industry have benefited from foreign presence and spillovers have occurred.

The main variables of interest (Backward_Japan and Backward_U.S.) did not turn out statistically significant in any of the three models. However, it seems interesting to point out that the coefficient signs seem to indicate that Japanese FDI has generated positive backward spillovers with the local economy. U.S. FDI on the other hand, seems to be negatively correlated with local productivity, which may indicate that foreign U.S. companies are not creating linkages with local suppliers¹². A reason for the lack of significance in these results may be the fact that shares of foreign presence in an industry had to be calculated using FDI flow data and not economic census data¹³. Since FDI flow data was not under the same classification as census data, conversion tables had to be used and this may have altered the results.

TABLE 1: INDUSTRY LEVEL PANEL DATA ESTIMATION (1999, 2004, 2009)

	Log(Output)		
	Pooled	RE	FE
Log(Capital)	0.05 *	0.06 **	0.08 ***
	(1.87)	(2.06)	(2.74)
Log(Labor)	0.1 ***	0.1 ***	0.09 ***
	(5.99)	(6.02)	(4.48)
Log(Material)	0.88 ***	0.87 ***	0.86 ***
	(31.13)	(32.05)	(31.23)
Horizontal	0.19 ***	0.21 ***	0.29 ***
	(3.36)	(3.68)	(4.56)
Backward_Japan	1.67	1.66	1.92
	(0.88)	(0.89)	(0.87)
Backward_U.S.	-3.22	-3.27	-3.94
	(-1.14)	(-1.16)	(-1.11)
Constant	1.09 ***	1.04 ***	0.92 ***
	(4.46)	(4.45)	(3.91)
R-Square	0.99	0.99	0.99
X ²		11802.05	
Prob > X ²		0.00	
F	1836.93		2004.41
Prob > F	0.06		0.00
Number of Obs	63	63	63
Number of Groups		21	21

Notes:

* Significance at 90% interval

** Significance at 95% interval

*** Significance at 99% interval

Numbers in parenthesis indicate t (or z for random effect) statistics

Conclusions

This study employs industry level data from Mexico's manufacturing sector to examine whether backward spillovers from Japanese FDI are larger than their U.S. counterpart. Results obtained from our empirical analysis do not give support to our original hypothesis. Although coefficients from the three regression models applied were

positive testing for backward linkages from Japanese FDI and negative from U.S. FDI, these were not statistically significant.

We believe that the reason for these results stems from the fact that an alternate database for foreign capital origin had to be used and made comparable with production and inputs data. Also, due to the conversion of FDI flows from CMAP classification to SCIAN classification, we had to aggregate the data to three-digit instead of six-digit disaggregated level, which resulted in the loss of observations.

Despite these limitations, our results show that foreign presence in general, increases productivity of firms within that sector. However, these results should be taken with reservation. As mentioned by Aitken and Harrison (1999), horizontal measurements of spillovers may overstate the positive relationship between foreign presence and local productivity. In other words, foreign companies may be attracted to the most productive industries of the economy and not be the cause of high productivity in these industries.

References

Contact author for the list of references.

End Notes

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² Results can be classified in finding positive, negative, mixed or insignificant spillovers from FDI. A more in-depth review can be found in: (Görg& Greenaway, 2003; Lim, 2001; Xiaoqin Fan, 2002).

³ For example: (Banga, 2003a, 2003b, 2003c; Hahm&Heo, 2008; Kim, Lyn &Zychowicz, 2003; Kojima, 1985;Lemi, 2004; Sedgwick, 1996; Takii, 2007).

⁴ See: (Aoki, 1986, 1990; Coriat, 1990, 1991; Fujita & Hill, 1995; Graham &Krugman, 1995;Kojima, 1978; Piore&Sabel, 1984;Ravenhill, 1999;Womack, 1990).

⁵ Between 1970 and 2008, world FDI flows grew at an average 9.2%, while world GDP and exports grew at average rates of 3.2% and 6.6% respectively. (UNCTAD, 2008).

⁶ Between 1970 and 1975 developing countries received FDI inflows accounting for 0.56% of their GDP, during the period of 1980 to 1985 the figure jumped to 0.74%, between 2000 and 2005 it increased to 2.84% and in 2008 it represented 3.84% of their GDP. (UNCTAD, 2008).

⁷This has also been empirically tested for Japanese and U.S. MNEs. For U.S. MNEs, Hanson, Mataloni and Slaughter (2003) show that there is an inverse relationship between trade costs and sales of intermediate inputs from headquarters to overseas affiliates. Japanese MNEs also seem to increase local sourcing in their U.S. affiliates due to transportation distance and shipping delays (Chung, Mitchell &Yeung, 2003; Martin &Swaminathan, 1995)

⁸Positive spillovers were found in Görg&Strobl (2002) and Suyanto, Salim& Bloch (2009) for Ghana and Indonesia respectively, while negative results were reported for the cases of Morroco (Haddad & Harrison, 1993), Venezuela (Aitken & Harrison, 1999) and India (Kathuria, 2000).

⁹Initially, the horizontal variable was to be calculated as the share of output by foreign companies over total output. However, due to time constraints the database with this specific information was not made available from INEGI.

¹⁰The manufacturing sector under SCIAN classification has a total of 293 classes; 11 classes were dropped due to missing observations.

¹¹Ideally, it would be better to use multiple IO matrices since relationships between sectors may change over time or with FDI activity. However, radical changes among these relationships are unlikely and we can assume that industrial structures do not change rapidly over time (Javorcik, 2004; Javorcik, Saggi&Spatareanu, 2004). IO matrices for other years were unavailable. While coefficients from the IO table remain fixed for the entire period, horizontal values and output do change over time, so backward values are time-varying, industry-specific variables (Javorcik, 2004).

¹²Significance for these variables was at a 62% interval for Backward_Japan and at a 75% interval for Backward_U.S..

¹³Economic census data reports the share of foreign presence in production, fixed assets, investment, employment, material inputs and total number of companies by country and by industry; however, this data base was not made available in time from INEGI for the submission of this paper. Results should be taken with this caveat in mind.

Investment Strategy of the Temasek Holding

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What is sovereign wealth fund?

A sovereign wealth funds (SWFs) are investment funds owned by national governments and financed by the country's foreign currency reserves (dollar, euro, yen), often through their central banks or via direct investments. The funds invested usually the proceeds of non-renewable natural resources or a higher return alternative to holding foreign currency. The term sovereign wealth fund was introduced in 2005, but the first SWF was introduced in 1953 by the government of Kuwait ('Kuwait Investment Authority,' a commodity SWF). Expansion of sovereign wealth funds in recent years has been driven by ballooning East Asian foreign exchange reserves and the need for oil rich countries to invest oil money to provide income to replace that from diminishing oil reserves. These funds are now major players in the world financial markets. The combined assets of the major SWFs (owned by 20 governments) have reached over three trillion dollars, and are expected to reach over 10 trillion dollars by 2012. Although the current total amount makes up only some 3 percent of the world's traded securities, the SWFs already have tremendous concentrated financial power. Over half of the SWF assets are owned by oil and gas exporting nations, and about one third by Australia, China, and Singapore. SWFs are aggressive investors and have bought into firms as diverse as Morgan Stanley, General Electric, and Sony.

Definition of SWFs

Although there exists no commonly accepted definition of SWFs, three elements can be identified that are common to such funds. First, SWFs are state-owned. Second, SWFs have no or only very limited explicit liabilities and, third, SWFs are managed separately from official foreign exchange reserves. In addition, most SWFs share certain characteristics that originate in the specific nature of SWFs. For example, the lack of explicit liabilities (or the stretched out maturity of liabilities) favours the pursuit of long-term investment strategies, as implemented by most SWFs. In this respect, sovereign wealth funds differ from sovereign pension funds that operate subject to explicit liabilities and a continuous stream of fixed payments, making sovereign wealth funds more similar to private mutual funds. Second, the absence of explicit liabilities also has a bearing on the willingness to take risk, as standard portfolio theory predicts a higher share of fixed income securities for funds that are subject to recurring payments. Finally, most sovereign wealth funds appear to have substantial exposure to foreign investments or are even entirely invested in foreign assets.

Who established SWFs?

The main group of countries that have established SWFs are resource-rich economies which currently benefit from high oil and commodity prices. In these countries, SWFs partly also serve the purpose of stabilising government and export revenues which would otherwise mirror the volatility of oil and commodity prices. Another purpose of such funds in resource-rich countries is the accumulation of savings for future generations as natural resources are non-renewable and are hence anticipated to be exhausted after some time. Prominent examples of such SWFs include Norway's Government Pension Fund, investment agencies set up by member countries of the Gulf Cooperation Council, such as the Abu Dhabi Investment Authority which manages the foreign assets of the Emirate of Abu Dhabi in the United Arab Emirates, and the Russian oil stabilisation fund which has recently been partly transformed into a fund for future generations.

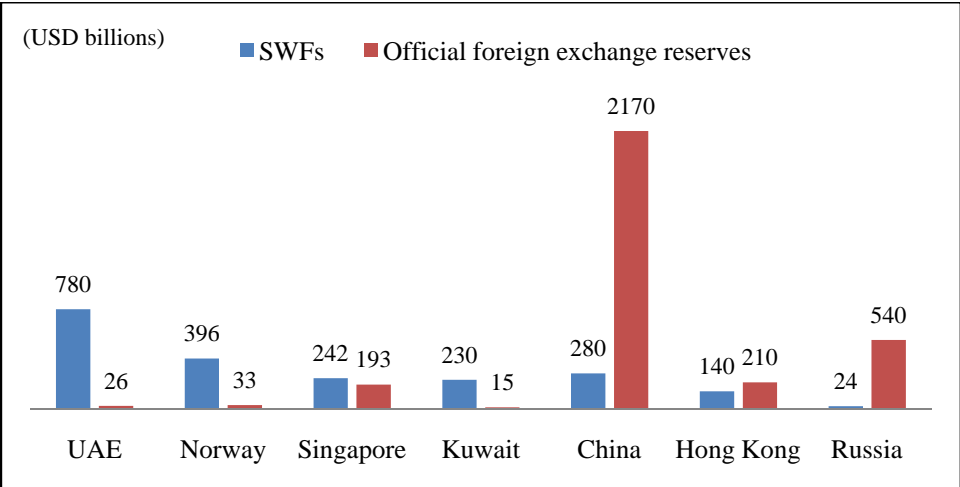
A second group of countries, most notably in Asia, has established SWFs because reserves are being accumulated in excess of what may be needed for intervention or balance-of-payment purposes. The source of

reserve accumulation for these countries is mostly not linked to primary commodities but rather related to the management of inflexible exchange rate regimes. As the authorities have become more comfortable with reserve levels, foreign assets have been moved to specialised agencies which often have explicit return objectives and may invest in more risky assets than central banks. Prominent examples include funds that have been operating for decades, such as the Singapore Government Investment Company, but also more recently established funds such as the Korea Investment Corporation, and the investment portfolio of the Exchange Fund managed by the Hong Kong Monetary Authority. Recently also China established a new investment agency, the China Investment Corporation, responsible for the management of a portion of Chinese foreign reserves.

Amount of asset under management of SWFs

Based on a combination of private and official sources, SWFs are estimated to have accumulated between at least USD 3 trillion, compared with around USD 5 trillion in traditional foreign exchange reserves. Comparing the level of traditional foreign exchange reserves with assets managed in SWFs, two observations stand out (see Chart 1). Some countries have been accumulating foreign assets in SWFs for a long time and therefore hold relatively modest levels of foreign exchange reserves (e.g. members of the Gulf Cooperation Council like the UAE and Kuwait). In contrast, other countries have accumulated sizeable holdings of traditional foreign exchange reserves – most likely in excess of precautionary levels – but only recently created SWFs with relatively modest levels of assets under management (e.g. China and Russia). Therefore, many observers expect that these countries may in the future increasingly accumulate foreign assets in SWFs or even shift traditional reserve assets into such funds. Oil exporters, mostly from the Middle East, but also Norway’s sizeable Government Pension Fund, are estimated to account for the largest part of total assets managed by SWFs. A smaller fraction, of around USD 700 billion, is accounted for by Asian emerging economies, most notably Singapore, which has been running SWFs since the 1970s. But also mature economies, other than Norway, have set up SWFs, mostly to save receipts from the exploitation of natural resources. In sum, a plausible estimate of total assets managed by SWFs ranges from USD 3 to 4 trillion.

CHART 1: SWFs VS OFFICIAL FOREIGN EXCHANGE RESERVES



Selected Sovereign wealth funds

Singapore

The Government of Singapore owns two independent SWFs. The first, Temasek Holdings, was founded in 1974 to manage part of the Government's revenues. To satisfy legal requirements in issuing bonds, Temasek first reported its accounts to the public in 2004. Total annualised returns have been 18% per annum since inception and currently the fund has a net asset value of around USD 133 billion. Although Temasek originally invested domestically, foreign investments now account for more than half of its total portfolio, concentrated in emerging Asia, especially China, Taiwan and Korea and, from a sectoral viewpoint, in the financial and telecommunications industries. Temasek claims not to direct the commercial or operational decisions of portfolio companies, except where shareholder approval is specifically required. In 1981 a second SWF, the Government Investment Company (GIC), was set up to manage part of Singapore's foreign exchange reserves. Although its accounts are not published, GIC reports managing a portfolio of more than USD 100 billion. The GIC's investment target is to achieve a real return of above GDP-weighted inflation. GIC claims to have constantly exceeded the benchmark return.

Hong Kong

Reserve management in Hong Kong is centralised in the Hong Kong Monetary Authority's Exchange Fund. The fund is split into a "backing portfolio" consisting of traditionally managed foreign exchange reserves, which fully back the Hong Kong dollar monetary base, and an actively managed "investment portfolio". Management of the investment portfolio is partly carried out by Hong Kong Monetary Authority staff and external fund managers. The latter are responsible for the management of all equity investments, which account for around a third of the investment portfolio.

Russia

Russia introduced a formal Oil Stabilisation Fund in January 2004 with the aim of saving the fiscal windfall gains from high oil prices. Prior to that, Russia used to operate a less formal framework aimed at smoothing the macroeconomic impact of oil price fluctuations ("special reserve"). The Oil Stabilisation Fund is mainly financed from two sources: oil export custom duties in excess of a reference price and the mineral extraction tax. In addition, the unspent fiscal surplus of the previous fiscal year is added to the Oil Stabilisation Fund. Accumulated funds may be used to finance the federal budget deficit if the oil price falls below the reference price. If the Oil Stabilisation Fund's balance exceeds RUB 500 billion, these funds can be used to prepay external debt. Since February 2008 the fund is split into a "Reserve Fund" and a "Future Generations Fund". The Future Generations Fund can invest in sticky assets but has so far maintained a prudent asset allocation. At the same time, the Reserve Fund continues to invest in low-yielding, low-risk government bonds.

Norway

Norway's Government Pension Fund was established in 1990. Since January 2006, this fund includes the Government Pension Fund–Global (formerly Government Petroleum Fund, established in 1990) and the Government Pension Fund–Norway (formerly National Insurance Scheme Fund). The fund receives central government revenues from petroleum activities. As regards its objectives, the fund is used primarily as a savings fund for future generations. Only the expected real return of the fund can normally be transferred to the central government budget and used for general budgetary purposes. The Government Pension Fund–Global attained a portfolio value of around USD 423 billion at end-2009. The day-to-day management is delegated to Norges Bank but the ultimate responsibility lies with the Ministry of Finance, which issues guidelines for the investment of the fund's capital in shares and other securities abroad. Its institutional set-up is often quoted as a benchmark in terms of transparency and accountability. The fund publishes quarterly and annual reports which include a detailed disclosure

of assets under management, the currency and asset class composition of the portfolio down to company level and a standardised reporting of its performance against a benchmark.

Temasek Holdings

Temasek is an investment holding company with characteristic of SWFs and with a portfolio of investments covering a wide range of countries and industry sectors. Temasek was established to create and maximize long-term shareholder value as an active investor and shareholder of successful enterprises. Headquartered in Singapore, Temasek was formed by the Government in 1974 to separately hold and manage its investments in companies and joint ventures (Temasek is wholly-owned by the Government through the Minister for Finance – MOF, under the Singapore Companies Act). This move freed the Government to focus on the economy as a whole and provided an opportunity for a commercially disciplined and independent company to achieve sustainable long-term returns. In addition to managing its inherited portfolio, Temasek also actively invested in other local companies in Singapore for growth and diversification. As Singapore's economy evolved and became increasingly globalized, Temasek began to invest actively outside of Singapore. Temasek has been assigned an overall corporate credit rating of "Aaa" by Moody's and "AAA" by Standard & Poor's. From an initial portfolio of S\$350 million in 1974 made up of various Singapore start-ups, Temasek's investment exposure has grown over the last 30 years into a globally diversified portfolio of about US\$ 133 billion (as at March 31, 2010), covering a range of industries, including financial services, transport and logistics, telecommunications and other infrastructure and engineering services. Total shareholder return of the Temasek Holding since its inception has been 17% compounded annually. Singapore and Asia account for nearly 80 percent of Temasek's investments, while developed markets such as the United States and Europe are a long-standing and growing part of Temasek portfolio.

Financial background

The Temasek had total assets of US\$203.4 billion as at March 31, 2010. The Temasek generated revenue of US\$54.8 billion and profit attributable to equity holder of Temasek of US\$3.3 billion for the year ended March 31, 2010. Temasek's Net Portfolio Value amounted to US\$133 billion as at March 31, 2010, compared to S\$130 billion as at March 31, 2009. As at March 31, 2010, approximately 32% of Net Portfolio Value was in Singapore, 46% in Asia (excluding Singapore and Japan), 20% in the Organization for Economic Cooperation and Development ("OECD") economies (excluding Korea, Mexico and Chile) and 2% in other markets. As at March 31, 2010, the top three sectors (based on contribution of each sector to Temasek's Net Portfolio Value) were financial services, telecommunications, media and technology, and transportation and industrials which comprised 37%, 24% and 18%, respectively. Temasek has delivered a total shareholder return of 17% by market value and 16% by shareholder funds compounded annually since its inception to March 31, 2010.

Strategy of the Temasek

Temasek is an SWF which is managed on commercial principles to create and deliver sustainable long-term value for its stakeholders. Temasek is an active value-oriented shareholder and investor, which seeks to manage its investments to create and maximize shareholder value, balancing risks and opportunities across industries and geographies. Temasek is an active shareholder and aims to achieve sustainable returns by engaging the boards and management of its portfolio companies to foster a culture of integrity, excellence and meritocracy, maintain a clear focus on core competence, customer fulfilment, consistent value creation, and cultivate high calibre board and management leadership. In engaging the boards and management of its portfolio companies, Temasek also aims to institutionalize superior business leadership and sound corporate governance and create strategic options to build significant international or regional brands or businesses.

As a shareholder, Temasek does not participate in the day-to-day management of its portfolio companies. Companies in its portfolio are managed by their respective management, and guided by their respective boards of

directors to deliver sustainable shareholder value. Temasek’s decisions are guided by business tenets and commercial discipline. As the owner of its portfolio, Temasek has flexible investment horizons and the option of taking concentrated risks or remaining in cash. As an active value-oriented investor, Temasek may increase, reduce or hold its investments in companies or other assets, based on its value tests and market opportunities. Temasek may also pioneer innovative products or businesses in order to increase and improve growth and diversification of its portfolio.

Temasek to centre its investment strategies on these four investment themes:

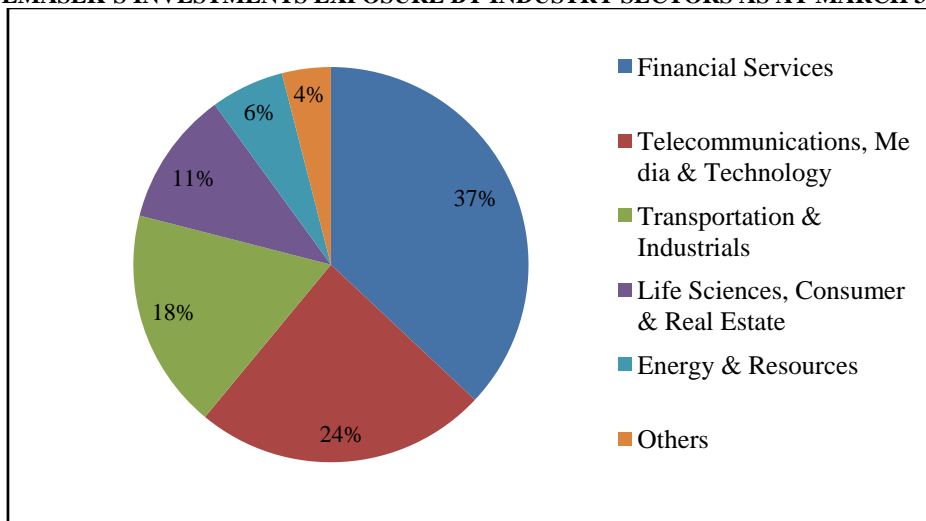
1. Transforming Economies - Tapping the potential of transforming economies like China, India, South East Asia and Latin America, through investments in sectors such as financial services, infrastructure and logistics.
2. Growing Middle Income Populations - Leveraging growing consumer demands through investments in sectors such as telecommunications, media and technology, and consumer and real estate.
3. Deepening Comparative Advantages - Seeking out economies, businesses and companies with distinctive intellectual property and other competitive advantages.
4. Emerging Champions — Investing in companies with a strong home base, as well as companies at inflection points, with potential to be regional or global champions.

In terms of its overall portfolio, Temasek is guided by a directional portfolio mix of 40:30:20:10. This means an exposure to Asia of about 40%, keeping Singapore at about 30%, maintaining OECD exposure at about 20%, and adding exposure of up to 10% to other geographies such as Latin America, the Middle East and Africa. Temasek believes this portfolio mix provides an approximate 50:50 exposure between mature economies and growth regions.

Temasek investment portfolio by sectors

Temasek invests across sectors including financial services; telecommunications, media and technology; transportation and industrials; consumer and real estate; energy and resources; and life sciences. The text below sets forth Temasek’s top three investments by market value (in the case of listed securities) or book value (in the case of unlisted securities) in these sectors, as well as their contribution to Temasek’s Net Portfolio Value (see Chart 2), in each case as at March 31, 2010

CHART 2: TEMASEK’S INVESTMENTS EXPOSURE BY INDUSTRY SECTORS AS AT MARCH 31, 2010



Financial services

Temasek's top three investments in the financial services sector were its minority interest in each of China Construction Bank Corporation ("CCB"), Standard Chartered PLC ("Standard Chartered") and DBS Group. Temasek's investments in the financial services sector comprised 37% of Temasek's Net Portfolio Value.

Telecommunications, media and technology

Temasek's top three investments in the telecommunications, media and technology sector were its majority interest in each of SingTel, ST Telemedia and STATS ChipPAC Ltd. Temasek's investments in the telecommunications, media and technology sector comprised 24% of Temasek's Net Portfolio Value.

Transportation and industrials

Temasek's top three investments in the transportation and industrials sector were its majority interest in each of SIA, Singapore Technologies Engineering Ltd ("ST Engineering") and PSA. Temasek's investments in the transportation and industrials sector comprised 18% of Temasek's Net Portfolio Value.

Consumer and real estate

Temasek's top three investments in the consumer and real estate sector were its majority interest in Mapletree and its minority interest in each of CapitaLand and Singapore Airport Terminal Services Ltd. Temasek's investments in the consumer and real estate sector comprised 11% of Temasek's Net Portfolio Value.

Energy and resources & Life sciences

Temasek's top three investments in the energy and resources sector were its majority interest in Singapore Power and its minority interest in each of MEG Energy Corporation and Niko Resources Ltd. Temasek's investments in the energy and resources sector comprised 6% of Temasek's Net Portfolio Value. Temasek's top three investments in the life sciences sector were its minority interests in each of Amyris Biotechnologies Inc., Bumrungrad Hospital PCL and Interpharma Investments Limited. Temasek's investments in the life sciences sector comprised less than 1% of Temasek's Net Portfolio Value.

Temasek investment portfolio by major portfolio companies

The following table (see Table 1) sets forth the market value (in the case of listed securities) or book value (in the case of unlisted securities) of Temasek's major portfolio companies as of March 31, 2010. These companies accounted for approximately 60% of Temasek's Net Portfolio Value as at March 31, 2010.

TABLE 1: TEMASEK INVESTMENT PORTFOLIO BY MAJOR PORTFOLIO COMPANIES

Company name	(S\$ million)
Singapore Telecommunications Limited	27,273
China Construction Bank Corporation	16,088
Standard Chartered PLC	13,965
Singapore Airlines Limited	9,780
DBS Group Holdings Ltd	9,117
PSA International Pte Ltd	7,985
Bank of China Limited	7,584
CapitalLand Limited	6,591
PT Bank Danamon Indonesia Tbk	4,962
Singapore Technologies Engineering Ltd	4,824
Sembcorp Industries Ltd	3,609

Temasek Portfolio Performance

Temasek’s Net Portfolio Value amounted to S\$186 billion as at March 31, 2010, compared to S\$130 billion as at March 31, 2009 (see Fig.1). As at March 31, 2010, about 77% of Temasek’s Net Portfolio Value comprised listed and liquid assets. One-year total shareholder return for the year ended March 31, 2010 was approximately 42% by market value and 26% by shareholder funds. Total shareholder return by market value takes into account changes in the market value of Temasek portfolio, dividends paid, and nets off any new capital Temasek received. For unlisted investments, the movements in shareholder funds are tracked in lieu of market price changes. Over the medium term, five-year total shareholder return for the year ended March 31, 2010 was 11% by market value and 14% by shareholder funds. Since inception, 36-year total shareholder return for the year ended March 31, 2010 was 17% by market value and 16% by shareholder funds (see Chart 3). The last 10 years Temasek in particular have seen much volatility, starting with the crash of the dotcom bubble in 2000, and ending with the pull-back from the brink of a deep global depression in 2009, punctuated in between by 9/11, SARS and the H1N1 flu pandemic scare.

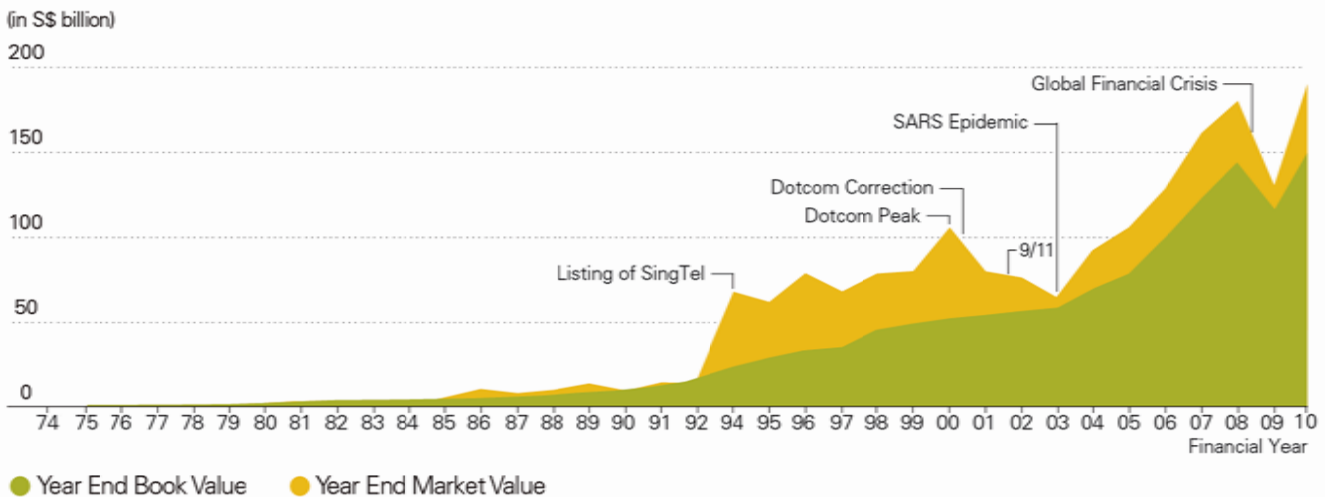
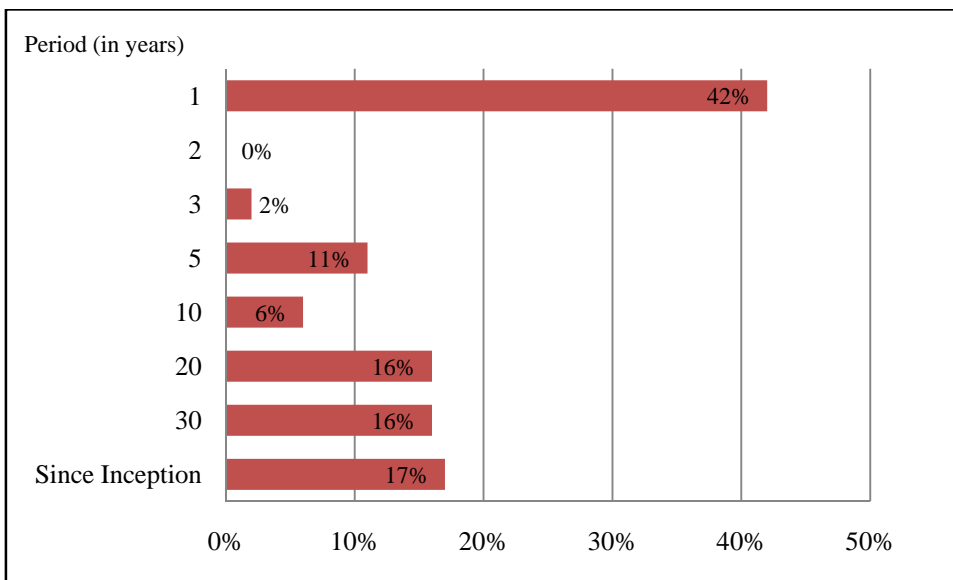


FIG. 1: DEVELOPMENT OF THE TEMASEK PORTFOLIO VALUE OVER TIME

CHART 3: TEMASEK TOTAL SHAREHOLDER RETURN BY MARKET VALUE



Risk Management

Financial risks of Temasek include market risk due to changes in equity prices, foreign exchange rates and interest rates. To assess its market risk, Temasek uses a VaR statistical model that estimates the potential loss on a portfolio at a given confidence level. Temasek uses an 84% confidence interval, and Monte Carlo simulation based on three years of price data to compute its VaR for a 12-month holding period. As at March 31, 2010, Temasek's VaR was about S\$25 billion. This implies a 16% probability of incurring marked-to-market losses in excess of S\$25 billion, on a Net Portfolio Value of S\$186 billion for a 12-month holding period following that date. The diversified VaR of the top 10 companies contributed over 70% of the total diversified VaR as at March 31, 2010 (2009: 70%; 2008: 67%; see Table 2). Apart from tracking VaR, Temasek also conducts monthly stress tests and scenario analyses to gauge monthly the effect of low probability but high impact events. In addition, Temasek reviews its overall risk position on a monthly basis and provides additional analyses of specific event, industry or country risks. In terms of credit risk management, Temasek conducts periodic reviews of its exposures relating to counterparties, custodians, issuers and countries. Temasek's investment portfolios are typically denominated in the local currency of the countries in which the investments are made. Accordingly, Temasek's returns on these investments, including any dividends received from these investments, are usually subject to foreign exchange rate risks.

TABLE 2: TEMASEK VaR DEVELOPMENT BY SECTOR AND RISK FACTORS

Temasek VaR by Sector	2010	2009	2008
Financial Services	43%	41%	34%
Transportation and Industrials	21%	19%	18%
Life Sciences, Consumer and Real Estate	14%	13%	12%
Telecommunications, Media and Technology	14%	19%	28%
Energy and Resources	7%	7%	7%
Others	1%	1%	1%
Total	100%	100%	100%
Temasek VaR by Risk Factors			
Equity Risk	98%	99%	101%
Foreign Exchange Risk	6%	8%	7%
Interest Rate Risk	3%	5%	0%
Total Diversification Effects	-7%	-12%	-8%
Total	100%	100%	100%

* Diversification Benefits resulting from the interactions between the equity, foreign exchange and interest rate risk factors.

Other sources of risk

As at March 31, 2010, approximately 32% of Temasek's Net Portfolio Value was in Singapore. Any economic recession or other deterioration in one economy - Singapore's economy could materially and adversely affect the Temasek Group's results of operations, financial position and cash flows what creates significant risk for the whole investment portfolio. The Government, as a 100% shareholder of Temasek, through MOF, can exercise control over Temasek's corporate objectives, strategies and actions. While the Government has not taken any actions in the past to influence the corporate objectives, strategies or actions of Temasek, there can be no assurance that the Government will not take any actions in the future to influence the corporate objectives.

Temasek financial condition

The Temasek Group had total assets of S\$284.8 billion as at March 31, 2010. The Temasek Group generated revenue of S\$76.7 billion and profit attributable to equity holder of Temasek of S\$4.6 billion for the year ended March 31, 2010. The Temasek's results of operations are materially affected by conditions in the global capital markets and the economy generally, both in the U.S. and elsewhere around the world. Negative trends in these factors led to declines in Temasek Group's revenue and profit. In the event of extreme prolonged market events, such as the global credit crisis, the Temasek Group could incur significant losses. The following tables (see Table 3 and Table 4) sets forth selected income statement & balance sheet data for the Temasek for the years indicated.

TABLE 3: TEMASEK SELECTED INCOME STATEMENT DATA

(\$ million)	2010	2009	2008
Revenue	76 658	79 615	83 284
Net operating expenses	-72 570	-72 448	-63 125
Share of profit, net of tax of associated companies and joint ventures	4 387	3 202	5 370
Profit before income tax	8 475	10 369	25 529
Income tax expense	-1 682	-1 280	-3 056
Profit for the year	6 792	9 089	22 474
Attributable to:			
Equity holder of Temasek	4 593	6 183	18 240
Minority interests	2 199	2 906	4 234
Profit for the year	6 792	9 089	22 474

TABLE 4: TEMASEK SELECTED BALANCE SHEET DATA

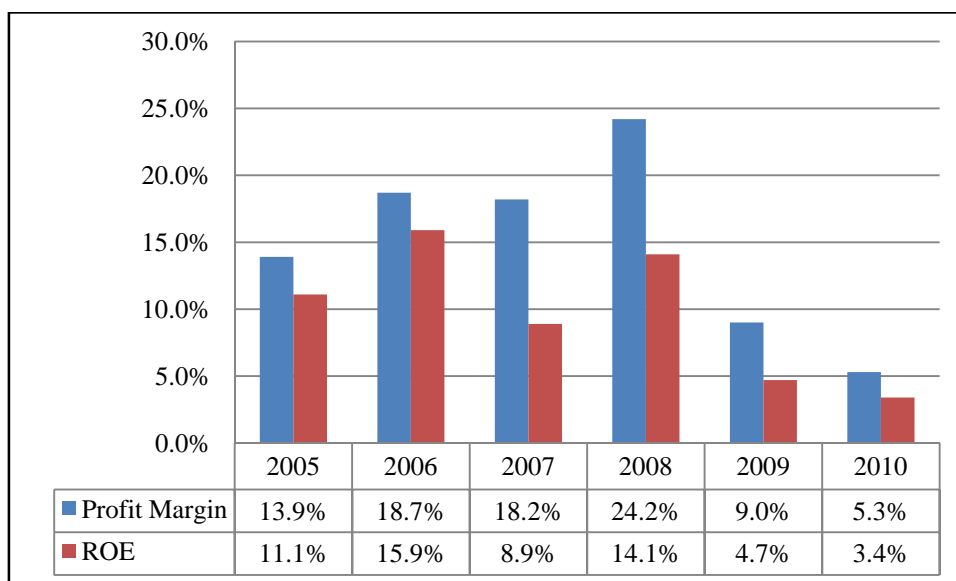
(\$ million)	2010	2009	2008
<u>Assets</u>			
Property, plant and equipment	67 974	68 206	75 302
Investments	44 610	41 105	39 513
Non-current financial assets and derivative financial instruments	64 181	40 234	73 850
Other assets	37 918	37 445	38 285
Current assets	70 109	60 958	68 568
Total assets	284 793	247 949	295 518
<u>Liabilities and Total Equity</u>			
Equity attributable to equity holder of Temasek	149 743	118 398	144 058
Minority interests	23 409	22 555	25 786
Non-current liabilities	69 610	64 438	59 220
Current liabilities	42 031	42 558	66 454
Total equity and liabilities	284 793	247 949	295 518

The global economy has experienced stress since the second half of 2007. Since then, concerns over inflation, energy costs, geopolitical issues, the availability and cost of credit, declining business and consumer confidence, and increased unemployment have slowed global economic growth and have resulted in recessions in numerous countries, including the U.S. and many countries in Asia. Global capital markets have also been experiencing heightened volatility and turmoil, and in the second half of 2008, the volatility reached unprecedented levels. The weak global economic conditions continued in 2009. While showing signs of improvement, the macroeconomic environment in 2010 remained for the Temasek difficult. In 2011 economic environment remain challenging with

significant uncertainty regarding the outcome of the debt crisis in Europe, unemployment levels, and the impact of the unwinding of stimulus measures by the U.S. and other governments.

The following chart (see Chart 4) describes mid-term decreasing profitability of the Temasek investment portfolio for the years indicated as an impact of the economic recession and worsened economic condition described above in the text.

CHART 4: TEMASEK PROFIT MARGIN AND ROE DEVELOPMENT OVER TIME



Conclusion

This paper presents information about investment strategy one of the most successful SWFs on the world – Temasek Holding. The paper also analyzes the main investments holdings in the Temasek portfolio. Also we examined historical financial performance and described main risk tools what is used by Temasek. We find that sovereign wealth fund can provide significant performance over long term period and SWF can be significant part of the economy.

Main factor behind the growth of SWFs is the effort by many emerging market countries to accumulate large stockpiles of international reserves by running persistent current account surpluses. Many of these countries, particularly in Asia, now hold more reserves than needed for prudential reasons. As we see in this paper, attempts to diversify these reserves into potentially higher-yielding assets entail transferring them from the control of the central bank to quasi-public entities, such as SWFs, with the mandate to pursue financial strategies aiming at higher long-run returns.

SWFs are fundamentally different from monetary authorities holding official foreign reserves, where liquidity and security issues necessitate a short investment horizon and low risk tolerance. As we see, SWFs typically seek to diversify foreign exchange assets and earn a higher return by investing in a broader range of asset classes.

By definition, the global sum of all current accounts adds up to zero. Hence, the still growing current account surpluses of commodity exporters and Asian countries will be the mirror image of the growing current account deficits of other countries, primarily the U.S. and the EMU. Excess saving and accumulation of foreign assets by surplus countries will be the counterpart to the excess demand and issuance of foreign liabilities by deficit countries.

The result, growing international wealth transfer from debtors in one country to creditors in others will foster the growth of SWFs in to the future.

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Financial Wisdoms Reexamined from Stock Market History

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Charlie Munger once said: if you want to be a better investor, read history, read history, read history. History can provide us a perspective that is often lost in the daily noise and short-term thinking that is so overwhelming today. However, there have been relatively few studies in investment that provide a historical perspective, and for the few that do, they often don't provide a sufficiently long horizon or their perspectives might be biased. It is the purpose of this article to provide an appropriate historical perspective of stock market returns, and use that perspective to guide our thinking about future investment.

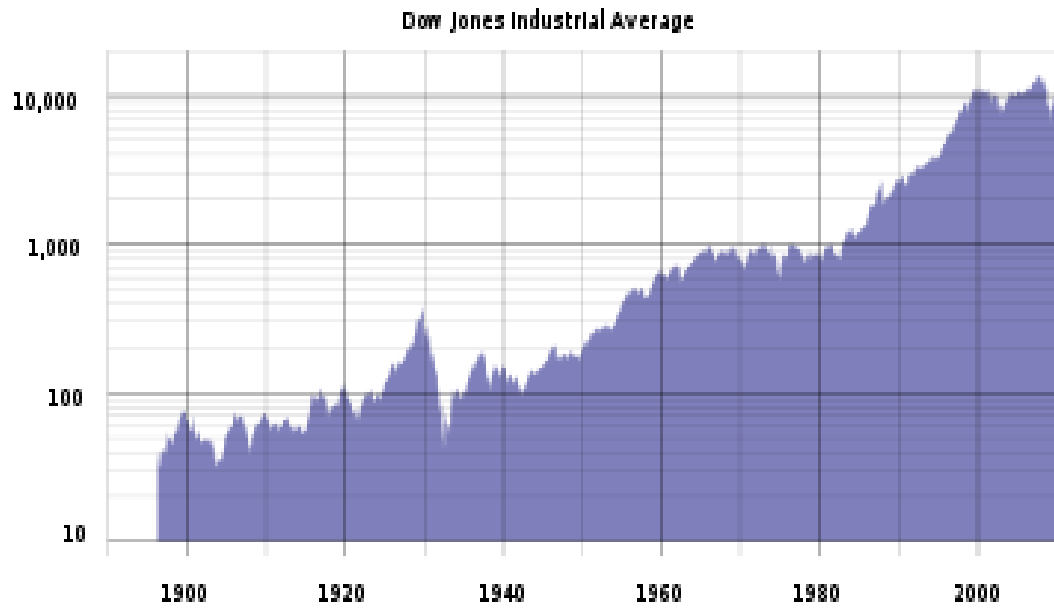
Before the recent financial crisis, it has become an almost commonly held 'truth' in the financial community that over a long period of time, equities will deliver better results than bonds. For decades, financial advisors were recommending people to invest a major proportion of their retirement account in stocks if they have a long horizon before retirement. People were educated that for the long term the stock market 'always' outperformed other investments, both from books in academics -- going as far back to Smith (1924) and more recently Siegel (1994), and an overwhelming number of articles in financial media. In fact, it is sometimes believed that this kind of public learning had contributed to the bull markets in the 1920s and late 1990s to early 2000s.

Supposedly based on the history of US stock data all the way back to 1802, Siegel (1994) came to the conclusion that became in fact faith to investors: Ever since Jefferson was president, stocks have generated a remarkable average return of nearly 10% a year. Siegel's conclusion and methodology have been challenged by many afterward (Shiller, 2004; WSJ, 2009a). For another example, in an article in August 2008, John Brennan, chairman of Vanguard Group, said that "financial theory and the empirical evidence suggest that stocks are our best chance at long-term growth", citing evidence that in the long run -- periods of 20 or 30 years or more, stock returns are likely to revert to historical averages of closer to 10% per year (Brennan, 2008). However, after the financial crisis, there has been some change of voices in the financial media that questions the deemed dominant role of stocks in long term portfolio (WSJ, 2009b), even though it has still remained a weak voice.

While Mr. Brennan warned against the loss of perspective from short-term thinking, there is another danger of loss of perspective from looking at nominal stock price histories unadjusted by inflation. Looking at stock market history in nominal price only tell us how much our wealth has grown on paper -- which might look huge, but not how much it is actually worth -- which is often surprisingly much less. That is why it is so important to use inflation adjusted stock price in order to provide the right picture of stock market returns over a long period of time.

For example, The Dow Jones Industrial Average Index (DJIA) is the U.S. stock market price indicator the media most often quote. Its units are U.S. dollars. Figure 1 shows an example of the kind of charts we commonly see in media that describes the history of Dow index. We can see if charting the history of the nominal DJIA, it looks like our wealth has grown enormously in the past decades. For example, in the peak-to-peak 70.3 year interval from September 1929 to January 2000, DJIA rose by 30.9 fold, as seen in Figure 1.

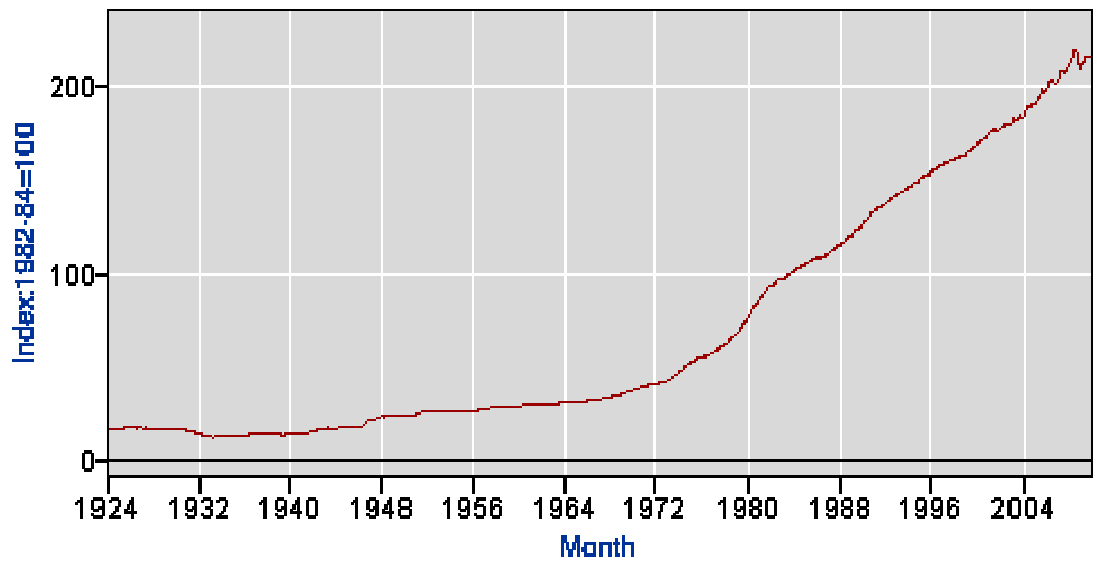
FIGURE 1: DJIA HISTORY



Source: http://en.wikipedia.org/wiki/Dow_Jones_Industrial_Average#History

However, what is not shown in Figure 1 is that over this same period of time, consumer price inflation has also grown a lot. In the same period as in the interval from 9/1929 to 1/2000, consumer price index CPI-U rose by 9.8 fold, as can be seen in Figure 2.

FIGURE 2: CPI-U HISTORY



Source: Bureau of Labor Statistics: <http://data.bls.gov/PDQ/servlet/SurveyOutputServlet>

Thus, we can see, a big part of the stock market appreciation is just the consumer price inflation. After accounting for the inflation, the Real Dow rose by just 3.2 fold in that same period from 9/1929 to 1/2000, as can be seen in Figure 3.

FIGURE 3: REAL DOW HISTORY



The comparison above shows what an extraordinarily different impression using real stock price index versus nominal stock price index makes in our minds in terms of stock market returns and how deceptive nominal stock price can be! Real stock market price history paints a much less optimistic picture of the stock market than the common conception of 10% long term stock market return according to the financial community and the media.

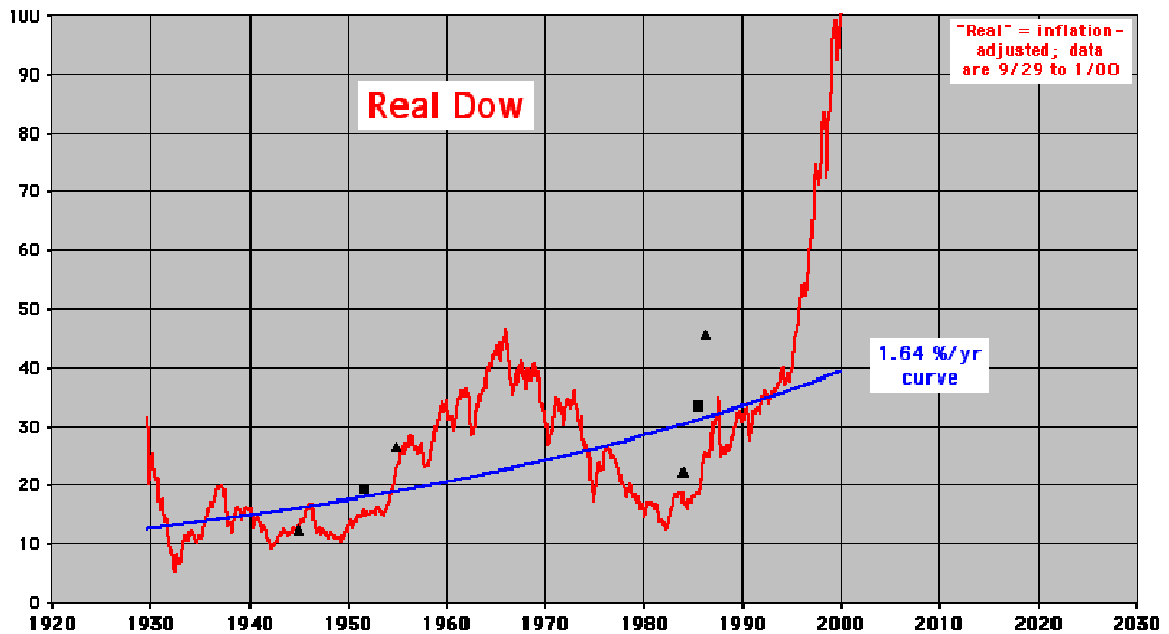
Yet most of time, the communication we receive from the industry insiders or financial media is couched in terms of nominal price indices. No wonder economists recognize that a big problem with our economy is the failure to take account of money illusion -- failure to reckon money as its purchasing power at the time (Shiller, 2009).

Perspective 1: What is the Real Dow Long Term Return?

Choosing the two big peak to big peak intervals as comparable periods (i.e., 9/29-1/66 and 1/66-1/00, together = 70.3 yr), a Quantitation obtains the rate of increase +1.64%/yr compounded annually as the long-term past performance of the Real Dow." The obtained +1.64%/yr looks very solid for the long-term past performance of the Real Dow. It comes from relating two periods/groups; further division into four groups gave +1.61%/year, see in Table 2 here below. Note here that 'the entire price ride' was taken by the composite average DJIA stocks-holder ('the average of everybody'), whose price experience we seek to characterize. His dividends received and frictional costs he paid out are cash flows, separate from the price experience.

The smooth curve in the Real Dow plot below increases at exactly 1.64 %/yr compounded annually (please here ignore the six black triangles and squares). It is scaled such that, over the 9/29-1/00 interval of 845 months, the average of all the 845 differences between the Real Dow and the curve, expressed as factors > 1 , is a minimum. (NOTE: a Real Dow = twice the curve's value, and a Real Dow = half the curve's value, are both a factor of 2 difference -- first is times 2, second is divided by 2.) Thus, this curve is a best-fit, as described, constant rate of increase (exponential) to the Real Dow over the 9/29-1/00 interval. Notably, the Real Dow equalled: $2.53 \times$ curve in 9/29; $\text{curve}/2.57$ in 7/32; $2.06 \times$ curve in 1/66; $\text{curve}/2.38$ in 6/82; $2.55 \times$ curve in 1/00.

FIGURE 4:



If we take into account the dividends and frictional costs, we come to the startling conclusion that “Calculated Certainty Equivalent of the Long-Term Past DJIA is Slightly Inferior To Long-Term TIPS Held to Maturity Yielding ca. 2.7-3.2 %/yr Real Interest Rate”. Guided by Campbell and Viceira (2002) and Goldstein, Johnson and Sharpe (2006), we used the constant relative risk aversion (CRRA) utility function, with the coefficient of relative risk aversion equal to 5. The resulting certainty equivalent ratio = 0.977 (a TIPS held to maturity = 1), which gives the above conclusion.

In reaching this conclusion, we take into account dividends and frictional costs. The average DJIA dividend yield during the 70.3 yr period 9/29-1/00 was ca. 4.2%/yr. Frictional Costs are the expenses associated with stocks-holding and stocks-transaction. Warren Buffett has elaborated at length on frictional costs. As reported, Warren Buffett has three times during mid-1999 to mid-2003 estimated these frictional costs: 1 %/yr, 7-9/1999; 1 %/yr, 7-12/2001; 1.5 %/yr, 5/2003. We accept Buffett's 1-1.5 %/yr frictional costs for the recent U.S. stock market; and we use the same 1-1.5 %/yr for the DJIA stocks, both for recently and for the long-term past. Sum of Both ca. 4.2%/yr dividends minus 1.0-1.5 %/yr frictional costs equals ca. 2.7-3.2 %/yr cash flow. While for TIPS, frictional costs are reckoned zero or negligible for TIPS held to maturity in TreasuryDirect. No wonder Shiller says: “the evidence that stocks will always outperform bonds over long time intervals simply does not exist” (Shiller, 2006, pp198). Moreover, even if history supported this view, we should recognize (and at some level most people must recognize) that the future will not necessarily be like the past.

Perspective 2: Is Buy and Hold the Best Policy?

Another common advice from financial advisers is that individual investors should buy and hold if they have a long term investment horizon, and not try to time the markets or worry about short-term losses. This piece of advice clearly builds upon the above conception that equities will generally in the long run do better than bonds. Not only that, people have been persuaded that the stock market is not really risky if held for the long term, and that a long term horizon would iron out the ups and downs in the markets.

However, the real history as shown in Figure 3 clearly shows that if people just adheres to the buy and hold strategy and get in the market at the peak, it could sometimes take 30 years just to get back to the original level of real purchasing power, such as from 1929 to 1959, and from 1966-1996. Note that this is a much more dramatic picture than provided by the nominal Dow history, which may give a misleadingly optimistic picture of how fast stock market rebounds. Even more shocking, we can see that the Real Dow of 12.4 in June 1982 is even less than that of 56.6 years earlier in November 1925.

It is well known that financial markets are not efficient. It has been said that the aggregate stock market in the United States in the last century has been driven primarily by psychology and fads and has shown massive excess volatility (e.g. Kindleberger, 2005, Shiller, 2004). Buffett describes Mr. Market as an emotionally unstable character, subject to wide mood swings, sometimes to an extreme extent. Since financial markets are made up of the collective actions of all investors, they are invariably influenced by human behavior. Collective herd behavior in the stock market can be so widespread that it leads to wildly inaccurate market valuations, overinflated during euphoria, and underestimated when pessimism overrules. In fact, there's something very hard-wired in human nature and psychology that produces financial bubbles and crises (e.g. Mackay, 1995).

Figure 5 shows clearly 3 asset bubbles in the 80+ year history since the 1920s, and these bubbles have been publicly warned by a Fed chairman. Evidently, in the more than 90 years since the Fed was founded in 1913, a Fed chairman has only 3 times publicly warned that the stock market was overpriced, as seen around 1/1929, 5/1965, and 11/1996 in Figure 5. Note that there is no lack of easy rationalization for a herd behavior periodicity of ca. 3 to 3.5 decades -- people only live so long, and they take their 'lived through it' experience with them; they get replaced with people who, at best, only read/heard about it. After all three Fed chairman warnings, the market crashed sooner or later.

FIGURE 5: FED WARNING



Perspective 3: How did We Get Here and What Does it Mean for the Future?

Another look at Figure 5 gives us the striking impression that the real Dow prices after the 1990s are so much higher and out of line with the previous decades in history. Compare that to a typical chart we read in the media, in there the time span is often much too short to show enough of a historical perspective, and it is often shown in nominal prices and thus doesn't provide the right benchmark across time. Short term thinking dominates what we see and hear every day, to the extent of overwhelming and misleading us, and in-depth historical perspectives in real price terms like these are seldom made available to the public to be seen.

Before the crash of 2008, most of what we heard in the media is that we had been living in the greatest growth era since the 1990s, and this grand growth was continuing. This is an easy conclusion if we simply look at the trend of nominal stock price since the 1990s, out of the context of the longer history. However, if we look at the long term Dow history as shown in Figure 5, we see extremes do commonly end and reverse "naturally", like how markets dropped severely after hitting a lofty point, after the previous two warnings from Fed chairman. The bubble burst because it formed (Sornette, 2004). Thus, looking at Figure 5, one has to wonder about that continuous growth picture painted by the financial industry and media, and whether this kind of dangerously high level can sustain forever or not.

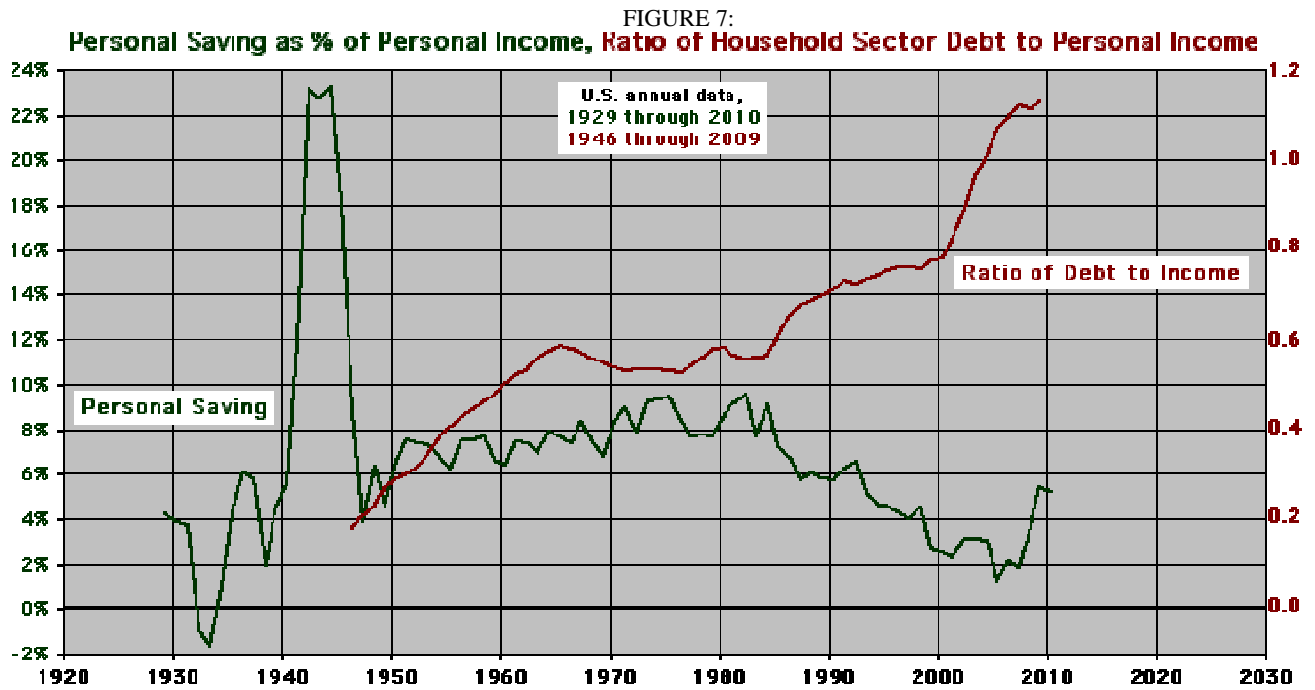
What is the engine that has been powering this greatest growth era of all? We have another chart, shown in Figure 6, which shows that Real Dow price and Real Home price seem to go up together after the mid 1990s. It seems that the increasing home prices and home ownership had been one of the underlying forces for the growth of the economy and the stock market, thanks to the influences coming from the financial industry, main stream media, and the government.

FIGURE 6:



http://homepage.mac.com/ttsmyf/RD_RJShomes_PSav.html (see continuously updated chart here).

On the other hand, what has been financing all this growth in home ownership and home price? Figure 7 shows the personal saving rate and ratio of household debt to personal income. It is quite an alarming picture. Americans have been financing their homes with an ever higher debt level, and the inflated home price has been enabling to get into further debt. This debt-ridden picture provides us with a gloomy picture of what is going to drive future US consumer purchasing power and economic growth.



http://homepage.mac.com/ttsmyf/moPSav_quartDB.html

This sad phenomenon of the public not being rightly informed or even misled is rooted in the incentive structure and institutions of our financial industry, media, and the government (Bogle, 2008). Most of the public rely on the financial media to inform them about the stock market, and financial media rely on financial industry insiders to provide that kind of information or opinion. For these financial industry insiders, it is more often than not in their favor to paint a rosy picture of the stock market so that more money can be made from more enthusiasm and participation in the stock market. The government has also admitted that the promotion of home ownership as 'American Dream' has been seriously misleading and is planning to shift to a more balanced housing policy.

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Compensation at American Commercial Banks Before and After the Financial Crisis of 2007-2008

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Abstract

Since the onset of the financial crisis in 2007, compensation of the top executives in American banks declined markedly. Bonuses dropped sharply from their peak in 2005, and by 2009 the median executive received no bonus. Option grants had been shrinking since 2002, and the crisis has hastened their decline. Before the crisis, the use of restricted stock grants had been on the upswing. While the level of stock grants was lower after the shock, it remained more robust than the other forms of performance-based compensation. In tests of my first hypothesis I find that while both bonuses and equity grants are insensitive to declines in earnings, the same does not seem the case for the effects of stock returns and revenue growth on compensation. I also find that the crisis has clearly had a major impact in how performance-based pay is granted to American bank executives.

Introduction

Since the financial crisis, which began in the fall of 2007, swept first through the United States then much of the rest of the world, the executive compensation practices of financial institutions has been a burning subject. Even before the collapse, there had been long-simmering resentment over levels of executive pay in general, and in the financial industry in particular. During the crisis in late 2007 and early 2008, governments across the world stepped-in to bailout these institutions, which prompted more criticism of excessive levels of pay financed through the benevolence of tax payers. In the ensuing years there has also been a fierce debate over whether the design of pay packages created incentives for excessive risk-taking by financial institutions.

I examine the relationship between firm performance measures and executive bonuses and equity grants among commercial banks in the United States. I concentrate on two specific executive compensation issues for these institutions. First, are bonuses and equity grants to executives equally sensitive to poor performance as to good performance? Second, has the sensitivity of these pay elements to firm performance changed significantly since the crisis?

In the next section I review the previous literature and present my hypotheses. I then describe the characteristics of the sample. The model specifications to test the hypotheses are described in the fourth section. The empirical results are then presented. Finally, the findings are summarized.

Literature Review and Hypotheses

Murphy (1999) provides a classic study of general executive compensation practices. He notes a rapid growth in stock option compensation through the 1990's. Cai and Milbourn (2010) and Lord and Saito (2010) note that for financial institutions, this trend continued until the dot.com crisis, peaking in about 2002. Since then, the use of restricted stock grants has begun to supplant option compensation. Traditionally, the other widely used form of performance-based compensation was bonuses. The most commonly used explicit basis for bonuses is normally a measure of profitability; earnings per share being the most widely used. Another common measure is growth in revenues. There is also evidence that bonuses are correlated with stock returns (see Hall and Liebman, 1998). Murphy also notes that to some extent most executive bonuses have a discretionary component. In a study of executive compensation before the crisis at the largest financial institutions in the United States, Hodgson (2010) found that the most common explicit performance measure used as the basis for bonuses was return on equity (ROE) and growth in revenue. Murphy notes that most performance-based compensation plans have a major discretionary component. In fact, many are purely discretionary.

There is a long-standing charge that executive compensation is insensitive to poor firm performance. That is, pay rises when firm performance is good, but executives do not feel the pain when performance is poor. The most prominent complaints about this behavior in general have been raised by Bebchuk, Fried and Walker (2002) and Bebchuk and Fried (2004). However, theoreticians in finance, such as Holstrom (1979), Smith and Stulz (1985) and Smith and Watts (1992), have long argued exactly the opposite; that it is necessary to provide convexity in executive pay packages. Because managers tend to hold poorly diversified portfolios, and they are individually risk-averse, they will tend to forgo investment in risky, but value-increasing, projects if they are exposed to downside risk to the same extent as upside payoffs. However, several years before the crisis, John and Qian (2003) warned that aligning the pay incentives of managers of highly levered financial institutions closely with those of their shareholders, would probably create excessive risk-taking incentives.

Since the public ire over the bailouts of Wall Street firms has been so intense, politicians have begun arguing about curbing the amount and design of managerial pay. Recently (June 17, 2009), President Obama stated "... excessive executive compensation – unmoored from long-term performance or even reality – rewarded recklessness rather than responsibility." At about the same time the Department of Treasury suggested guidelines for executive pay by financial firms receiving federal bailout funding (February 4, 2009), which mandated that any compensation above \$500,000 must come as restricted stock grants. This has been discussed as a viable blueprint for wider legislation by many in congress.

There is also a widely-held perception that the pay of bank executives has changed little since the beginning of the financial crisis. The appointment of Kenneth Feinberg as a "Pay Czar" to oversee the pay practices of institutions that received Troubled Asset Recovery Plan (TARP) funding, attests to the presumption that executives would not reduce their compensation. To the contrary there is clear evidence that annual pay for executives in the financial sector declined markedly, though it is beginning to move back up-ward. A recent survey by the Comptroller of the State of New York (Goldman and Moore, 2011), shows that cash bonuses are half of their level in 2006. The deeper concern is that the structure of the compensation packages is not changing dramatically. In an influential study, Hodgson (2010) notes there has been little shift away from short-term compensation targets to long-term goals.

I will test two hypotheses regarding the design of executive compensation among American commercial banks. The first is:

H1: Executive bonuses and equity grants are as sensitive to poor performance as to good performance.

The second is:

H2: The relationship of executive bonuses and equity grants with firm performance are the same during and after the financial crisis (2007 through 2009) as they were in the period before (1992 through 2006).

Sample Sources and Statistics

I will test these hypotheses using a sample of American commercial banks with executive compensation data available on the EXECUCOMP database. This source contains comprehensive information on the pay to the five most highly paid officers for a sample of firms corresponding roughly to the S&P 1,500. The data is available from 1992 through 2009. I will restrict my sample to institutions in the three-digit SIC code 206, which is for commercial banks. It is important to be mindful that much of the popular discussion of compensation at "banks" is actually about large investment banking institutions. So results from my sample may differ from conjectures about such firms.

To gain a notion of the financial performance of these banks throughout the sample, median performance measures for the sample are given in Table 1. The number of firms declines through time because of mergers and acquisitions in this sector. There is a corresponding increase in nominal revenue from 1993 to 2009. The figures for the percentage change in revenue show a period of high growth from 1994 to 2000, three quiet years during the crash of the dot.com bubble, more growth from 2004 through 2007, and then two years of large declines in revenue. There is a similar increase net income from 1993 to 2009. Again, there is a very sharp drop in 2008 and 2009. For such highly levered enterprises, the median level of return on equity is surprisingly stable from 1992 to 2007, hovering around the sample median of 14.10%. This sets off the sharply lower levels of ROE in the last two years.

The median stock return over the eighteen years is 14.27%. Returns in 1995, 1996 and 1997 are incredibly high. Average returns are negative in 1998 and 1999, then there is another five-year period of positive median returns. Not surprisingly, the performance of the shares in 2007, 2008 and 2009 is abysmal.

Data on the annual composition packages for the CEOs in the sample are given in Table 2. For bonuses, option grants and restricted stock grants, the means are much higher than the medians, showing these components of compensation are highly skewed. Nominal salary rises slowly over the period. The mean of bonus payments also rises steadily, but the medians vary more. As noted in earlier studies, such as Cai and Milbourn (2010) and Lord and Saito (2010), there was rapid growth in option grants from 1993 to 2002 in the financial services industry. After that, their use begins to decline. Restricted stock grants were once rare; the medians in all but the last year are zero. But, the means show a clear growth in their use.

In 2008 and 2009 median bonuses for CEOs fall to zero. There is also a noticeable drop in option grants. So the annual pay of these executives did drop sharply during the period of financial crisis. Restricted stock grants also decline, but not as sharply as the other performance based elements of pay. This is probably because of the political lobbying encouraging the use of restricted stock compensation. There is an interesting rise in (mean) salary compensation in 2009. The Comptroller of the State of New York (Goldman and Moore, 2011) notes this shift away from performance-based pay toward straight-salary continued in 2010.

A summary of the composition of annual pay packages for the non-CEO executives in the sample is given in Table 3. Not unexpectedly, the magnitude of the elements of compensation for these lower level managers is notably smaller than for the CEOs. But, the patterns through time are similar. Salary and bonus payments drift up through most of the sample period. Option grants rise sharply, then begin to decline. There is evidence that restricted stock grants begin to increase near the end of the period. Again, there is a sharp drop in bonuses and option grants in 2008 and 2009, and restricted stock grants do not decline as sharply. The jump in mean salary in 2009 is also evident.

The data in these three tables suggest that managerial compensation in the banking sector rose during the period from 1993 to 2006. But, revenues and net income also increased steadily. This seems consistent with recent evidence, such as Hall and Murphy (2003) and Gabaix and Landier (2008), which suggests that levels of executive compensation are highly correlated with firm size. There is also strong evidence that the compensation of most bank executives declined very sharply during the crisis (in 2008 and 2009). This is contrary to the popular perception that the level of pay of managers in the sector was little affected by the collapse.

Model Specification

I first define two base regression models to explain bonuses and equity grants to executives in the US banking sector. The base model to explain bonus compensation is specified as:

$$\text{BONUS} = \alpha_0 + \alpha_1 \text{LBONUS} + \alpha_2 \text{DCEO} + \alpha_3 \text{CAP} + \alpha_4 \text{LREV} + \beta_1 \text{STKRET} + \lambda_1 \text{ROE} + \delta_1 \text{REVGR} + \varepsilon. \quad (1)$$

The dependent variable, BONUS, is the sum of bonuses and payments under long-term incentive plans to a bank executive. The next four terms LBONUS, DCEO, CAP and LREV are all control variables. LBONUS is the lagged bonus for the same executive in the previous year. DCEO is a dummy variable set to one if the particular executive is the corporate CEO in this year, and set to zero otherwise. CAP is a proxy for the firm's capital structure; defined as the book-value of corporate liabilities, divided by the sum on the book-value of corporate liabilities, the book-value of preferred stock and the market value of common equity. LREV, the logarithm of revenues, is a proxy for firm size. A regression model with BONUS as the dependent variable, with only these four independent variables (detailed results not shown), explains over 76% of the variability in executive bonus pay. The three independent variables to proxy the firm performance factors that should influence (or be influenced by) executive compensation are STKRET, ROE and REVGR: STKRET is annual stock return, ROE is return on equity, and REVGR is growth in corporate revenue for the year. BONUS and LBONUS are obtained from the EXECUCOMP database, and all other variables from COMPUSTAT. The ε is an error-term with the usual properties.

A similar base model is specified for annual executive equity grants:

$$\text{EQGR} = \alpha_0 + \alpha_1\text{LEQGR} + \alpha_2\text{DCEO} + \alpha_3\text{CAP} + \alpha_4\text{LREV} + \beta_1\text{STKRET} + \lambda_1\text{ROE} + \delta_1\text{REVGR} + \varepsilon. \quad (2)$$

Here EQGR is the value of annual executive equity grants (stock options grants, at either Black-Scholes, 1973, or fair market value, plus restricted stock grants), and LEQGR is the value of equity grants for the previous year. Both are obtained from EXECUCOMP. All other variables are as defined above. A regression model with EQGR regressed on the four control variables alone (results not shown), explains about 67% of the variability in executive equity compensation.

The first hypothesis is that the effect of the firm performance variables have a different impact on executive compensation when they are negative than when they are positive. To test this hypothesis, I create three one-zero dummy variables. D_STKRET is set to one when stock return is negative, and to zero otherwise. D_ROE is set to one when return on equity is negative, and zero otherwise. D_REVGR is set to one when revenue growth is negative, and zero otherwise. Then, I create a set of three cross-product terms, which are each variable multiplied by the corresponding dummy variable, N_STKRET, N_ROE and N_REVGR, respectively.

The equation to test the first hypothesis for executive bonus compensation for is specified as:

$$\text{BONUS} = \alpha_0 + \alpha_1\text{LBONUS} + \alpha_2\text{DCEO} + \alpha_3\text{CAP} + \alpha_4\text{LREV} + \beta_1\text{STKRET} + \beta_2\text{D_STKRET} + \beta_3\text{N_STKRET} + \lambda_1\text{ROE} + \lambda_2\text{D_ROE} + \lambda_3\text{N_ROE} + \delta_1\text{REVGR} + \delta_2\text{D_REVGR} + \delta_3\text{N_REVGR} + \varepsilon. \quad (3)$$

The corresponding equation to test the first hypothesis for executive equity compensation is:

$$\text{EQGR} = \alpha_0 + \alpha_1\text{LEQGR} + \alpha_2\text{DCEO} + \alpha_3\text{CAP} + \alpha_4\text{LREV} + \beta_1\text{STKRET} + \beta_2\text{D_STKRET} + \beta_3\text{N_STKRET} + \lambda_1\text{ROE} + \lambda_2\text{D_ROE} + \lambda_3\text{N_ROE} + \delta_1\text{REVGR} + \delta_2\text{D_REVGR} + \delta_3\text{N_REVGR} + \varepsilon. \quad (4)$$

The second hypothesis is that the effect of the firm performance variables has a different impact on executive compensation after the onset of the financial crisis at the end of 2007 than they did before. To test this hypothesis, I create a one-zero dummy variable, D_2006, which is set to one in the years 2007, 2008 and 2009, and is set to zero in prior years. I again create three interactive terms, which are the product of each firm performance measure with this dummy variable, T_STKRET, T_ROE and T_REVGR, respectively.

The equation to test the second hypothesis for bonus compensation is then specified as:

$$\text{BONUS} = \alpha_0 + \alpha_1\text{LBONUS} + \alpha_2\text{DCEO} + \alpha_3\text{CAP} + \alpha_4\text{LREV} + \mu_1\text{D_2006} + \beta_1\text{STKRET} + \beta_4\text{T_STKRET} + \lambda_1\text{ROE} + \lambda_4\text{T_ROE} + \delta_1\text{REVGR} + \delta_4\text{T_REVGR} + \varepsilon. \quad (5)$$

The model to test the second hypothesis for executive equity grants is:

$$\text{EQGR} = \alpha_0 + \alpha_1\text{LEQGR} + \alpha_2\text{DCEO} + \alpha_3\text{CAP} + \alpha_4\text{LREV} + \mu_1\text{D_2006} + \beta_1\text{STKRET} + \beta_4\text{T_STKRET} + \lambda_1\text{ROE} + \lambda_4\text{T_ROE} + \delta_1\text{REVGR} + \delta_4\text{T_REVGR} + \varepsilon. \quad (6)$$

I estimate each of these models using pooled cross-sectional data, drawing observations on all of the executive salaries reported for each firm, for each available year between 1992 and 2009. Because the firms in the industry are relatively homogeneous, I do not employ firm-specific or executive-specific dummy variables. For each model I make an initial estimation and identify any outliers that could seriously bias parameter estimates. I eliminate all observations that have residuals with a Cook's D value higher than one, and/or an R-Student value with an absolute value greater than three. See Welsch (1980) for more details on these methods.

Empirical Results

Summary statistics for the fourteen variables used in this study are given in Table 4. There are several interesting characteristics in the data. As expected the financial leverage (CAP) used by these banking firms is very high. As seen above, the management compensation variables (BONUS, LBONUS, EQGR and LEQGR) are highly skewed. The same is true for firm size (LREV). Means for the dummy variables show that 15% of the executives are CEOs, about 33% of observations have negative stock returns, almost 29% have negative annual revenue growth, less than 6% have negative ROE, and about 16% of observations are during the crisis period of 2007 through 2009.

Results for the three models that explain executive bonuses as a function of firm performance are given in Table 5. The estimates for the base model, equation 1, are shown in the first column. All of the control variables are statistically significant. As expected, current bonuses are positively correlated with bonus for the prior year, and with firm size. As was evident in Tables 2 and 3, CEOs receive higher bonuses than other executives. Bonuses are negatively correlated with the use of financial leverage. As anticipated, bonuses are positively related with stock returns and growth in revenue. Surprisingly, they are negatively correlated with ROE. Earnings are usually the fundamental explicit determinant of bonus payments, so a positive relationship was anticipated. However, the results in the other two columns shed some light on the reason for this negative sign.

The results for equation 3 to test the first hypothesis for bonus payments are shown in the second column of Table 5. This specification examines whether bonuses are insensitive to poor firm performance. Parameter estimates for the control variables are similar to those for the base model. Here β_1 on stock return is no longer statistically significant. But, β_2 is negative and significant, and β_3 is positive and significant. Collectively these results suggest that bonuses are little affected by positive stock return, but bonuses decline dramatically when stock prices fall. Earlier, Leone, Wu and Zimmerman (2006) also found that cash compensation was more sensitive to stock price declines than increases for a broader sample of firms. In equation 3, λ_1 on ROE is positive as expected. The parameter estimate on the interactive term, λ_3 , is significantly negative, and of roughly the same magnitude as for λ_1 . This means that when earnings are positive, bonuses rise with ROE, but when earnings are negative, bonuses are flat. This is exactly the relationship between earnings and bonuses described by Murphy (1999). Interestingly, λ_2 on the dummy variable is positive and significant, suggesting managers of firms with negative ROE have somewhat higher bonuses than others. The parameter δ_1 is again positive, suggesting that bonuses rise with increases in firm revenues. Both δ_2 and δ_3 would only pass a confidence test at the 90% level. Since they are both negative, they tell somewhat conflicting stories. The negative sign on the dummy variable, δ_2 , sensibly suggests are lower when firm size declines. On the other hand, δ_3 is opposite the sign on δ_1 and is of a greater magnitude, which might suggest that the correlation becomes negative when revenue declines. But, since the values of revenue growth are, by definition negative in this range, this implies that as firm size declines bonuses rise.

Results for equation 5 to check the second hypothesis, whether executive bonus compensation changed during the financial crisis years of 2007 through 2009, are shown in the third column of Table 5. Again, the parameter estimates on the control variables are similar to those in the base model. The parameter on the dummy variable for the crisis period, μ_1 , is not statistically significant. The coefficient β_1 is positive and significant, meaning bonuses rise with increasing stock returns and fall with declining stock returns. The parameter, β_4 is not significant, which means this relationship is no different during the crisis from the period before. In this model, λ_1 is positive and significant, which implies a positive relationship between ROE and bonuses before 2007. The parameter on the cross-product term, λ_4 , is negative, significant and of roughly the same magnitude as λ_1 , which implies that the linear relationship disappears during the crisis. Clearly, the incidence of negative measures of ROE was much higher in this period; overall only about 5.50% of the observations were negative, but in the three crisis years almost 27% were negative. The coefficient δ_1 on revenue growth is again positive. But, in the crisis period the significant negative magnitudes of δ_4 would suggest a negative relationship between revenue growth and bonuses.

The empirical results for the three models to explain the relationship between executive equity grants and firm performance are given in Table 6. The results for equation 2, the base model, are shown in the first column. The coefficients on all four of the control variables are statistically significant. Equity grants in the current year are positively correlated with those from the previous year, and with firm size. CEOs receive higher grants than other

executives. Grants are negatively related with financial leverage. The signs for these parameters are the same as for the models of bonus compensation. The parameter λ_1 is not statistically significant, suggesting no relationship between ROE and equity grants. As expected, the grants are positively correlated with revenue growth. In this model the curious result is a negative relationship between stock return and equity grants. Normally, equity grants are thought of as a reward for firm performance. But, an alternative view is that they are an incentive for better performance in the future. This might suggest that managers of firms with poor stock performance be given more stock-based pay.

The empirical results for equation 4 to test the first hypothesis, that executive equity grants are equally sensitive to poor firm performance measure as to positive performance, are given in the second column of Table 6. The coefficient estimates on the control variables are similar to those for the base model. As in the base model, the parameter β_1 on stock returns is significantly negative. The coefficient, β_3 , on the interactive term is not statistically significant, meaning that the negative relationship between managerial equity grants and share returns holds equally when returns are negative as when they are positive. The estimate for β_2 is also negative and significant, suggesting that equity grants are somewhat lower when stock returns are negative. The parameter λ_1 is positive and significant, and λ_3 is negative, significant, and of roughly the same magnitude as λ_1 . This implies that managerial equity grants rise with ROE when earnings are positive, but it does not fall with earnings when ROE is negative. This is exactly like the relationship between executive bonuses and ROE. The relationship between equity grants and revenue growth is also similar to that for bonuses. The parameter δ_1 is positive and significant, so when revenues are growing, grants increase with firm size. But, δ_3 is negative and of a greater magnitude than δ_1 . Therefore, because revenue growth is negative in this range, equity grants rise as firm size shrinks. The coefficient δ_2 is significant and positive, suggesting that equity grants are a bit higher when revenues are declining.

Results for equation 6 to test the second hypothesis, that performance is the same during the crisis as before, are shown in the third column of Table 6. Again, the sign of the coefficients for the control variables are similar to those in the base model. In this case, μ_1 is positive and significant, suggesting, that all else the same, equity grants are actually higher during the crisis than before. This is presumably because of the decline in option grants after the dot.com crash near the turn-of-the-century, and the marked increase in restricted stock grants in the last few years. In this specification, the parameter β_1 on stock returns is again negative. The coefficient β_4 is negative, significant and of roughly the same magnitude of β_1 . This means that there is no linear relationship between managerial equity grants and stock return during the crisis. The coefficient λ_1 is positive and significant, and λ_4 is negative, significant and of roughly the same magnitude as λ_1 . This implies that before the crisis there was a positive relationship between equity grants and ROE, but, during the crisis this relationship disappears. The parameter δ_1 is positive and significant, meaning that before the crisis there was a positive relationship between revenue growth and executive equity grants. The coefficient δ_4 is also positive, meaning the positive relationship becomes even stronger during the crisis. Because almost 54% of the firms exhibited declining revenues during the crisis, this implies that equity grants were probably increasing when firm revenues declined.

Summary

Since the onset of the financial crisis in autumn 2007, the annual compensation of the top executives in American banks declined markedly. Bonuses dropped very sharply from their peak in 2005. In fact, the median CEO received no bonus in either 2008 or 2009, and the median of other top officer was also zero in 2009. Option grants had been shrinking since 2002, and the crisis has hastened their decline. Before the crisis, the use of restricted stock grants had been on the upswing. While the level of stock grants was lower after the shock, it certainly remained more robust than the other forms of performance-based compensation.

My first hypothesis is that the compensation of bank executives is not as sensitive to poor firm performance as to positive results. Both bonuses and equity grants are positively correlated with ROE when earnings are positive, but this relationship disappears when ROE is negative. This is thought to be common of the design of bonus contracts. But, it is interesting that equity grants also seem to be insensitive when earnings are negative. The positive relationship between equity grants and stock returns holds equally whether returns are rising or falling. On the other

hand, bonuses are uncorrelated with positive stock returns, but they decline when share prices fall. Both bonuses and equity grants have an interesting relationship with growth in revenues. Both forms of performance based compensation rise when the level of revenues change, be it rise or fall. There is little reward if revenues remain relatively constant. While both bonuses and equity grants are insensitive to declines in earnings, the same does not seem the case for the effects of stock returns and revenue growth on the compensation of bank executives.

The second hypothesis is that the design of executive compensation grants remained unchanged by the crisis. Both bonuses and equity grants are positively related to ROE before the crisis. But, during and after this relationship disappears. Interestingly, before the crisis, equity grants are negatively correlated with stock returns. This may mean that these grants are used primarily as inducements for managers of poorly performing banks to improve. But, during the crisis this negative relationship disappears. In contrast, bonuses are positively related with stock returns, both before and after the crisis. Both bonuses and equity grants are positively related with revenue growth before the crisis. However, after the crisis, the relationship of bonuses with firm growth turns negative, and that with equity grants becomes more strongly positive. Therefore, the crisis has clearly had a major impact in how performance-based pay is granted to American bank executives.

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TABLE 1
ANNUAL MEDIAN FIRM PERFORMANCE MEASURES

Year	Firms	Revenue (\$M)	Percent Chng Revenue	Net Income (\$M)	ROE	Stock Return
1992	139	649	-4.38%	62	13.31%	39.64%
1993	151	370	1.73%	54	14.71%	13.71%
1994	150	397	8.96%	58	14.57%	4.79%
1995	146	438	22.99%	58	13.97%	42.42%
1996	146	439	12.12%	66	14.61%	30.54%
1997	141	538	14.57%	80	15.04%	51.99%
1998	135	510	16.99%	73	14.55%	-1.77%
1999	131	558	9.76%	87	16.50%	-11.01%
2000	124	642	17.49%	75	15.24%	16.20%
2001	121	605	1.57%	84	14.27%	13.70%
2002	120	577	-5.47%	110	15.19%	6.11%
2003	118	581	-1.08%	105	14.97%	27.48%
2004	111	557	7.08%	99	14.33%	16.75%
2005	105	553	21.36%	104	14.55%	-0.07%
2006	100	698	20.52%	117	13.07%	12.01%
2007	91	737	8.55%	90	11.47%	-23.17%
2008	86	650	-6.24%	37	5.01%	-17.25%
2009	81	648	-5.78%	17	2.87%	-14.06%
Aggregate	2,183	557	9.06%	75	14.10%	14.27%

TABLE 2
ANNUAL CEO COMPENSATION
(THOUSANDS \$)

Year	Obs	Means				Medians			
		Salary	Bonus	Option Grants	Stock Grants	Salary	Bonus	Option Grants	Stock Grants
1992	33	685	886	476	494	692	750	399	0
1993	64	629	1,026	486	155	637	710	236	0
1994	78	609	707	921	371	600	403	451	0
1995	72	613	943	533	249	594	521	309	0
1996	75	652	1,173	1,174	396	620	694	626	0
1997	75	674	1,401	1,736	668	685	825	731	0
1998	80	668	1,203	2,038	481	642	557	968	0
1999	78	700	1,084	3,235	1,229	689	560	1,085	0
2000	75	726	1,257	3,154	574	717	500	883	0
2001	72	746	1,229	3,366	789	735	585	1,265	0
2002	73	769	1,259	2,206	931	760	625	1,527	0
2003	79	765	1,435	1,876	1,169	748	699	725	0
2004	74	795	1,544	1,671	750	786	821	613	0
2005	76	768	1,671	1,295	1,163	749	728	504	0
2006	91	706	1,209	1,270	1,343	690	525	231	0
2007	90	689	833	1,044	1,203	679	208	266	0
2008	85	692	179	1,018	856	709	0	139	0
2009	79	794	243	464	843	731	0	0	114
Aggregate	1,349	705	1,068	1,581	787	685	500	489	0

TABLE 3
ANNUAL NON-CEO EXECUTIVE COMPENSATION
(THOUSANDS \$)

Year	Obs	Means				Medians			
		Salary	Bonus	Option Grants	Stock Grants	Salary	Bonus	Option Grants	Stock Grants
1992	400	296	250	141	89	270	160	65	0
1993	440	295	340	189	61	270	170	78	0
1994	438	302	284	311	103	270	155	116	0
1995	427	305	375	250	87	264	169	95	0
1996	462	315	461	302	133	272	199	111	0
1997	471	318	596	492	273	275	223	160	0
1998	481	319	516	649	353	272	205	233	0
1999	424	340	523	1,015	453	286	208	286	0
2000	396	350	672	1,132	319	285	175	245	0
2001	415	363	544	1,266	351	300	200	326	0
2002	447	373	529	737	402	314	243	223	0
2003	472	363	599	538	313	304	210	185	0
2004	397	366	656	443	309	311	218	136	0
2005	323	380	801	426	394	333	266	125	0
2006	466	345	570	348	502	300	166	85	17
2007	437	344	364	392	508	298	104	64	13
2008	398	350	129	373	330	315	25	68	0
2009	334	407	231	215	560	339	0	0	61
Aggregate	7,628	393	470	504	302	294	168	124	0

TABLE 4
SAMPLE DIAGNOSTIC STATISTICS

	Obs	Median	Mean	StdDev	Minimum	Maximum
BONUS	9,020	200.0000	558.3661	1,173.9100	0.0000	23,396.6700
LBONUS	7,226	207.9180	556.9956	1,076.5600	0.0000	14,500.0000
EQGR	7,948	243.1995	1,082.5300	2,933.7900	0.0000	80,755.8000
LEQGR	6,179	256.4310	1,094.7000	2,979.5900	0.0000	80,755.8000
DCEO	9,020	0.0000	0.1500	0.3571	0.0000	1.0000
CAP	8,960	0.8452	0.8387	0.0689	0.3571	0.9941
LREV	8,958	964.6400	4,075.8400	10,536.7600	14.2440	119,190.0000
STKRET	8,928	0.1197	0.0927	0.3629	-2.7598	1.3202
ROE	8,977	0.1443	0.1191	0.2148	-4.9245	0.4137
REVGR	8,958	0.0855	0.1251	0.2361	-0.5080	2.4700
D_STKRET	9,020	0.0000	0.3255	0.4686	0.0000	1.0000
D_ROE	9,020	0.0000	0.0545	0.2271	0.0000	1.0000
D_REVGR	9,020	0.0000	0.2873	0.4525	0.0000	1.0000
D_2006	9,020	0.0000	0.1578	0.3645	0.0000	1.0000

TABLE 5
RELATIONSHIP BETWEEN EXECUTIVE BONUS COMPENSATION
AND FIRM PERFORMANCE MEASURES

	Coefficient	Equation 1		Equation3		Equation5	
		Estimate	T-Value	Estimate	T-Value	Estimate	T-Value
Intercept	α_0	444.3766	6.18***	151.3047	1.81*	147.1915	1.83*
LBONUS	α_1	0.7838	106.63***	0.7778	106.57***	0.7760	105.66***
DCEO	α_2	125.0104	9.07***	125.3137	9.17***	126.5865	9.28***
CAP	α_3	-468.6236	-5.57***	-226.0819	-2.56**	-239.2406	-2.74***
LREV	α_4	0.0131	19.00***	0.0125	18.53***	0.0132	19.35***
D_2006	μ_1					15.1528	0.65
STKRET	β_1	249.9121	14.24***	49.7912	1.45	231.4495	10.81***
D_STKRET	β_2			-99.2848	-6.39***		
N_STKRET	β_3			204.7508	4.42***		
T_STKRET	β_4					-45.6672	-1.17
ROE	λ_1	-107.4355	-4.09***	950.3302	8.45***	683.2038	6.21***
D_ROE	λ_2			209.0101	6.42***		
N_ROE	λ_3			-1,080.7430	-9.39***		
T_ROE	λ_4					-803.7747	-7.03***
REVGR	δ_1	63.9366	2.87***	105.7973	4.01***	94.4849	4.02***
D_REVGR	δ_2			-28.2680	-1.76*		
N_REVGR	δ_3			-232.5441	-1.69*		
T_REVGR	δ_4					-302.1457	-3.82***
Obs		7,037		7,037		7,035	
Adj R ²		0.7650		0.7681		0.7689	
F-Value		3,272.70***		1,793.72***		2,128.40***	

*** Significant at 99% Level, ** Significant at 95% Level, * Significant at 90% Level,

TABLE 6
RELATIONSHIP BETWEEN EXECUTIVE EQUITY GRANTS
AND FIRM PERFORMANCE MEASURES

	Coefficient	Equation2		Equation4		Equation6	
		Estimate	T-Value	Estimate	T-Value	Estimate	T-Value
Intercept	α_0	3,614.0913	17.02***	245.4528	12.11***	2,968.3506	12.33***
LBONUS	α_1	0.5306	66.92***	0.5209	65.40***	0.5291	66.14***
DCEO	α_2	489.7935	13.20***	497.7094	13.52***	491.7858	13.26***
CAP	α_3	-4,149.0768	-16.71***	-3,739.7908	-14.23***	-3,693.3422	-14.16***
LREV	α_4	0.0502	30.05***	0.0504	30.37***	0.0494	29.46***
D_2006	μ_1					331.1894	4.89***
STKRET	β_1	-286.7839	-5.67***	-414.6498	-4.16***	-370.4599	-5.97***
D_STKRET	β_2			-135.6850	-3.04***		
N_STKRET	β_3			-49.8543	-0.37		
T_STKRET	β_4					348.2223	3.18***
ROE	λ_1	77.9220	1.10	1,958.6336	6.20***	1,947.4838	5.98***
D_ROE	λ_2			121.9245	1.33		
N_ROE	λ_3			-1,836.9204	-5.70***		
T_ROE	λ_4					-2,104.7747	-6.26***
REVGR	δ_1	523.6270	7.85***	801.9063	10.01***	502.9550	6.92***
D_REVGR	δ_2			91.7405	1.99***		
N_REVGR	δ_3			-1,297.8480	-3.31***		
T_REVGR	δ_4					501.7102	2.28***
Obs		5,940		5,939		5,941	
Adj R ²		0.6666		0.6644		0.6640	
F-Value		1,697.46***		905.32***		1,068.18***	

*** Significant at 99% Level, ** Significant at 95% Level, * Significant at 90% Level,

FDI in Banking Services: An Analysis of ‘Behind the Border’ Regulations

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Abstract

This paper focuses on regulatory barriers affecting foreign direct investment (FDI) in banking services and quantifies such regulatory restrictiveness. It examines the extent to which this restrictiveness is due to ‘Behind the Border’ (BtB), i.e., operational restrictions as opposed to border level, i.e., entry level regulations and estimates changes in such restrictiveness over time (1995-2010) in India. It also examines the relationship between changes in regulatory environment with availability of export credit given critical input role played by banking services in enabling credit facility for goods and services trade. The paper finds that total regulatory restrictiveness affecting foreign investment has reduced over time and ‘BtB’ restrictiveness has also reduced but with a lesser degree. Increased liberalization and consequent reduction in restrictiveness indices is associated with increased availability of export credit. The performance indicators for foreign banks also show their improved performance in the wake of liberalization in India’s banking sector.

1. Introduction

Banking and financial services are the backbone of any economy. Sound and efficient banking and financial services are needed to compete internationally. Banking service is an important producer service as every transaction in domestic or international trade requires credit and financial intermediation. Francois (1990) argues that banking services are complimentary to the production process and efficient banking services can help in scale expansion and technological innovation. A highly regulated banking sector can hurt the efficiency of the entire economic system. It is, however, important to note that uncontrolled and undirected liberalization in banking services can also lead to inefficiencies and can threaten macroeconomic stability. Therefore, while it is important to liberalize banking services to improve efficiency, it is also necessary to have a cautious and well planned approach to liberalization.

This paper estimates and quantifies the incidence of regulatory restrictiveness affecting foreign investment in banking services in India and tries to assess the likely implications of liberalizing these measures for trade and investment flows in the banking services and in related areas of the economy.

This paper contributes to the existing body of literature in many ways. It differentiates between ‘At the Border’ and ‘Behind the Border’ regulations in the banking services and constructs separate indices for these regulatory barriers to assess the actual liberalization of banking services in India. It improves the existing templates of earlier studies, which have focused on overall regulations, to include ‘Behind the Border’ regulations such as freedom to purchase immovable property, tax structure, complexity of tax laws etc. for calculating trade restrictiveness indices. In the process, it also takes into account non-discriminatory regulatory policies affecting foreign firms. Another important contribution of this paper is to do a time series analysis of the incidence of regulatory barriers affecting foreign investment in banking services and liberalization of such barriers, compared to most previous studies which involved only one or two points in time estimations.

The rest of this paper is structured as follows. The next section provides a conceptual analysis of ‘At the Border’ and ‘Behind the Border’ regulatory barriers. Section three reviews the existing literature on regulatory barriers affecting services trade and quantification of such barriers and identifies research gaps based on the literature review. The fourth section provides overview of methodology and data sources used for quantification work. Section five presents results of such quantifying exercise. The last section outlines the policy implications of this research and concludes with a brief discussion of the limitations and possible future extensions of this work.

2. ‘At the Border’ vs ‘Behind the Border’ Regulatory Barriers

Regulations and protectionist measures affecting foreign investment in banking services can be classified into two categories. The first category pertains to restrictions or regulatory requirements which affect the entry of foreign investors in the host country. These are typically border level regulations such as limits on foreign direct

investment, restrictions on the form of entry, and other entry level measures which affect foreign and domestic service providers differentially. The second category pertains to those regulations which affect the ongoing operations of foreign firms after their establishment in the host country. These are termed 'Behind the Border' regulations, and include for instance, licensing and authorization requirements, restrictions on purchase of immovable property, and may or may not apply differentially to domestic and foreign service providers.ⁱ

Conceptually, the difference between these two types of measures, as explained in Deardorff and Stern (2008), is that border regulations restrict the establishment of foreign service providers within a host country, thus reducing the number of service providers and hence the quantity supplied at a given price (an upward or leftward shift of the supply curve), while regulatory barriers which affect ongoing operations do not affect the numbers of suppliers but increase their costs, thereby resulting in a higher price for a given quantity.

Regulatory measures affecting services trade can also be divided into discriminatory and non-discriminatory measures, i.e., measures which apply only to foreign service providers and measures which apply to both domestic and foreign service providers.

This paper differentiates between 'At the Border' (henceforth AtB) and 'Behind the Border' (henceforth BtB) regulations affecting foreign investment in banking services, however, it does not differentiate between discriminatory and non discriminatory regulations, as it is implicitly assumed that even when regulations are non-discriminatory in content and application, they are likely to affect foreign service providers more than domestic providers due to the administrative and procedural complexities they introduce and due to their limiting effect on market contestability.ⁱⁱ

3. Literature Review and Research Gaps

While significant progress has been made in recent years in analyzing barriers to goods trade, there has been relatively little progress in the case of services trade (Deardorff and Stern 2008; Hoekman and Braga 1997). Griffiths (1975) was perhaps the first study to document the barriers to international trade in services. There exist different types of barriers on foreign investment in services trade, in general and more for banking services. Findlay and Warren (2000) in their study suggest that barriers to such trade appear to be substantial, especially on foreign investment. They reported that there is significant discrimination against foreign providers of services as compared to domestic service providers.

UNCTAD (1996) suggest a three part classification system to define barriers affecting foreign investment in services. These are related to restrictions on Market entry, Ownership and Operations of the foreign firms. Using this three part classification system, Hardin and Holmes (1997) list the major restrictions on inward FDI in service sectors for selected APEC countries. They consider restrictions on the level and share of foreign ownership, application of some form of screening or registration process, widespread use of case-by case based assessments, restrictions on ownership and control such as restrictions on Board membership etc. as the primary barriers to foreign investment in service sectors.

With the improved understanding of barriers to services trade over time, attempts have also been made to quantify these barriers. The pioneering work on quantification of regulatory barriers and creation of restrictiveness indices is done by economists and researchers at the Australian Productivity Commission (APC), the Organization for Economic Cooperation and Development (OECD) and the World Bank. These economists estimate restrictiveness indices for various service sectors across countries. The quantitative estimates of the Australian Productivity Commission do not focus specifically on discriminatory policies; rather they are more inclined towards assessing the impact of regulations. The OECD quantification work focuses mainly on entry barriers such as ownership limits, barriers to establishment etc.

An analysis of available literature reveals that the regulatory regimes considered in the existing and ongoing studies do not differentiate between 'At the Border' regulations and 'Behind the Border' regulations. In the absence of such differentiation, it is difficult to assess the trend and nature of liberalization. This is of particular importance for banking services as many of the domestic regulations in this sector are of 'Behind the Border' type. Apart from that, the empirical work on barriers to services trade has focused more on discriminatory policies to assess the impact of imposing such regulatory barriers. The policy indices are constructed by identifying regulatory policies affecting entry and establishment and then determining if policies differentiate between domestic and foreign firms. These studies do not take into consideration nondiscriminatory policies. However, nondiscriminatory policies also have the potential to affect foreign firms

differentially and become de facto discriminatory by increasing fixed or variable costs of production for foreign firms. It is also to be noted that the existing studies have quantified the regulatory restrictiveness generally at a single point of time and cross country comparisons have been made on that basis. These studies have not analyzed the changes in these domestic regulations over the years, particularly for India.

4. Methodology and Data Sources

The empirical analysis on constructing restrictiveness indices primarily builds on the existing work on restriction indices for services by the academics at the OECD, the World Bank and the Australian Productivity Commission. The main studies concerned with restrictiveness in banking services and referred to are 'Restrictiveness on International Trade in Banking Services' by McGuire and Schuele (2000) and 'Modal Estimates of Services Barriers' (OECD Trade Policy Working Paper No. 51) by Dihel and Shepherd (2007). These studies assign weights to different regulations based on either subjective judgments or statistical technique of factor analysis by taking into account the increased cost and inefficiency due to restrictive regulations.

Since the primary aim of this study is to show the role of BtB regulations in total trade restrictiveness, it modifies the available templates of these studies and includes new categories of regulatory barriers to make the restrictiveness indices more comprehensive. As mentioned earlier, it also includes non-discriminatory barriers in the existing templates. Some of these added barriers are licensing procedures, FDI approval process, restrictions on purchase of immovable property, complex tax laws, discrimination in tax treatment of foreign companies etc. It constructs two types of restrictiveness indices – **Total Trade Restrictiveness Index (TRI)** showing quantification of regulatory barriers in both AtB and BtB categories and **'Behind the Border' Trade Restrictiveness Index (BtB Index)**, reflecting the quantification of regulatory regime arising only from BtB regulations.

The restrictiveness indices are calculated by assigning weights to various regulatory barriers. In the literature, three methods are generally used for weighing regulatory barriers; Researcher Judgment, Expert Opinion and Factor Analysis. Deardorff and Stern (2008) argue that the best approach for weighing is judgments of knowledgeable investigators. In their view, factor analysis being purely a statistical technique need not be an improvement on the use of judgment weights. Considering the fact that the weights should reflect the relative economic costs of different types of restrictions, a combination of these techniques have been used in this study to weigh the barriers applicable for banking sector restrictiveness indices. It modifies the available weights of these studies (primarily based on factor analysis) based on researcher judgment to include new set of regulatory barriers. It also relies on expert opinion for weighing these barriers.

The following steps have been followed for constructing trade restrictiveness and 'Behind the Border' restrictiveness indices.

- **Step 1.** Collection of information from different government agencies and regulatory bodies for various regulatory policies pertaining to banking services at different points in time. It also includes information gathering from various other sources such as study reports of the World Bank, the OECD, independent research organizations and various authors.
- **Step 2.** Defining degrees of restrictiveness and assigning scores to each type of regulatory barriers. Scores range from zero for the least restrictive to one for the most restrictive. There is an inverse relationship between regulatory requirements and the score assigned to it for some of the regulations. For example, in the foreign equity limits category, if 26% is the approved limit, we have assigned a score of 0.74 and vice-versa. Other regulations are divided into various degrees of intensity and scores have been assigned from zero (for the least intensity of regulations) to one (for the highest intensity of regulations). For instance, for 'FDI approval process' barrier, 'No automatic approval is allowed' is given a score of 1 due to the highest intensity of restrictiveness, 'FDI is allowed partially through automatic route and beyond a limit through government approval' is given a score of 0.5 due to moderate intensity and 'FDI is allowed through automatic route' is given a zero score due to the least intensity of restrictiveness.

- **Step 3.** Assigning weights to various regulatory barriers based on their economic importance by using a combination of methods as explained earlier.
- **Step 4.** Constructing Trade Restrictiveness Indices (TRI) by multiplying scores obtained in step 2 with weights obtained in step 3. It also includes constructing ‘Behind the Border’ restrictiveness indices (BtB Indices) by separating relevant barriers affecting operations of foreign firms from the total set of regulatory barriers.

It is to be noted that whereas the maximum value of TRI can be 1 (when there are absolute restrictions on foreign firms), the maximum value of BtB Index will always be less than 1 as some of the regulatory barriers considered for the analysis were of AtB type and hence do not figure in calculating the BtB Index. The indices are calculated over a period of time from 1995 to 2010 at four different points of time, i.e., 1995, 2000, 2005 and 2010. The choice of these years comes from the fact that these are the years when significant policy changes have been made in India in banking service sector.

Data Sources

Secondary data sources include information and published reports by government authorities and multilateral, regional and country agencies. These reports include various Government of India publications, Trade Policy Reviews available on WTO website and other notifications and circulars issued from time to time by various departments and Ministries of Government of India. A comprehensive but not exhaustive list of secondary data sources used for quantification of barriers is presented below.

TABLE I: DATA SOURCES FOR QUANTIFICATION WORK

Country Level (Government Sources)	Multilateral Sources	Others
1. Manual of FDI Statistics, Department of Industrial Policy and Promotion, Govt. of India 2. Foreign Exchange Management Act 1999 3. Reserve Bank of India (RBI) Annual Reports 4. Draft Report for Presence of Foreign Banks in India issued by (RBI) 5. Reserve Bank of India website 6. Ministry of Finance, Government of India, website	1. Trade Policy Review available at WTO website 2. UNCTAD Handbook of Statistics 2010 3. OECD Working Papers	1. Indiastat online database 2. Australian Productivity Commission Research Papers

Source: Author's Compilation

Thus, the information regarding prevailing regulatory barriers is taken from a wide range of government and non-government sources. However, most of these documents do not have comprehensive information on various regulations and associated conditions. In case of non-availability of information for a particular regulation, inferences are drawn from other reports and documents, published articles and news paper clippings.

5. Empirical Results

The construction of restrictiveness indices is a difficult task given inherent nature of banking sector regulations. Francois and Hoekman (2010) in their paper highlight various difficulties, such as lack of transparency, non-availability of information etc., in constructing numerical estimates of barriers in services trade in general. We have also faced similar difficulties and challenges while constructing restrictiveness indices for banking services. These difficulties are more pronounced as we construct restrictiveness indices over a period of time. The difficulties and challenges faced are threefold- First, the availability of information on policies is very

limited and imprecise. The policy documents do not have detailed information on various regulations. For instance, the FDI policy available with Department of Industrial Policy and Promotion, Government of India talks about maximum allowable foreign equity but it puts conditions that this limit is subject to requirements as stipulated by the concerned department. The difficulty is that these additional requirements are not easily and publicly available. Second, as various Ministries and institutions of Government of India are involved in liberalization of banking services, it is very difficult to get various policy documents and circulars at one place. Third, the data on service transactions is also very limited. Bilateral services trade data disaggregated at sectoral level is not available. This is precisely because services are not generally observed crossing borders, hence difficult to record. Another difficulty that has arisen in the process of construction was getting industry expertise for weighing various regulatory barriers. As any information on regulatory framework is confidential and strategic, many of the banking experts prefer not to talk on these issues.

Thus, the construction of restrictiveness indices has undergone through many difficult challenges. As mentioned earlier, in the absence of precise information about a particular regulatory barrier, the inferences have been drawn from other available sources such as web postings, news paper articles etc. Of course, this introduces an element of subjectivity in the construction of restrictiveness indices, but this is inevitable given various difficulties as enumerated earlier. The results of construction exercise are discussed in the subsequent paragraphs.

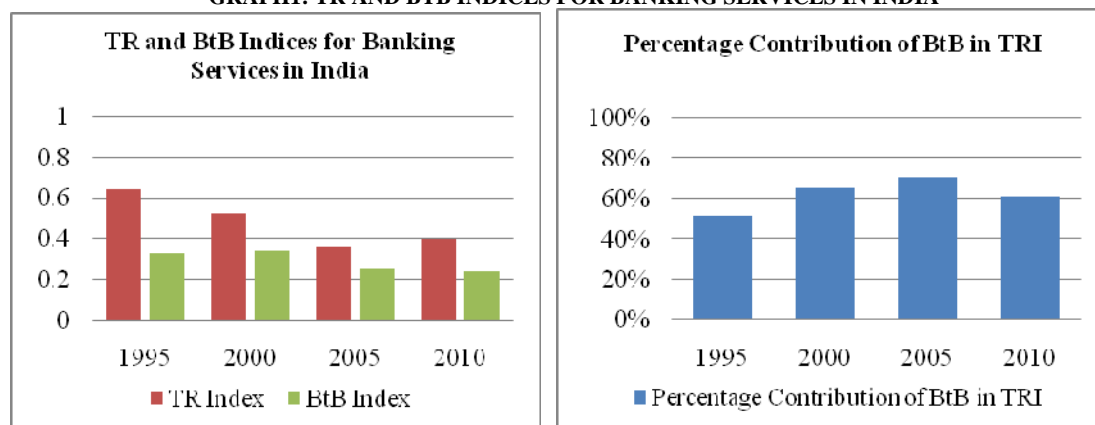
As explained earlier, these restrictiveness indices are split between a **Total Restrictiveness (TR) Index** and a purely **'Behind the Border' BtB Index**. The indices calculated for banking services and the changes thereof over time are given below.

TABLE2: TR AND BTB INDICES FOR BANKING SERVICES IN INDIA

Year	TR Index	BtB Index	% Contribution of BtB in TRI
1995	0.639	0.329	51%
2000	0.522	0.341	65%
2005	0.360	0.254	70%
2010	0.397	0.241	61%

Source: Author's Calculations

GRAPH1: TR AND BTB INDICES FOR BANKING SERVICES IN INDIA



Source: Author's Calculations

From Table 2 and Graph 1, it is clear that there is a decreasing trend in the index value and is mainly due to the increased allowance for foreign equity participation in private banks in India, easing of FDI approval process and the granting of establishment rights to wholly owned subsidiary of foreign banks in India over the period under consideration. The RBI has released a road map for presence of foreign banks in India in February 2005, which proposed significant liberalization of various AtB and BtB regulations. In this road map, the RBI

proposed that presence of foreign banks will be implemented in a phased manner, consistent with India's commitments to the WTO. This road map consisted of two phases, Phase-1 (March 2005 to March 2009) and Phase-2 (April 2009 onwards). In the first phase, foreign banks wishing to establish presence in India for the first time were allowed either to operate through branch presence or set up a 100% wholly owned subsidiary (WOS), following the one-mode presence criterion. For new and existing foreign banks, it was also proposed to go beyond the existing WTO commitment of 12 branches in a year with a more liberal policy for underbanked areas. In this phase, foreign banks already operating in India were allowed to convert their existing branches to WOS while following the one-mode presence criterion. The WOS were to be treated on par with the existing branches of foreign banks for branch expansion in India. However, the Reserve Bank may prescribe market access and national treatment limitation consistent with WTO, as also other appropriate limitations to the operations of WOS consistent with international practices and the country's requirements.

In the second phase, this road map proposed the removal of limitations on the operations of the WOS and treating them on par with domestic banks to the extent appropriate after reviewing the experience with Phase I and after due consultations with all stakeholders in the banking sector. The WOS of foreign banks on completion of a minimum prescribed period of operation are to be allowed to list and dilute their stake so that at least 26 per cent of the paid up capital of the subsidiary is held by resident Indians at all times. However, given the recent financial crisis and risky exposure of the foreign banks, the RBI has not implemented the second phase fully and is adopting a step by step approach.

As far as branch authorization is concerned, the branch licensing procedure is continued to be governed by previous practices. Foreign banks are required to bring an assigned capital of US\$25 million upfront at the time of opening the first branch in India. Existing foreign banks having only one branch would have to comply with the above requirement before their request for opening of second branch is considered. Foreign banks are also required to submit their branch expansion plan on an annual basis. In addition to the parameters laid down for Indian banks, foreign banks are subject to the following parameters while authorizing their branches- foreign bank's and its group's track record of compliance and functioning in the global markets, reports from home country supervisors, wherever necessary, even distribution of home countries of foreign banks having presence in India, the treatment extended to Indian banks in the home country of the applicant foreign bank and the bilateral and diplomatic relations between India and the home country. The branch expansion of foreign banks would be considered keeping in view India's commitments at the WTO. ATMs would not be included in the number of branches for such computation.

It is also to be noticed from Table 2 that though there is a decreasing trend over time, the index value has slightly increased in 2010 as compared to 2005. This is because of the additional condition imposed on FDI approval process in 2010. FDI in banking services in India was allowed fully through automatic route in 2005 (FDI Policy, 2005) but in 2010, the government has stipulated that FDI in banking services is allowed through automatic route only up to 49% and beyond 49% and up to 74%, it is allowed through Government route (Consolidated FDI Policy, 2010).

Table 2 and Graph 1 also reveal that the BtB regulations contribute a significant 51 percent and above of the overall index and this contribution has increased overtime. In 1995, BtB and AtB regulations were contributing almost equally to the overall index. But in 2000 and 2005, BtB contribution has increased to 65% and 70% respectively. It implies that most of the investment liberalization in banking services in India has been in AtB regulations during these years. The main AtB liberalization steps undertaken during this period were- allowing increased foreign equity participation (from 20% in 1995 to 74% in 2005), allowing foreign banks to operate through fully owned subsidiary mode and ease of FDI approval process. However, in 2010, the percentage contribution of BtB regulations in the overall index has come down to 61% from 70% in 2005. This is because of two reasons, first, the government has put conditions on FDI approval process (as explained in the previous paragraph), which is an AtB barrier, thereby increasing the percentage contribution of AtB barriers in the overall index and second, some of the BtB regulations, such as number of licenses to be granted to the foreign banks, corporate tax laws etc., were also liberalized during this period. However, the BtB regulations such as licensing requirements for branch expansion etc. are still prevalent. Thus, there is scope for relaxing some 'Behind the Border' non prudential regulations in banking services, such as branch expansion, licensing etc. which could facilitate trade and investment flows in the banking sector and also indirectly facilitate trade finance and associated transactions in goods.

This paper also correlates banking services liberalization in India and corresponding changes in BtB and TR indices with trade in financial services, availability of export credit and some of the performance indicators for foreign banks. The results are shown as below-

TABLE Error! No text of specified style in document..3: CORRELATION MATRIX FOR BANKING SERVICES

Type of Trade Restrictiveness Index		Export Credit	Financial Services Trade	Foreign Banks Performance (as a %age of total assets)		
				Gross Profit	Net Profit	Net Interest Income (Margin)
TR Index	Pearson Correlation	-.929(**)	-.457	-.689(*)	-.706(*)	-.647(*)
	Sig. (1-tailed)	0	.151	0.014	0.011	0.041
	N	14	7	10	10	8
BtB Index	Pearson Correlation	-.867(**)	-.457	-.625(*)	-.696(*)	-0.56
	Sig. (1-tailed)	0	.151	0.027	0.013	0.075
	N	14	7	10	10	8

** Correlation is significant at the 0.01 level (1-tailed)

* Correlation is significant at the 0.05 level (1-tailed)

Source: Author's Calculations based on data accessed from UNCTAD Handbook of Statistics 2010 and India Statistics Online Database

The results above show that, as expected, there is a negative relationship between the TR and BtB indices and the various measures of trade and performance, i.e., liberalization is associated with improved efficiency and increased trade. For most of the coefficients, the relationship is significant at either a 1 percent or 5 percent significance level.ⁱⁱⁱ These coefficients are particularly high and very significant for export credit which is an important driver of trade in all goods and services. Increased liberalization and consequent reduction in BtB and TR indices is associated with increased availability of export credit. The performance indicators for foreign banks also show the same trend, indicating improved performance in the wake of liberalization in India's banking services.

6. Conclusion and Policy Implications

This study quantifies the qualitative nature of regulatory barriers affecting foreign investment in banking services. It finds that there has been significant investment liberalization undertaken in India in this sector over the past decade or so. However, a greater part of this liberalization has been at the border while many 'Behind the Border' restrictions continue. The latter still constitute a sizeable share of overall restrictiveness in banking services and thus remain a critical factor shaping the overall regulatory environment of this sector in India.

The paper indicates that there are considerable potential gains to be realized from liberalizing banking services, not only from relaxing FDI ceilings but also from liberalizing the overall domestic regulatory environment. It confirms the importance of 'Behind the Border' regulations in opening banking services to foreign investment. The findings suggest that liberalization is probably easier to undertake at the border but more difficult to undertake 'Behind the Border', possibly because the latter measures are often hidden and not explicit and because their ramifications for trade and investment flows may not be well recognized. The findings also suggest that domestic and foreign investors are likely to be affected by similar 'Behind the Border' measures that shape the overall regulatory environment through productivity and efficiency gains, and thus one may need to consider domestic and foreign investment incentives along similar lines. And finally, policy makers need to be cognizant of inter-linkages and spillover effects between banking services and also between the goods and services sectors of the economy when designing policies so as to reap the full benefits of liberalization in the service sector.

The primary limitation of the study comes from a weighing of various regulations which is the usual limitation for any quantification exercise in the area of services trade. Though, the weights are obtained through a combination of methods prescribed in the available literature and by seeking expert opinion, some degree of subjectivity cannot be denied. A second limitation of the study pertains to the availability of data. It proved

difficult to obtain accurate and consistent time series data for many of the regulations. In case of non availability of information from the policy documents, inferences have been drawn from other available resources. A third limitation is that the indices do not capture yearly changes in the restrictiveness indices and attribute all changes to particular points in time (1995, 2000, 2005 and 2010). The latter can, however, be justified as the primary aim is to track how the restrictiveness indices have changed over a period of time rather than capturing exact points in time when these changes may have occurred. Moreover, policy changes in terms of deregulation measures tend to be discrete point in time changes corresponding with specific initiatives and programmes rather than being continuous year on year processes. Nevertheless, the points in time measurement are approximate ones. This empirical work of consisting of time series of restrictiveness indices can be extended to analyzing the price-impact of investment liberalization in banking services. Firm level data can be used to assess the effect of liberalization on productivity and efficiency by comparing the firms that use the banking services intensively and non-intensively. Since data and information on most of the parameters of price-impact analysis is either not available or incompletely available particularly with reference to India, any such analysis is difficult to incorporate in the present study.

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For a full list of reference, please contact author(s).

Endnotes

ⁱ This distinction is also accepted by Australian Productivity Commission and used in its various studies concerned with services sector liberalization. Australian Productivity Website (www.pc.gov.au/research/memoranda/servicesrestriction/index.html) can be referred for more detail.

ⁱⁱ Similar arguments have been made in several other studies including Deardorff and Stern (2008).

ⁱⁱⁱ An extended correlation analysis of financial services trade by segregating into financial services exports and imports (not included in the table above) further shows that the correlation coefficients are higher and also more significant for exports of financial services as compared to imports of financial services.

Information Transmission Mechanism between Chinese and the US Stock Markets during Financial Crisis: Evidence from Intraday and Overnight Volatility Spillover Effects.

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Abstract

This paper mainly focuses on the intraday and overnight information transmission effects between China and the US stock markets around the crash of September 2008. We employ the FFF regression, the CCF approach and the ARMA-EGARCH-HFV model for high-frequency intraday 5-minute data that covers the period from July 15, 2008 to January 31, 2009. The empirical analyses show that (1) the Lehman Crash does increase the volatility spillover effects, (2) information transmission between different domestic markets can be achieved within 5 minutes and (3) the intraday volatility exhibits the strong intraday periodicity and long-memory features. However, we can effectively filter out the intraday periodicity patterns by the FFF-regression.

Key Words: Lehman crisis; High-frequency financial data; Volatility spillover effect; Intraday periodicity; FFF-regression

JEL Classification: F36 , G10 , C22

1 Introduction

Since 1980s, in the waves of economic globalization and liberalization, financial markets throughout the world have steadily become more open to foreign investors. With open markets, market deregulation and free flow of capitals have further increased the globalization of financial markets. An essential outcome of this force of globalization is increased interdependence of asset prices across international markets. The market crash of October 1987, known as the “Black Monday”, sparked studies about the linkage between stock markets in the world. Hamao, Masulis and Ng (1990), Jeon and Von Furstenberg (1990), Lai, Lai and Fang (1993), Blackman, Holden and Thomas (1994), among others, have empirically found the strong evidences that the co-movements among international stock markets had increased significantly after the crash of October 1987.

In September 2008, huge waves that set off in the United States engulfed the global financial markets. The financial tsunami began at the bankruptcy of the fourth-largest US investment bank *Lehman Brothers Holdings Inc.* on September 15, 2008. Moreover, on the same day, *Bank of America* agreed to acquire *Merrill Lynch & Co., Inc.*, the third-largest US investment bank, with the price of US\$29 per share, a total of US\$50 billion. In order to restore the normal operation of the US financial system, the US government immediately decided to formulate “Emergency Economic Stabilization Act of 2008”, which came up with US\$700 billion to rescue the ailing economy. Unexpectedly, however, the project was rejected via a vote of the House of Representatives on September 29, 2008. The US stock markets were affected by this blow and the Dow Jones Industrial Average plunged 777.68 points in a single day, 684.81 points drop on September 17, 2001 (the first trading day after September 11 attacks), making a record of the largest single-day point drop. Although the US Congress passed the amendment on October 3, the destruction had been done and spread rapidly to the world stock markets with utmost panic. For instance, in the US stock market, the return on Dow Jones Index never fluctuated by more than 4% within a trading day since 2003. Nevertheless, during the two and a half month after Lehman’s bankruptcy, it was on 20 trading days that the fluctuation exceeded 4%. Even the fluctuation went beyond 10% in two days. Paul Krugman describes the worldwide production, financial and consumer crunch following these events as “the beginning of a second Great Depression”ⁱ. The above series of phenomena mark this round of financial crisis a further upgrade of the subprime mortgage crisis that began in 2007. To distinguish them apart, in this paper, we call the new round of financial crisis after September 15, 2008 as “Lehman crisis”.

This paper focus mainly on the intraday and overnight volatility spillover effects between China and the US

stock markets around the Lehman crash. As clearly demonstrated by Ross (1989), asset return volatility also provides a useful signal of information flow, in other words, the direction of volatility also provides a useful signal on information flow.

In recent years, the issue of stock market co-movement between China and international stock markets has gradually attracted academic attention. Hong *et al.* (2004) studied the volatility spillover effect on emerging markets and main international stock markets between January 1995 and April 2003, but no evidence was found of co-movement relationships between Chinese A-share market and other main global markets (the US, Japan and Germany). In contrary, the study of Liu and Chen (2008) revealed that there is significant volatility spillover effect from China to other stock markets (the US, Japan, the UK and Hong Kong) but no evidence is found of spillover effect from the other way round. In addition, some existing studies examined the co-movement relationship in stock prices across markets. Examples include Gu and Lu (2006) and Nishimura (2009).

Compared with these previous research works, our study has the following characteristics. First, comparing the extensive use of daily or weekly data in numerous previous studies, we apply 5-minute data. The financial asset price movement is subject to various information disturbances. Discrete collection of data will inevitably lead to information loss, whereas the application of high-frequency dataset can take full advantage of the information conveyed by the financial asset price variation. Second, we conduct both horizontal and vertical analysis in our empirical study. For horizontal analysis, we perform comparative analysis on the intraday volatility characteristics and volatility spillover effects between Chinese and the US stock markets. For the vertical analysis, the day of Lehman's bankruptcy is taken as a separation point and the information transmission effects is analyzed for two periods, i.e., before and after the crash, which offers objective and scientific evidences to comprehend the influence of Lehman shock on these markets. This paper aims to systematically study the intraday and overnight information transmission effects between Chinese and the US stock markets around the crash of September 2008 by vertical analysis on time series and horizontal analysis on Sino-US stock markets.

The rest of this paper is organized as follows. Section 2 describes the sample data and analyzes its intraday periodicity. Section 3 analyzes volatility spillover effects within Chinese and the US domestic stock market. Section 4 empirically analyzes the overnight volatility spillover effects between Chinese and the US stock market. Section 5 concludes the paper by summarizing the main findings and making some rational judgments about the new future.

2 Data and intraday periodicity

Our primary data set consists of 5-minute returnsⁱⁱ for Shanghai Composite Index (SH), Shenzhen Component Index (SZ), Dow Jones Index (DOW) and Standard and Poor's 500 Index (SP500) from July 15, 2008 to January 31, 2009ⁱⁱⁱ. The trading hours of Chinese stock market are 9:30-11:30 and 13:00-15:00 Beijing time, a total of 4 hours. And the trading hours of the US market are 22:30-5:00 Beijing time, a total of 6.5 hours. Therefore, within a trading day, there are 49 and 78 return observations, not including the overnight return (the close-to-open return during the overnight non-trading hours), for Chinese and the US stock market respectively. In total, there are 6370 and 10536 for the two markets respectively. These data are obtained from Foxtrader and Bloomberg.

The volatilities for data of different sampling frequencies exhibit different dynamic characteristics. Many academic studies indicated that intraday periodicity is one of the most important dynamic features of intraday volatility. Andersen and Bollerslev (1997) found that the intraday return volatility of SP 500 index assumes a U-shaped pattern^{iv} and Andersen, Bollerslev and Cai (2000) found a W-shaped (doubly U-shaped) pattern on the intraday return volatility of Nikkei 225 index^v.

Andersen and Bollerslev (1997, 1998b) demonstrated the failure of standard volatility models in presence of the intraday periodicity. In other words, if we use intraday high-frequency data to estimate the time-series models, such as ARCH-type models, we will get bias statistical inferences. Then, it's necessary to eliminate the intraday periodicity before applying standard volatility models to the analysis of stock market co-movements. Andersen and Bollerslev (1997, 1998b) introduced FFF (Flexible Fourier Form) regression, which was developed by Gallant (1981), into the research of high-frequency financial time series as an effective method to describe and filter out the intraday periodicity.

The n -th return within day t is denoted $n_{(t)}$ ($t=1,2,\dots,T$; $i=1,2,\dots,n$), and generally can be written as

follow:

$$r_{t(i)} = E[r_{t(i)}] + \sigma_{t(i)} s_{t(i)} z_{t(i)} \quad (1)$$

Where $E[r_{t(i)}]$ is the expected 5-minute return, $\sigma_{t(i)}$ represents the intradaily volatility factor, $s_{t(i)}$ is the periodicity factor, $z_{t(i)}$ is an *i.i.d.* mean zero and unit variance innovation term. By squaring and taking logs of Equation (1), we can isolate $s_{t(i)}$, i.e.

$$x_{t(i)} \equiv 2\ln(|r_{t(i)} - E[r_{t(i)}]|) - \ln(\sigma_{t(i)}^2) = c + 2\ln(s_{t(i)}) + u_{t(i)} \quad (2)$$

Where, $c = E[\ln(z_{t(i)}^2)]$, $u_{t(i)} = \ln(z_{t(i)}^2) - E[\ln(z_{t(i)}^2)]$. The dependent variable $x_{t(i)}$ is computed by $E[r_{t(i)}]$ and $\sigma_{t(i)}^2$, hence we need to estimate them in advance. Following Andersen and Bollerslev (1997, 1998b), we replace $E[r_{t(i)}]$ and $\sigma_{t(i)}^2$ with the sample mean of the 5-minute returns, $\bar{r}_{t(i)}$, and reasonable estimator of $\hat{\sigma}_{t(i)}^2$ respectively. Andersen and Bollerslev (1997, 1998b) assume that the this volatility component is constant over the trading day, i.e. $\hat{\sigma}_{t(i)}^2 = \hat{\sigma}_r^2 / n^{1/2}$ and chose a GARCH(1,1) model estimate of daily return volatility $\hat{\sigma}_r^2$. Alternatively, we adopt the daily realized volatility (RV) proposed by Andersen and Bollerslev (1998a). The daily RV at time t is defined as the cumulative sum of squared intraday returns over day t , that is

$$RV_t = \sum r_{t(i)}^2 \quad (3)$$

As clearly demonstrated by many literatures, such as Andersen *et al* (2001), Andersen *et al.* (2003), Barndorff-Nielsen and Shephard (2004), among others, the realized volatility would provide a consistent estimator of the integrated volatility, a natural definition of real volatility as the time interval tents to zero^{vi}.

After introducing $\bar{r}_{t(i)}$ and $\hat{\sigma}_r^2$, treating $\hat{x}_{t(i)}$ as the dependent variable in the regression allows the parameters to be estimated by ordinary least squares (OLS).

$$\hat{x}_{t(i)} = 2\ln(|r_{t(i)} - \bar{r}_{t(i)}|) - \ln(\hat{\sigma}_{t(i)}^2) = \hat{c} + f(\theta; t(i)) + \hat{u}_{t(i)} \quad (4)$$

Where $\hat{c} = E[\ln(z_{t(i)}^2)] + E[\ln(\sigma_{t(i)}^2) - \ln(\hat{\sigma}_{t(i)}^2)]$ and the error term is stationary. To describe the periodicity factor, $f(\theta; t(i))$, Andersen and Bollerslev (1997, 1998b) propose to use the following specification:

$$f(\theta; t(i)) = \sum \sigma_i^j \left[\mu_{0,j} \frac{1}{t} + \mu_{1,j} \frac{1}{t} + \mu_{2,j} \frac{1}{t} + \sum \left(\gamma_{l,j} \cos \frac{2l\pi t}{N_1} + \delta_{l,j} \sin \frac{2l\pi t}{N_2} \right) + \sum \lambda_k I_k(t(i)) \right] \quad (5)$$

Where, $N_1 = (n+1)/2$, $N_2 = (n+1)(n+2)/6$, $I_k(t(i))$ is the dummy variable for "day-of-the-week" effect. For $J = 0$ and $P = 0$, equation (5) reduces to the standard Flexible Fourier Form proposed by Gallant (1981). Andersen and Bollerslev (1997, 1998b) emphasized that, allowing for $J \geq 1$ and thus a possible interaction effect between σ_i^j and the shape of the periodic pattern is important.

Finally, we utilize the estimator of the periodicity factor $\hat{s}_{t(i)}$ to calculate the periodicity-free intraday return series. That can be obtained as follows: $\tilde{r}_{t(i)} = r_{t(i)} / \hat{s}_{t(i)}$ ^{vii}. For simplicity, the following omits the tilde symbol.

Figure 1 plots the average 5-minute volatility pattern (average absolute 5-minute return for each 5-minute interval) within a day and the autocorrelations for the 5-minute volatility at lag of 10 day (i.e. 490 periods for Chinese equity market and 780 periods for the US equity market). It is obvious that the volatility patterns of SH series and SZ series are nearly the same, so are the patterns of DOW and SP500 series. In the left figure, consistent with the study of Andersen and Bollerslev (1997) and other earlier studies, the intraday volatility from the US stock market has shown an extremely significant U shape even during this period of financial crisis. It is noteworthy that the intraday volatilities of SZ and SH series are approximately U-shaped but decline gradually when approach closing. This is a unique phenomenon during financial crisis and ignored by previous studies^{viii}.

In the right figure, the intraday volatility series for both Chinese and the US stock markets exhibit U shape within each one-day (one day is equivalent to 49 periods for Chinese while 78 periods for the US market) cycle, in conformity with the intraday trend of volatilities for 5-minute return shown in the left figure. For the presence of significant intraday periodicity effect, the results from traditional time series models such as ARCH-type models will be distorted. It is necessary for us to filter out the intraday periodicity.

In addition, the autocorrelation function declines slightly and largely stay beyond the 5% critical value (the horizontal dotted line in the figure right). It is suggested that the intraday volatilities reveal long memory characteristics. In the US stock market, this is even more apparent.

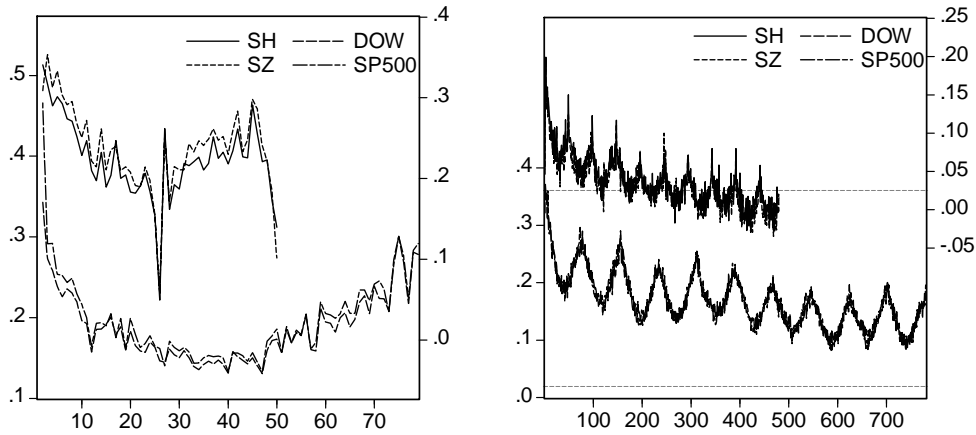


Figure 1 Intraday 5-minute average volatilities and autocorrelation function with 10 day lag

Notes: The image left graphs the intraday trend of the 5-minute average volatility and the image right graphs the autocorrelation function with 10 day lag. In both images, the left scale shows volatilities of SH and SZ return series and the right scale shows volatilities of DOW and SP500 return series. The dotted line in the image right represents the 5% critical value.

In following procedures, we apply FFF regression to the original series and filter out their intraday periodicity. The FFF regression estimates can be very sensitive to value of J and P in equation (5). The choice of J and P is carried out among $J = 1, 2$ and $P = 1, 2, \dots, 20$. To determine the optimal value for J and P , we test all the potential optimal models, a total of 42, and obtain the optimal one by minimizing the Akaike information criterion (AIC). Consequently, for SH and SZ, we choose $J = 1, P = 2$ and for DOW and SP500, we choose $J = 1, P = 1$.

Figure 2 shows the intraday-periodicity-free 5-minute average volatilities extracted from the index return series within a day (left image) and the intraday-periodicity-free autocorrelation function at lag of 10 day (right image). As shown in the figure, FFF regression captures the features of the intraday volatility and effectively eliminates the intraday periodicity effect. Nonetheless, for the existence of long memory characteristics, it is important to be careful in modeling the volatility series.

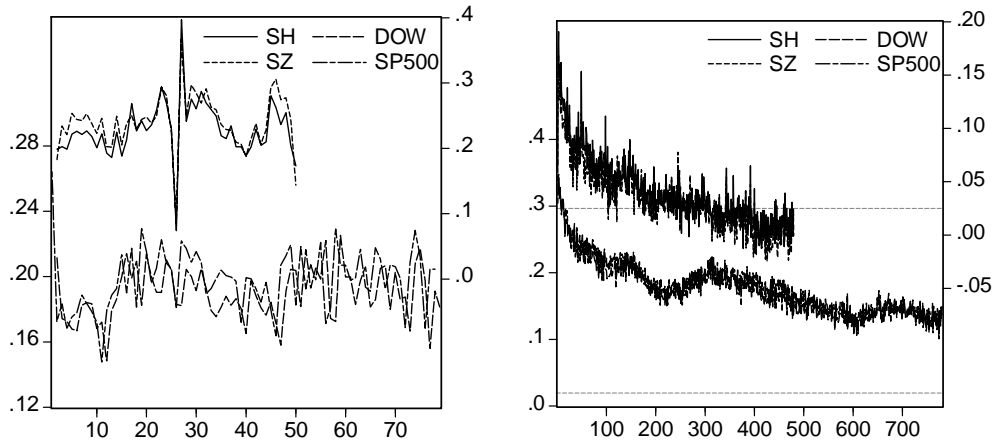


Figure 2 Intraday 5-minute average volatilities and autocorrelation function at lag of 10 day

excluding intraday periodicity

Notes: The left image shows the trend of 5-minute average volatilities within a day and the right image plots the autocorrelation function with 10 day lag. The left scale shows volatilities of SH and SZ return series and the right scale shows volatilities of DOW and SP500 return series. The dotted line in the image right represents the critical value at 5% significant level.

3 Intraday volatility spillover effects within Chinese and the US domestic markets

3.1 Methodology

In this section, we apply the two-step procedure developed by Cheung and Ng (1996). Step one: estimate appropriate volatility model for each univariate time series to obtain their standardized residuals. Step two: the cross-correlation function (CCF) of squared standardized residuals are used to detect causality-in-variance^{ix} between two different time series.

Suppose the intraday return series $r_{l,t(i)}$ ($l = x, y$; $t = 1, 2, \dots, T$; $i = 1, 2, \dots, n$) on either of the two stock markets can be written as following:

$$r_{l,t(i)} = \mu_{l,t(i)} + \sigma_{l,t(i)} z_{l,t(i)}, \quad E(z_{l,t(i)}) = 0, \quad \text{Var}(z_{l,t(i)}) = 0 \quad (6)$$

Where, $\mu_{l,t(i)}$ represents mean equation (conditional mean) that is specified as an ARMA model in our research, $\sigma_{l,t(i)}^2$ represents variance equation (conditional variance) that is specified as a Chung-type FIAPARCH model^x to capture the asymmetric and the long memory property of intraday volatility for stock index return series. Given equation (6), an estimable ARMA(1,1)-FIAPARCH(1,1) model can be specified as follows:

$$r_{l,t(i)} = c_l + \phi r_{l,t(i-1)} + \varepsilon_{l,t} + \theta \varepsilon_{l,t(i-1)}, \quad \varepsilon_{l,t(i)} = \sigma_{l,t(i)} z_{l,t(i)}, \quad z_{l,t(i)} \sim WN(0,1) \quad (7)$$

$$\sigma_{l,t(i)}^2 = \sigma_l^2 (1 - \beta) + (1 - \beta L - (1 - \alpha L)(1 - L)^d) (|\varepsilon_{l,t(i)}| - \gamma \varepsilon_{l,t(i)})^\delta - \sigma_l^2 + \beta \sigma_{l,t(i-1)}^\delta \quad (8)$$

Where, σ_l^2 is the unconditional mean of $\varepsilon_{l,t(i)}$ and L is the lag operator i.e. $L^k y_t = y_{t-k}$. We estimate the FIAPARCH model and obtain the square of standardized residuals i.e. $\hat{z}_{x,t(i)}^2 = (r_{x,t(i)} - \hat{\mu}_{x,t(i)})^2 / \hat{\sigma}_{x,t(i)}^2$ and $\hat{z}_{y,t(i)}^2 = (r_{y,t(i)} - \hat{\mu}_{y,t(i)})^2 / \hat{\sigma}_{y,t(i)}^2$ to detect the volatility spillover effects. Let us define $\rho_{xy}(k)$ as the sample CCF of $\hat{z}_{x,t(i)}^2$ and $\hat{z}_{y,t(i)}^2$ at time lag k .

$$\rho_{xy}(k) = \text{Cov}_{xy}(k) / \sqrt{\text{Cov}_{xx}(0) \times \text{Cov}_{yy}(0)} \quad (9)$$

Where $\text{Cov}_{xx}(0)$ and $\text{Cov}_{yy}(0)$ are the sample variance of $\hat{z}_{x,t(i)}^2$ and $\hat{z}_{y,t(i)}^2$. $\text{Cov}_{xy}(k)$ is the sample cross-covariance. The appropriate CCF-statistic proposed by Cheung and Ng (1996) is given by the following formula.

$$CCF - \text{statistic}(k) = \sqrt{T \times n} \rho_{xy}(k) \xrightarrow{a} N(0,1) \quad (10)$$

Cheung and Ng (1996) proved that the CCF-statistic given in Equation (10) follows an asymptotic standard normal distribution under the null hypothesis as the sample size $T \times n$ goes towards infinity. Consequently, the hypothesis test to determine whether volatility-spillover or a lead-lag relationship exists between the variables at time lag k . If the null hypothesis, $H_0: CCF - \text{statistic}(k) = 0$, cannot be rejected, there is no evidence of volatility spillover effects and *vice versa*.

3.2 Empirical results

Since it is possible that the standardized residuals $z_{l,t(i)}$ do not follow the Gaussian distribution, parameters for ARMA-FIAPARCH models are estimated by using quasi-maximum likelihood (QML) estimation and the test results are presented in Table 1.

Parameter d reflects the long memory feature of the variables. Thus, the intraday volatility follows a short-memory process when $d = 0$ and a long-memory process when $d > 0$. As indicated by Table 1, parameter d for each model is significantly positive at the 1% significant level, suggesting the long memory characteristics of the intraday volatility for both Chinese and the US stock market.

The asymmetric effects of return volatility can be tested by the hypothesis that $\gamma = 0$. If $\gamma > 0$, bad news effect on stock market will be greater than good news effect and vice versa. As a result, the parameter γ is statistically significant at 1% level for all the four markets. This indicates that volatility is significantly asymmetric in both Chinese and the US stock markets and therefore bad news increases volatility more than

good news.

In addition, the null hypothesis that $\delta = 2$ cannot be rejected, which means that parameter δ and σ^2 are identical.

We calculated Ljung-Box statistics Q_m for the square of the standardized residuals in CCF test and found that for each m equaling 1,2,...,100, series Q_m statistics cannot reject the null hypothesis of no autocorrelation at 5 percent level of significance. Table 1 only shows the Ljung-Box statistics with lag 10.

Table 1 Estimation of ARMA-FIAPARCH model

	<i>SH</i>	<i>SZ</i>	<i>DOW</i>	<i>SP500</i>
<i>c</i>	-0.002 (0.003)	-0.003 (0.004)	0.000 (0.002)	0.000 (0.002)
ϕ	0.247*** (0.042)	0.369*** (0.064)	0.204 (0.330)	0.151 (0.256)
θ	-0.189*** (0.040)	-0.345*** (0.063)	-0.235 (0.327)	-0.179 (0.255)
<i>C</i>	0.118* (0.063)	0.104** (0.044)	0.056*** (0.015)	0.048*** (0.015)
<i>d</i>	0.481*** (0.045)	0.368*** (0.034)	0.487*** (0.041)	0.513*** (0.047)
α	0.073** (0.030)	0.063 (0.046)	0.322*** (0.048)	0.276*** (0.039)
β	0.557*** (0.054)	0.433*** (0.063)	0.721*** (0.037)	0.729*** (0.038)
γ	0.155*** (0.069)	0.095** (0.043)	0.171*** (0.054)	0.140*** (0.045)
δ	1.958** (0.112)	1.969*** (0.100)	1.921*** (0.063)	1.953*** (0.058)
<i>L.L.</i>	-1010.200	-1373.404	1270.223	1013.013
Q_{10}	1.896	10.139	4.916	10.008
Obs	6370	6370	10536	10536

Notes: ***, ** and * denote the significance level at 1, 5 and 10 percent, respectively. Standard errors are in parenthesis. *L.L.* denotes log likelihood. Q_{10} is the Ljung-Box statistics with lag 10 for standardized residuals squared.

In the following part, we investigate the intraday volatility spillover effect by use of CCF approach. We set the cutoff point at breakout of Lehman's bankruptcy (September 15, 2008) and divide the timeline into two parts, the pre-crisis period which lasts from July 15, 2008 to September 14, 2008 and the post-crisis period from September 15, 2008 to January 31, 2009.

Table 2 presents the CCF test results for pre and post crisis periods. Lags are measured in 5 minutes, and the reported range is limited to 5 lags ($k = 0\sim 5$)^{xi}. The CCF test at lag zero is not a strict causality relationship test but does provide some information about contemporaneous relationship. Significant CCF statistics at lag zero implies strong contemporaneous correlation relationship between SH and SZ, and between DOW and SP500. It seems that there exists no intraday lagging volatility spillover effect. It is well known that the volatility is directly associated with the flow of information. In this sense, either in Chinese or in the US stock market, the information transmission within the domestic stock market is completed in 5 minutes. In recent years, frequent innovation and rapid development of the communication technique facilitate the information transmission among the markets and these market information produce direct effect on the behavior of investors. For the availability of data, we can only use the market data of 5-minute frequency. We need data of even higher frequency, such as 1-minute data, for further research on the micro structure of Chinese and the US stock markets.

Moreover, in comparison of the CCF statistics for Chinese and the US stock markets, we conclude that the information transmission in the US domestic stock market is more efficient than that in Chinese market and the

crisis improve the information transmission effect within domestic stock markets to a certain extent.

Table 2 CCF test results

<i>k</i>	Pre crisis				Post crisis			
	<i>SH</i> ⇔ <i>SZ</i>		<i>DOW</i> ⇔ <i>SP500</i>		<i>SH</i> ⇔ <i>SZ</i>		<i>DOW</i> ⇔ <i>SP500</i>	
0	37.538***		54.037***		43.749***		79.488***	
	<i>lag</i>	<i>lead</i>	<i>lag</i>	<i>lead</i>	<i>lag</i>	<i>lead</i>	<i>lag</i>	<i>lead</i>
1	-1.616	-0.363	-0.069	0.655	-1.012	11.143***	-0.682	-0.269
2	0.480	0.708	-1.558	-1.762	0.622	-0.393	3.046***	1.496
3	-0.701	-0.313	-0.698	-0.527	1.133	0.728	0.806	1.153
4	0.748	0.153	-1.639	-1.554	0.048	0.278	1.450	1.634
5	1.766	0.510	-1.077	-1.091	-1.206	-1.167	0.640	0.810

Notes: ***, ** and * denote the significance level at 1, 5 and 10 percent, respectively. The test statistic shown in the table is the CCF-statistic(*k*) defined by Equation (10). The “*lag*” represents the one-way effect from SH to SZ or from Dow to SP500 while the “*lead*” represents the corresponding reverse effect.

4 Overnight volatility spillover effects between Chinese and the US stock markets

In the previous section, we discuss the intraday volatility spillover effects within the domestic stock market of China and the US respectively. In this section, we will turn to the international co-movement issues between Chinese and the US stock market. As mentioned earlier, the direction of volatility also provides a useful signal on information flow. Regarding this, the intraday volatility of the US stock market during the closing time of Chinese stock market might convey some material information which will transmit to Chinese stock market and surprise its opening price. A transmission like this increases the close-to-open volatility in Chinese market. Contrariwise, intraday volatility of Chinese stock market might influence the overnight volatility of the US stock market. Accordingly, this section investigates whether there is overnight spillover effect between Chinese and the US stock market and if there is, how the effect changes around Lehman crisis.

4.1 Methodology

What we extracted from the FIAPARCH model above was the 5-minute volatility whereas what we need in this section is the daily volatility calculated from open-to-close return series. Similar to the daily realized volatility (RV) in equation (3), we define the daily high-frequency volatility (HFV) at time *t* as below:

$$HFV_t = \sum \hat{\sigma}_{t(i)}^2 \quad (11)$$

Where, $\hat{\sigma}_{t(i)}^2$ denotes the estimator of the *i*-th high-frequency volatility at the *t*-th trading day. In the test results above, we found the parameter δ for FIAPARCH model is 2. Hence we apply the conditional variance in this paper.

As a result, we find no long memory feature with the overnight volatility^{xii}. Furthermore, the logarithm of realized volatility (RV) and high-frequency volatility (HFV), which calculated from intraday high-frequency return series, is approximately normally distributed^{xiii}. Nelson (1991) proposed EGARCH model via the logarithm of the conditional variance and the variable in the model can be positive or negative. This enable us to introduce the logarithm of HFV into the variance equation and extend the basic EGARCH model to an improved one — ARMA(1,1)-EGARCH(1,1)-HFV model which captures the overnight volatility spillover effect of stock market *y* on another market *x*:

$$r_{x,t(night)} = c_x + \phi r_{x,t-1(night)} + \varepsilon_{x,t(night)} + \theta \varepsilon_{x,t-1(night)} + \delta D_{x,t}, \varepsilon_{x,t} = \sigma_{x,t} z_{x,t}, z_{x,t} \sim WN(0,1) \quad (12)$$

$$\ln(\sigma_{x,t}^2) = \omega_x + \beta \ln(\sigma_{x,t-1}^2) + \gamma z_{x,t-1} + \alpha |z_{x,t-1}| + \lambda \ln(HFV_{y,t-1}) \quad (13)$$

Where, $r_{x,t(night)}$ denotes the overnight return of stock market x at time t . $HFV_{y,t-1}$ denotes the high-frequency volatility of stock market y at time $t-1$. We also include a dummy variable for the trading day following a weekend or holiday in the conditional mean equations to capture potential “day of the week” effects. represents a dummy variable that takes a value of 1 on days $D_{x,t}$ is the dummy variable for state closing, which equals 1 if the stock market x is closing at time $t-1$ or 0 otherwise. In the expanded EGARCH specification of equation (13), the estimate of parameter λ can be interpreted as the percentage change in volatility of stock market x when the 1% change in volatility of stock market y occurs. If the return series on stock market y is in fact volatile, such volatility may lead to greater volatility in stock market x . Therefore, the parameter λ is expected to be positive.

We have to take the time difference problem into consideration for our analysis on the volatility spillover effects within a trading between different markets. In a day, the trading hours of Chinese stock market always precede that of the US stock market and there is no overlap between the two.

Since the empirical study of this section focuses on daily data, we must take the time difference between these markets into consideration. As far as transaction time in the same day is concerned, market hours in China do not overlap perfectly with that in the US. Then the order of the time is $USA_{t-1} \Rightarrow CHN_t \Rightarrow USA_t \Rightarrow CHN_{t+1} \Rightarrow \dots$. To this end, we must use $\ln(HFV_{SH,t})$ or $\ln(HFV_{SZ,t})$ to test $\ln(HFV_{DOW,t})$ or $\ln(HFV_{SP500,t})$ when analyzing the volatility spillover effect of SH or SZ on DOW or SP500. Otherwise, serious errors may arise.

4.2 Empirical results

Table 3 reported the test results based on ARMA-EGARCH-HFV model. We are most interested in the parameter λ estimate on China’s volatility shocks but found no evidence of significant volatility spillover effects during the pre-crisis period. This is suggesting that there is no effective information transmission from the USA to China, in line with the study of Hong *et al* (2004), Liu and Chen (2008) and Nishimura (2009). In the post-crisis stage, a fundamental change happened to the parameter λ . The volatility spillover effects from DOW and SP500 to SH are 1.262 and 1.340 respectively, which are both significant at 1% level. It’s obvious that the new round of financial tsunami following Lehman crash on September 15, 2008 has direct impact on the co-movement relationship and improves the information transmission effect among the international stock markets^{xiv}. The overnight volatility spillover effects are significantly positive, perfectly in line with our expectation. This indicates the positive direction of the volatility spillover effects. In other words, the volatility in a stock market shocks that of another stock market. Aside, SZ blocks the influence from DOW and SP500. Perhaps, this can be interpreted as lower level of liberalization in Shenzhen stock market than in Shanghai stock market.

Table 3 The overnight volatility spillover effect test results based on ARMA-EGARCH-HFV model

		SH \Rightarrow DOW	SH \Rightarrow SP500	SZ \Rightarrow DOW	SZ \Rightarrow SP500	DOW \Rightarrow SH	DOW \Rightarrow SZ	SP500 \Rightarrow SH	SP500 \Rightarrow SZ
Pre crisis	ω	0.381 (0.625)	0.288 (0.967)	0.627 (0.705)	-2.464 (2.421)	-0.371 (0.567)	-2.386** (1.079)	-0.397 (0.546)	-2.268** (0.993)
	β	1.031*** (0.138)	1.061*** (0.113)	0.979*** (0.153)	-0.931 (0.079)	-0.216 (0.394)	-0.997*** (0.117)	-0.179 (0.441)	-0.968*** (0.113)
	α	-0.118 (0.534)	-0.073 (0.674)	-0.244 (0.593)	0.447 (0.556)	-0.507 (0.506)	0.480 (0.519)	-0.519 (0.515)	0.559 (0.442)
	γ	-0.010 (0.284)	0.153 (0.339)	-0.085 (0.250)	-0.134 (0.175)	0.804* (0.415)	0.407* (0.452)	0.791* (0.410)	0.535 (0.378)

	λ	-0.145 (0.352)	-0.025 (0.427)	-0.310 (0.367)	-1.623 (1.515)	-0.380 (1.072)	0.930 (0.985)	-0.122 (0.882)	0.593 (1.053)
	<i>L.L.</i>	-31.785	-20.972	-31.165	-18.937	-47.779	-38.088	-47.841	-38.263
	Q_{10}	7.6632	7.5991	7.1632	4.0629	8.5346	2.9639	8.3464	3.0320
	Q_{10}^2	3.7770	11.980	4.7490	8.4687	7.0107	4.1885	7.6197	3.7521
Post crisis	ω	0.154 (0.151)	-0.366 (0.365)	-0.252 (0.317)	-0.337 (0.353)	-0.530 (0.492)	0.107*** (0.004)	-0.949* (0.552)	0.045 (0.128)
	β	-0.897*** (0.106)	0.761** (0.302)	0.853*** (0.301)	0.835*** (0.229)	-0.605*** (0.130)	0.978*** (0.027)	-0.397** (0.197)	0.945 (0.038)
	α	0.452* (0.245)	0.259 (0.266)	0.313 (0.276)	0.324 (0.261)	-1.053*** (0.320)	-0.173*** (0.000)	-1.001*** (0.204)	-0.104 (0.080)
	γ	0.023 (0.152)	-0.336* (0.188)	-0.169 (0.152)	-0.278 (0.182)	-0.176 (0.197)	-0.140 (0.068)	-0.107 (0.254)	-0.215 (0.072)
	λ	0.008 (0.263)	0.117 (0.205)	0.026 (0.205)	0.047 (0.177)	1.262*** (0.304)	0.004 (0.012)	1.340*** (0.322)	0.022 (0.053)
	<i>L.L.</i>	-140.83	-130.79	-143.35	-131.16	-155.92	-152.69	-155.90	-155.76
	Q_{10}	7.1905	8.2693	7.9055	8.6129	6.8653	11.128	6.8410	9.5736
	Q_{10}^2	7.1905	9.7421	11.882	8.6129	5.1917	4.1184	3.8801	2.7604

Notes: ***, ** and * denote the significance level at 1, 5 and 10 percent, respectively. Standard errors are in parenthesis. *L.L.* denotes log likelihood. Q_{10} and Q_{10}^2 is the Ljung-Box statistics with lag 10 for standardized residuals and standardized residuals squared, respectively.

5 Conclusions

This paper studies the intraday and overnight volatility spillover effects around the Lehman crisis by using the high-frequency data from Chinese and the US stock market. The main findings are as follows: (1) By application of ARMA-EGARCH-HFV model into overnight spillover effect tests, we found that the volatility spillover effects between Chinese and the US stock markets become more significant after Lehman crisis. Furthermore, the financial liberalization level in Shenzhen stock market is lower than that in Shanghai stock market. (2) According to the CCF test results on the intraday spillover effects, the information transmission can be achieved within 5 minutes with in the domestic markets of China and the USA. And the information transmission mechanism is more efficient in the US domestic stock market than that in the Chinese market. (3) The intraday volatility exhibits the strong intraday periodicity and long-memory features.

In our empirical analysis, we also found that Chinese stock market has influence on the US stock market in neither pre-crisis nor post-crisis period. This does not match the conclusions of Liu and Chen (2008), and Nishimura (2009). In their studies, they utilized data before 2008. In the following paragraph, we attempt to explain this phenomenon. After the subordinate debt crisis, the nature of the information collected by the US institutional investors has changed. When the world economy is in stability, they depend on information from China, the most important growth engine of the world economy, for decision-making. When the financial crisis dragged down the economic growth of the world, in spite of the rapid macroeconomic developments in China, the US institutional investors shift the information sources from China to the foreign stock markets where they invested on themselves. In general, institutional investors diversified their portfolios among the stock markets worldwide and adjust the portfolios to balance the losses they encounter in shrinking stock markets. Their

portfolio adjustments will in turn influence the international stock markets. Please notice that only a tiny minority of the foreign investors can invest on Chinese A-share market^{xv} and hence the change in the nature of information leads to the essential shift of the information transmitting direction.

Our research even detected the possibility that Chinese stock market is influenced by the US stock market. And the finding indicates that Chinese financial market has been integrated into the global financial system to a larger scale. With the introduction and implementation of our “going-out” and “inviting-in” strategies, financial liberalization of China will be accelerated and the external factors will play much more important role in pricing of the Chinese stock market.

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ⁱ "Fighting Off Depression," by Paul Krugman, *The New York Times*, January 4, 2009.

ⁱⁱ The intraday stock return is defined as the change in the logarithms of prices.

ⁱⁱⁱ Nov. 28 and Dec. 24 are special trading days on which New York Stock Exchange closes earlier than usual. The trading hours last from 9:30 to 14:00 and the intraday observations decrease to 43 on the special day. We consider this fact in our study.

^{iv} Wood, McNish and Ord (1985) studied the volatility in the US stock market based on sample of 1-minute returns for the six months from September 1971 through February 1972 and for the calendar year 1982. They also found that the intraday return volatility exhibits a U-shaped pattern.

^v In addition to stock market, there is some empirical work on intraday return volatility in other financial markets. Andersen and Bollerslev (1997, 1998b) and Bollerslev, Cai and Song

(2000) investigated a detailed characterization of the intraday volatility in deutsche Mark-Dollar foreign exchange market and US Treasury bond futures contracts, respectively. They found that the intraday periodicity and long memory properties also exist in other financial markets.

^{vi} Ait-Sahalia, Mykland and Zhang (2005), among others, pointed out, as the sampling frequency increases, the impact of the market microstructure noise becomes more significant. To avoid the bias due to the market microstructure noise, we use the realized volatility calculated from 5-minute intraday stock returns. The 5-minute frequency can be considered as the highest frequency at which the effects of market microstructure noise are not too distorting. See also: Andersen *et al.* (2001), Koopman, Jungbacker and Hol (2005).

^{vii} For details on FFF regression, refer to Appendix B pp.152-155 of Andersen and Bollerslev (1997), Andersen and Bollerslev (1998b) pp.235-239.

^{viii} For more previous researches applying 5-minute return series to the analysis of intraday volatility characteristics, see also Fang and Wang (2004), Xu and Zhang (2005).

^{ix} As argued by Cheung and Ng (1996), Hong (2001), Hamori (2003), causality-in-variance is directly related to volatility spillover.

^x Chung (1999) found a structural defect with the FIAPARCH model, proposed by Tse (1998), and modified the model.

^{xi} In fact, we conduct CCF tests at lag length from 0 to 30 (i.e. from 5 minutes to 150 minutes). There is no evidence of volatility spillover effects in our tests at lag from 6 to 30, for either pre or post crisis period. Then we omit the test results at lag from 6 to 30.

^{xii} Overnight volatility is the close-to-open volatility during the overnight closing and calculated from the overnight (close-to-open) return series.

^{xiii} The Jarque-Bera statistics is used for testing whether the high-frequency volatility series and its logarithm series, including HFV and $\ln(\text{HFV})$ of SH, SZ, DOW and SP500, is normally distributed or not. The results show that the statistic for the HFV series of SH, SZ, DOW and SP500 are 3643.4, 708.4, 2819.9 and 1402.2 respectively, while the corresponding statistic for $\ln(\text{HFV})$ series decrease to 7.92, 15.75, 4.98 and 5.28 respectively.

^{xiv} To test the robustness of empirical results in this section, we use RV series given in equation (3) for substitution of HFV series to estimate the ARMA-EGARCH-HFV model again and obtain the same test results of volatility spillover effect as we did in this section.

^{xv} By the end of 2008, the China Securities Regulatory Commission had approved QFII licenses for 76 overseas financial institutions, which received a combined quota of 13.405 billion US\$. As a result, QFII hold stock assets of 8.089 billion RMB, which only accounted for 1.79% of the A-share negotiable market capitalization (4441.91 billion RMB). The data were obtained from *Annual Report 2008 of the China Securities Regulatory Commission* and Information Network database of State Council Development Research Center (<http://edu.drcnet.com.cn/>).

Dissatisfaction variables of clients in the Croatian banks

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Abstract

Customer (dis)satisfaction became one of the key concepts connected with the loyalty and profitability in modern marketing. During the financial crisis many banking institutions examined very closely the performance of their marketing and sales expenditures. They have found the disproportionate amount of costs that are contributed toward acquisition of each new client in comparison to retention of the existing ones. However, satisfied customers are not something an organization can buy. Their loyalty has to be earned as it builds on every contact point with an organization. It is therefore critical to understand reasons for customer dissatisfaction with banks' service provision. Dissatisfied clients are a real cost to the bank, as they not only switch to competition but also spread criticism about the bank to other present or perspective clients thus eroding bank's image and brand. The goal of this paper was to identify key dissatisfaction variables among Croatian bank's clients. Exploratory empirical research has been conducted through highly structured questionnaire and respondents were clients that have at least once changed their bank. The results did not significantly deviate from the similar researches and pointed toward importance and relevance of personal service and knowledge of front line staff as well as toward the importance of certain situational factors such as availability and speed of service. As a result several managerial implications have been indentified in order to improve service quality in a Croatian banking sector and thus increase satisfaction and loyalty of clients.

Introduction

Relationship between bank and a customer can be defined as a relationship that goes beyond the simple, anonymous financial transaction (Ongena, 2001). Banking is largely based on customer trust, which is today more necessary than at any other time for the bank survival. Quality of service and customer support represent an important variables that can add to competitive advantage of a bank. The ability of bank to maintain relationship with a client for a longer period depends on the value of services provided, client characteristics, market environment, regulation and macroeconomic factors. Japan and Central Europe tend to maintain a long-term relationships with clients, which last an average of 21-30 years (Cole, 1998). In Germany such relationships lasts approximately 20 years (Elsas & Krahn, 1998). Ongena and Smith introduced „risk function“ which measures the likelihood of customer's breaking relations with bank. Studies have shown that unadaptable bank retains its clients for 6 years, and those who were adaptable to its clients, 15-21 years (Ongena, 2001). This function has declining curve, until the end when client terminates all relationships with bank without any explanation, because of certain endogenous or exogenous factors. Customer satisfaction depends on the performance of products or services in relation to the client's expectations. The client may experience varying degrees of satisfaction, and if performance doesn't meet expectations, client will be dissatisfied. Expectations are based on the customer's previous experiences in buying, friends' suggestions and gathered information from colleagues, marketing messages and promises of banks (Kotler *et al.*, 2004).

Technological changes have generated innovations in storage and data transfer speed. Some of the attributes of modern technology that are very important to customers are efficiency and speed (Joseph, McClure &

Joseph, 1999). Financial services can't be produced in advance, they must be made to the measure of customers involved in process of creating products. The degree of integration depends on the complexity of services on the one hand, and willingness of customers to collaborate, on the other part (Schwaiger, & Locarek-Junge, 1998). Before buying product/service, clients often do prepurchase investigation (review of personal goals, weighing the various information obtained, possible alternatives, etc.), obtained by personal visits, time spent with service provider, media, consulting with friends and family (Beatty & Smith, 1987). Atmosphere, design and decor of branch can also affect clients. Those variables should be continually planned, changed and controlled (Bitner, 1992). Scientific studies indicate that behavior of consumers and their intention to buy product are directly affected by the quality of services perceived through cognitive value and satisfaction (Cronin *et al.*, 2000). There is an indirect relationship between service quality and consumer behavior (Zeithaml *et al.*, 1996). Best customer behavior is the one that results with recommendation of the bank to others and keeps the client loyal and open for a long-time businesses relationship with a bank, and prepared to pay higher prices at the same time (Zeithaml *et al.*, 1985). Services are intangible and changeable, which forces consumers to rely on tangible stimuli when selecting services, such as people who sell or use the service, or the benefits of service (Laroche *et al.*, 2004). Customer satisfaction is customer's positive or negative feeling about the value they received as a result of the use of certain supply of the company, in a specific situation of use (Woodruff, 1997). The quality of interpersonal relations when servicing client often affects customer satisfaction (Bitner, M.J. 1992). It has been considered that customers who trust and know a bank's employees show a lower degree of dissatisfaction and are less likely to switch to competitive bank, even if they are not satisfied with existing services (Garbarino & Johnson, 1999). One of the methods for managing relationships with clients is CRM – combination of people, processes and technology, that seeks to understand the company's customers through an integrated approach of managing relationships by focusing on customer retention and development of relations (Injazz & Popovich, 2003). Another method is strategy called „customer forever“, which implies segmentation of market, exploring goals of customers and then developing products useful to customers (Harrington & Tjan, 2008). About strategy of prioritization of clients, its value and impact on profit wrote Homburg, Droll & Totzek (2008). Many authors wrote about selling methods such as Hawes *et al.* (2004), Montcrief & Marshall (2004), Jolson & Wotruba (1992), Barrick, Stewart & Piotrowski (2002), etc. About characteristics of successful seller and professional selling wrote Frei & McDaniel (1998), Salgado (1997), Liao & Chuang (2004), Yim, Anderson & Srinivasan (2004), Thakor & Joshi (2003), Saxe & Weitz (1982), Williams & Attaway (1996), Pettijohn *et al.* (2002), and others.

Bank's management can be convinced that bank has excellent products and that their employees do their job perfectly. However, customers are those who leave the real feedback on service satisfaction of bank's employees and banking products. If it is negative, the bank should ask whether the competent employees are in the right position, and whether they should invest more resources in their education, not only regarding banking services but also sales skills. Also, bank will get the answer whether a bank services and products are good or bad, whether it is necessary to further develop and improve, or to terminate them. Any reduction in the number of users of a product is a sign that clients are gradually taken over by the competition because they weren't satisfied with banking services. The bank's aim is to prevent loss of customers, and consequently to learn the reasons of their deflection, so it can reduce it to a minimum.

Research hypotheses and methodology

This study discusses the importance of marketing in banking, technological factors affecting the bank's weakening relationship with the client, the process of buying banking services, the most common ways of measuring customer satisfaction with banks, and ways to prevent and eliminate customer dissatisfaction. The main objectives and hypotheses of this study are primary related to the problems faced by clients in the bank branches and their relationship with the sales staff. Problems in their mutual interaction may lead to loss of valuable bank customer. Slow processing of transactions and customer complaints, complicated procedures and outdated technology, aggressive selling of all kinds of products and services causes bitterness in the hearts of clients, and a desire to

change bank. Clients could be acquired by competition and primary bank might lose a long-term source of income, and must invest additional marketing effort and resources into attracting new customers.

The scientific aim of this study is to determine one of the biggest bank problem – why clients create negative image of the bank, and what’s the most common cause of their departure, assuming that primary reasons are dissatisfaction with work of bank’s employees, long waiting time for servicing or resolving complaints, and what guidelines would be appropriate to reduce customer dissatisfaction in order to prevent their outflow. Customers mean profit and loss of clients implies reduction of bank (potential) earnings.

Based on the secondary research, the following hypotheses have been proposed for testing:

- H1: Professionalism and courtesy of bank’s employees is the primary element of client satisfaction.
- H2: Clients who are waiting longer for service in banks are more dissatisfied and more frequently change bank.
- H3: Clients who are waiting long time for a solution of their needs change bank more frequently.
- H4: Clients who are frequently and aggressively offered a variety of products that they do not need or want are more dissatisfied and often change a bank.
- H5: Quality of bank’s employees and their training is an important variable in retaining clients.

Primary data have been obtained in a field research using highly structured questionnaire. Variables of dissatisfactions have been presented through five degree Likert’s scale. The sample consisted of 500 randomly selected adults who use banking services. The response rate was 30.4% which means that 152 filled questionnaires have been received. Out of that number 147 questionnaires have been completely answered and processed further. Primary data were analyzed using SPSS and MINITAB statistical software. In order to establish the validity of hypotheses, descriptive and inferential statistical analysis was conducted. Simple logistic regression and nonparametric tests have been discussed further in this paper.

Testing hypotheses

H1: Professionalism and courtesy of bank’s employees is the primary element of client satisfaction.

Insight on how important professionalism and courtesy of bank’s employees are for the perception of service quality has been made on the basis of the collected data. In order to make a conclusion nonparametric sign test of median basic set on questions about competence and kindness of the bank employees was used. Questions about professionalism and courtesy of employees were taken from the questionnaire: „unfriendly employees“, „are employees dedicated to my needs“, „employees didn’t understand my needs“, „employees weren’t qualified for assistance after sale“, „employees weren’t promptly informed on products/services“, „to which extent would you change bank due to dissatisfaction with professionalism of bank employees“, „to which extent would you change bank due to dissatisfaction with the courtesy of bank employees“ and „do you think that the professionalism and courtesy of employees are primary components of your satisfaction with the bank“. Results are as shown.

$$H_0 \dots \eta \leq 3$$

$$H_1 \dots \eta > 3$$

Sign Test for Median:

Sign test of median = 3.000 versus > 3.000

	N	N*	Below	Equal	Above	P	Median
Unfriendly employees	87	60	35	15	37	0.3911	4.000
Employees weren’t dedicated to...	82	65	37	15	30	0.8358	3.000
Employees didn’t understand my...	82	65	42	12	28	0.9635	2.000

Employees weren't qualified for ..	78	69	43	15	20	0.9988	2.000
Employees weren't promptly info...	84	63	38	21	25	0.9611	3.000
To which extent would you chan..	143	4	20	31	92	0.0000	4.000
To which extent would you chan...	144	3	25	42	77	0.0000	4.000
Professionalism and courtesy are...	146	1	10	45	91	0.0000	4.000

Comparing p-values with a selected level of significance of 5%, it can be seen that for further variables hypothesis can be ejected that median set basic is less or equal 3: variable „unfriendly employees“, „to which extent would you change bank due to dissatisfaction with the professionalism of bank employees“, „to which extent would you change bank due to dissatisfaction with the courtesy of bank employees“, and „do you think that the professionalism and courtesy of employees are primary components of your satisfaction with the bank“. For variables „employees didn't understand my needs“, „employees weren't qualified for assistance after sale“ and „employees weren't promptly informed on products/services“, the null hypothesis can be accepted.

Most users of banking services in Croatia (obtained on a sample basis) consider that very important variables for their satisfaction are “friendly employees” and that they would “change bank due to dissatisfaction with professionalism and courtesy with the bank employees”, as well as the importance of professionalism and courtesy as primary elements in customer satisfaction, while other variables aren't statistically important. In further analysis of the hypothesis, ordinal logistic regression is made. An independent variable is „change of bank“, and dependent variable is „professionalism and courtesy as a primary components of satisfaction with the bank“. It is assumed that the change will be affected by growth of professionalism and courtesy of bank employees. Null hypothesis argues that professionalism and courtesy of bank employees is not significant in a model, while the alternative hypothesis states that the variable professionalism and courtesy is significant variable in the model. For interpretation of the data, the level of significance of 5% is taken.

Ho....change of bank = 0

H1....change of bank ≠ 0

Estimated equation is:

$$\frac{\pi}{1 - \pi} = e^{-4.99} e^{0.34534} e^{0.28(\text{profte_courte})}$$

Variable „professionalism and courtesy of bank employees as a primary element in choosing the bank“, has no significant effect in the model and therefore for the significance level of 5% the null hypothesis is accepted. For this hypothesis it can concluded that it is accepted because most users of banking services in the basic group (Croatian region) believe that the professionalism and courtesy is an important criteria, but does not affect the change or selection of bank. This can be explained by the fact that customers choose a bank because other bank offers one or more favorable products.

H2: Clients who are waiting longer for service in banks are more dissatisfied and more frequently change bank.

In the analysis of this hypothesis a simple linear regression was used. Independent variable is „waiting for processing“ (TIMEWAIT) and dependent variable is „satisfaction with services of current bank“ (SATISF).

Regression Analysis: SATISF versus TIMEWAIT

The regression equation is

$$\text{SATISF} = 4.08 - 0.0301 \text{ TIMEWAIT}$$

131 cases used, 16 cases contain missing values

Predictor	Coef	SE Coef	T	P
Constant	4.0777	0.1572	25.95	0.000
TIMEWAIT	-0.03013	0.01324	-2.28	0.025

S = 0.986504 R-Sq = 60

The coefficient of determination is 0.60 and shows that model is relatively well adjusted to data. Estimated regression equation is:

$$SATISF = 4.207 - 0.03013 \text{ TIMEWAIT}$$

If the waiting time increases in 1 minute, satisfaction with bank services falls in the average of 0.03 ratings on ordinal scale.

P-value is less than chosen level of significance of 5%, so in this case the assumption that the variable waiting time (code: TIMEWAIT) is significant in the model is accepted. The hypothesis is accepted.

H3: Clients who are waiting long time for a solution of their needs change bank more frequently.

Questions chosen for this hypothesis are: „employees haven't promptly responded to my complaint“, „employees weren't qualified for assistance after sale“, „to which extent were you satisfied with the outcome of claim solutions“, and „to which extent would you change bank due to dissatisfaction with the decision that a complaint wasn't resolved in your favor“.

Hypothesis is tested with nonparametric tests, in order to determine the opinion of the basic set obtained on a sample.

$$H_0 \dots \eta \leq 3$$

$$H_1 \dots \eta > 3$$

Sign Test for Median:

Sign test of median = 3.000 versus > 3.000

	N	N*	Below	Equal	Above	P	Median
Employees weren't qualified for...	78	69	43	15	20	0.9988	2.000
Employees haven't promptly res...	77	70	41	18	18	0.9991	2.000
To which extent would you chan...	137	10	10	56	71	0.0000	4.000
To which extent were you satis...	117	30	16	33	68	0.0000	4.000

The hypothesis set was that the median basic is higher than 3. From these results it can be seen that at the 5% level of significance, this statement can be accepted at variable „to which extent would you change bank due to dissatisfaction with the decision that a complaint wasn't resolved in your favor“, and „to which extent were you satisfied with the outcome of claim solutions“. In this case, most respondents agreed that they would change the bank, so the hypothesis is accepted.

On the other hand, for the variables „the employees weren't qualified for assistance after sale“ and „employees haven't promptly respond to my complaint“ the null hypothesis is accepted as the rating in the ordinal scale is less than or equal to 3. Hypothesis is therefore accepted.

H4: Clients who are frequently and aggressively offered a variety of products that they do not need or want are more dissatisfied and often change a bank.

In order to test this hypothesis, following questions were chosen: „are you satisfied with all banking products“, „to which extent have employees explain you all specifics of product while selling“, „to which extent employees were intrusive while offering products“, „in which measure are you using products that were sold without explaining all specifics“, „to which extent are you satisfied with those products“, and „to which extent were you satisfied with that kind of selling“.

Results of Wilcoxon signed rank test are as follows.

Wilcoxon Signed Rank Test:						
Test of median = 3.000 versus median > 3.000						
	N	N*	N for Test	Wilcoxon Statistic	P	Estimated Median
Are you satisfied with all bank...	147	0	99	4531.0	0.000	3.500
To which extent have employees...	138	9	84	2496.0	0.001	3.500
To which extent are you satisf..	123	24	67	1023.5	0.766	3.000
To which extent are you using..	124	23	83	718.5	1.000	2.500
To which extent employees were...	142	5	90	2400.0	0.009	3.500
To which extent were you satis...	138	9	89	894.0	1.000	2.500

Grade 1 means very dissatisfied, while 5 means very satisfied or have very positive opinion about something, except at question „to which extent employees were intrusive while offering products“. From the test conducted on the median basic set, it is observed that the null hypothesis can be rejected for the following variables: „are you satisfied with all banking products“, „to which extent are you using products that were sold without explaining all specifics“, and „to which extent employees were intrusive while offering products“. In this case the median is greater than 3, and that most respondents have a positive opinion on the three previously mentioned variables. For other variables most respondents have a negative opinion. P-values are all higher than the selected significance level of 5%.

Within this hypothesis, two variables were tested: „to which extent are you satisfied with those products (sold without explaining all specifics)“, and „overall satisfaction with the services of the current bank“. From the results obtained by logistic regression it can be observed that the variable „to which extent are you satisfied with those products (sold without explaining all specifics)“ has negative impact on overall satisfaction of a client with its' current bank. It reduces score to 0.80 on scale from 1 to 5, if dissatisfaction with products sold without explaining all specifics, increases on scale for 1.

Logistic regression model is:

$$\frac{\pi}{1 - \pi} = e^{-2.65} e^{-1.385} e^{-0.03} e^{1.798} e^{-0.222(\text{satisf_with_prod})}$$

Variable „satisfaction with products“ is significant in the model because the p-value is less than 5% (0.018); the model is also significant in general. Pearson measure is 0.837 which indicates that the model well describes data. Hypothesis is accepted.

H5: Quality of bank's employees and their training is an important variable in retaining clients.

From the questionnaire an evaluation is made for the entire base set of variables related to: „employees being unfriendly“, „employees aren't dedicate to my needs“, „I wasn't satisfied with dedicated time“, „employees didn't understand my needs“, „employees weren't qualified for assistance after sales“, „employees weren't promptly informed about all bank products and services“. These variables should be related for changing a bank according to the hypothesis.

Wilcoxon Signed Rank Test:

Test of median = 3.000 versus median > 3.000

	N	N*	N for Test	Wilcoxon Statistic	P	Estimated Median
Employees beeing unfriendly...	87	60	72	1075.5	0.091	3.500
Employees aren't dedicate to my...	82	65	67	795.5	0.984	2.500
I wasn't satisfied with dedicat...	82	65	70	674.0	1.000	2.500
Employees didn't understand my...	82	65	70	847.0	0.990	2.500
Employees weren't qualified for...	78	69	63	493.5	1.000	2.500
Employees weren't promptly info...	84	63	63	766.5	0.951	3.000

It can be seen that none of this variables is significant and p-values are greater than 5%, so the assumption that the median basic set is less than or equal to 3 is accepted. In other words, these variables didn't influence the decision to change bank or most of them is not considered important for making decision about changing (or selecting) bank, except the variable „employees being unfriendly“ which has a p-value of about 9% which can be considered critical case for adoption of alternative hypothesis.

In further analysis impact of variables related to the professionalism and courtesy of employees on overall score of satisfaction with the current bank has been tested with ordinal logistic regression.

At a level of significance of 5%, both variables are significant in the model. This means that professionalism and courtesy significantly affect the overall score of client satisfaction with current bank.

$$\frac{\pi}{1-\pi} = e^{-3.39} e^{-2.09} e^{-0.54} e^{1.337} e^{-0.43(\text{professionalism})} e^{-0.49(\text{courtesy})}$$

The variables have negative impact which means that if the degree of dissatisfaction increases, total level of satisfaction with the overall services of the current bank reduces to 0.65 for the variables related to professionalism, and 0.61 for variables related to courtesy. The model is significant in general because the p-value is less than the selected level of significance of 5%. Also, Pearson measure is 0.63, which indicates that the model is well adapted to data.

Therefore, it can be concluded that the professionalism and courtesy (especially professionalism) have a significant influence on overall customer satisfaction. Since professional employees mean service quality and training of employees is critical for that, hypothesis is being accepted.

Conclusion

On the basis of analysis performed on a sample of respondents from different age groups that are users of banking services in Republic of Croatia, following conclusions were drawn. Descriptive statistical analysis of lost customers found that 70.7% respondents changed bank at least once, which is evidence of large fluctuation of clients among banks. Considering that respondents were mostly younger clients (38.1% were aged 18-30, and 57.1% were aged 31-40 years), this is an indicative sign that clients are less loyal to traditional banks than previous generations. Analysis of lost clients are not implemented so often in bank marketing because lost customer doesn't want to cooperate with the bank with whom he had a bad experience. Around 47.6% participants weren't satisfied with the service provision of the bank they have left. After they changed bank most of them were satisfied with the services of new bank (58.5%) and would recommend it to others (54.4%). Obviously, new banks were the banks that changed their business in the sphere of additional flexibility to customers, adapting their business behavior in order to build long term relationships. This parameters are important evidence that escaped customers could stay in a previous bank and recommend it to others have they felt good about following variables: „unfriendly employees“, „high costs of products and services“, „bank products do not meet my needs“, and similar.

Research results showed that most users of banking services consider that professionalism and courtesy is an important criterion in their satisfaction with the bank but that this variable does not greatly affect selection or change of the bank. At the same time customers who wait longer for service in banks are more dissatisfied and more frequently change bank. Variable „waiting time“ is significant in the model. If a customer waits too long in the branch, it is a sign that the office doesn't employ enough employees or that the bank uses an outdated computer equipment, or has a complicated procedures, or technological processes that slow the flow of customers. Banks should have a system of measuring the length of processing customer transactions in order to gain a realistic picture of these indicators in the branches, and accordingly hire additional employees, improve IT applications, and eventually change the procedures and guidelines to reduce unnecessary administration. The same applies about waiting long time for a solution of complaint. If the system for resolving complaints isn't well organized, customers will wait long time to resolve complaints or may not be satisfied with the outcome. Ultimately, it can lead to the end of business relationship with the bank. Continuous technological advances in the field of banking products and services, and growth of interbank competition should lead to lower costs of products and services, reduced number of technical errors and the overall number of complaints, if the bank wants to stay competitive and keep its' clients. Finally, research showed that aggressive sale of various financial products within branch also contributes toward dissatisfaction and change of bank. Therefore it is very important to follow ethical guidelines and sell professionally. This brings up the importance of training & education of employees in the field of banking products, services and sales skills. Employees may be intrusive and don't know how to identify customer needs, they may push sales in accordance with the given sales quotas, or have limited time due to large fluctuations in branch offices feeling a pressure to process current client fast and move to the next one. In order to achieve sometimes unrealistic sales plans, and probably due to the lack of selling skills it has been noticed that there is an increasing trend of unethical and aggressive selling by bank employees, which in turn affects the creation of dissatisfaction among customers, because product characteristics do not match expected/presented.

Respondents have been reasonably satisfied with banking products - 49% of them said they were satisfied. However, some products are bought due to the above average selling effort of bank employees (46.3%) and even 30.6% of respondents do not use such products, which is a sign of poor explanation of product's performance and a fact that the products didn't match client's needs. True measure of sales adequacy could be obtained by monitoring activity of the products sold at the bank branches. Products commonly sold without explaining all specifics are credit cards, current accounts, internet banking and packages of such and related products. However, respondents were least satisfied with the loans and credit cards. This might be a proof that although the procedure of loan realization takes some time employees still don't explain all details of this highly complex product. On the Croatian market dissatisfaction with loans is relatively high. Clients complain when they “discover” the real costs of loans such as: effective interest rates, fees for processing loan, loan insurance, increase of the interests if the loan is contracted at variable rate, solemnization costs and so on. All this could be avoided if a client was told and warned in the initial period of valuating the alternatives, so he could make easier decision when choosing bank/product.

Education and training of bank employees is necessary in order to achieve more professional and courteous dealing with clients. Supply of banking products and services increases with time and selling skills are improving which implies continuous training of bank personnel, especially among the front line staff. Selling must be ethical and efficient in accordance with needs and desires of clients. Primary motivation can't be based solely on selling commissions or superficial due to a lack of time for more detailed treatment of the client. Selling process in bank consists from 7 steps modeled on Moncriefs and Marshalls theory (2004). Motivation of bank's employees and encouraging a positive atmosphere is also necessary.

In regard to decrease of waiting time the organized system of measuring the length of waiting and processing transaction should be implemented. It would result with valuable information, for example, if branch needs more/less employees and how efficient they are. Another methods for retaining clients should include monitoring of product prices of competitive banks, measuring customer satisfaction (total and per branch), analysis of lost clients, room for discretion within the branch and implementation of personal bankers.

Optimal number of employees, improvement of technological processes and reduction of administrative barriers are necessary for increasing fluctuation of customers at the counter. A well organized system of processing complaints ensures fast resolution of customer complaints. All mentioned procedures are in function of improving service quality of a bank in order to ensure customer loyalty. The client with whom long-term relationship is built guarantees higher level of profitability to the bank. Clients demand better treatment at each contact point with the bank and since their satisfaction is directly connected with the loyalty marketing managers in banks should carefully plan that all contacts are executed in a way to enhance customer satisfaction especially around those variables that matter the most.

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Management? Leadership? Ethics? and - the global financial crisis.

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Abstract

Corporate reputation, social responsibility, ethical issues the fundamentals of sound management and leadership have each been exposed as an area where major concerns have arisen due to the financial crisis that has impacted globally. This paper undertakes research based on secondary data from literature reviews to comment on management, leadership, corporate social responsibility and ethics with a major focus on the United States finance industry sector. The research provides an overview and commentary on practices in terms of the “culture” the financial sector focussing mainly on the United States.

Introduction

The impact of the financial crisis of 2008 has resulted in financial shocks as though it was a tsunami emanating in the United States (US) and washing away personal and corporate economic structure and security as it hit the shores of other major economies such as Europe and beyond.

In January 2011 26 million US citizens are unemployed and unable to locate full-time work, or even worse have stopped trying for many (Financial Crisis Inquiry Commission {FCIC} 2011). Approximately ‘four million families have lost their homes to foreclosure and another four and a half million have slipped into the foreclosure process or are seriously behind on their mortgage payments. Nearly \$11 trillion in household wealth has vanished, with retirement accounts and life savings swept away. Businesses, large and small, have felt the sting of a deep recession (FCIC 2011 p. xv).

The angst this has caused in the US has been felt in many other parts of the world and people are justifiably angered (FCIC 2011). Ireland for example with around four million people now has a crippling debt. ‘The economic crisis that downed Ireland’s once-vibrant “Celtic Tiger” economy and forced Dublin to agree to an 85 billion euro (\$A116.4 billion) bailout with the European Union and International Monetary Fund last November’ is an example of significant economic pain and resulted in change of government due to the angst of the population. Innocent people who adhered to fundamental rules now find themselves unemployed, disenfranchised and without a job (FCIC 2011).

The housing market prices, in the US and the United Kingdom and many other countries, adopted the notion that property was a safe economic anchor but the bubble inflated and burst (FCIC 2011). This over-inflated housing bubble — ‘fuelled by low interest rates, easy and available credit, scant regulation, and toxic mortgages— ... was the spark that ignited a string of events, which led to a full-blown crisis in’ the US autumn of 2008 and its devastation impacted worldwide (FCIC 2011 p. xvi).

A trillion dollars represented using numerals looks like this \$1,000,000,000,000 and it is a million dollars multiplied by a million dollars. A billion, being a 10,000 million dollars, is dwarfed by comparison. It has 9 zeros like this: \$1,000,000,000. This is important to note and provide an idea of the dimension of what actually occurred in the economic crisis that reached its zenith in September 2008 but still wreaks havoc (FCIC 2011, Keen in Clark 2011) When trillions and billions of dollars are referred to throughout this paper the reader will appreciate the vast amounts this represents and note the dollars are always in \$US.

The United States since the George Bush, Clinton and George W. Bush eras was beginning to encourage the finance sector to focus on mortgages to the less advantaged in the US for people who were not prime customers – meaning those who had savings and sound financial track record – and are referred to with the derogatory term - sub-prime mortgages (FCIC 2011). The finance sector over time accrued trillions of dollars in dangerous mortgages thus embedding risk right the way through the global financial system, ‘as mortgage-related securities were packaged, repackaged, and sold to investors around the world’ (FCIC 2011 p. xvi). This is known as securitisation. As the housing bubble in the US burst ‘hundreds of billions of dollars in

losses in mortgages and mortgage-related securities shook markets as well as financial institutions that had significant exposures to those mortgages and had borrowed heavily against them. This happened not just in the United States but around the world' (FCIC 2011 p. xvi).

The economic crisis became even more apparent as it reached "seismic proportions" in September 2008 with the demise of Lehman Brothers and the imminent collapse of the insurance corporate colossus American International Group (AIG) (FCIC 2011). Panic set in ignited by a lack of transparent integrity among the 'balance sheets of major financial institutions, coupled with a tangle of interconnections among institutions' once considered to be too perceived to be "too big to fail," causing the credit atrophy (FCIS 2011, p. xvi). Trading came to halt due to lack of trust between financial institutions coupled with a trail of financial transactions that were enmeshed, confusing and complex in the extreme thus inhibiting clear audit trails (FCIC 2011, Gittins in Barclay 28 September 2008, Das and Keen in Adams 16 September 2008). So stocks worldwide plummeted and the economies and the US and other economies were thrust into a deep and still downward spiralling recession for many countries (FCIC 2011).

This paper undertakes qualitative research based on extensive literature reviews from secondary sources to comment on management, leadership, corporate social responsibility and ethics. The main focus is on the United States as it was the source of world-wide fiscal imbalance "brewing" more obviously in 2007 but "blooming" like a virus in September 2008. The FCIC (2011) considers that the real problems began to take hold in 1998 (FCIC 2011).

When considering the performance of corporations within the global finance sector particularly over the past two years, for many people the following concepts may come to mind such as exploitation, profit, greed, inappropriate executive bonuses, "stratospheric" chief executive management salaries, corruption, fraud, inadequate regulation and strategic planning based on dubious economic theory.

Management and Leadership

'...we live in a planet plunged into deep commercial and economic turmoil, run by a new breed of entrepreneurs, globalization outlaws: Chinese counterfeiters, Russian oligarchs, internet porno-businessmen, Bulgarian mafia, urban gangs and politicians turned great illusionists. This is also the kingdom of rogue economics, a feral force endemic to any great transformation' Napoleoni, L. (2 June 2010) Rogue Economics - Loretta Napoleoni (Broadcast) Perspective ABC Radio National

It is arguable that the financial crisis was also a crisis in management, leadership and ethics. The senior executives and major decision makers as well as the "public stewards" (regulators) 'ignored warnings and failed to question, understand, and manage evolving risks within a system essential to the well-being of' citizens not only in the US but also in Europe and to a lesser extent the pacific region (FCIC 2011 p. xvii). . These captains and stewards of the financial system exhibited a catastrophic error of judgment (FCIC 2011, Friedman in Duffy 17 August 2009). A crisis of this magnitude was avoidable and warning signs were definitely apparent but discounted, rejected and avoided by key decision makers – the senior managers and leaders particularly in the US (FCIC 2011).

There was an explosion in risky subprime lending and securitization, an unsustainable rise in housing prices, widespread reports of egregious and predatory lending practices, dramatic increases in household mortgage debt, and exponential growth in financial firms' trading activities, unregulated derivatives, and short-term "repo" lending markets, among many other red flags. Yet there was pervasive permissiveness; little meaningful action was taken to quell the threats in a timely manner. (FCIC 2011 p. xvii)

The following quotation and philosophy from Hopper and Hopper (2009) about any organisation's principle rationale for existing is a well formulated mission statement. Hopper and Hopper (2009) consider that the recent global financial crisis exposed a philosophy among many companies – particularly in the financial sector - that unfortunately indicates a lost notion of the social responsibility organisations once had to staff customers and the community (Hopper and Hopper 2009). The author of this paper holds the view managers and leaders should reflect the "cardinal principles" eloquently expressed in this following citation.

The business enterprise must be founded on a sense of responsibility to the public and its employees. Service to its customers, the well being of its employee, good citizenship in the communities in which it operates - these are cardinal principles fundamental to any business. They provide the platform upon which a profitable business is built. (Hopper and Hopper 2009, p. 117)

The data outlined in this paper shows that Hopper and Hopper's (2009) generic view on how an enterprise should be founded and its key purposes has departed significantly in major finance organisation in the US.

A wide-ranging view of leadership is that it involves a competence to activate and arouse confidence and support among the people needed to accomplish organisational goals (Dubrin, Dalglish and Miller 2006). This is a general text book used for business undergraduates at the author's university. It holds a view expressed again and again in management theory "101."

Effective managers also lead and successful leaders also manage (Dubrin, Dalglish and Miller 2006). There are of course numerous distinctions between leadership and management. For example leadership involves dealing with the interpersonal aspects of a manager's job whereas management is more likely to attend to rules and regulations being the administrative and functional components of a manager's job (Dubrin, Dalglish and Miller 2006).

The theoretical view of management is that it involves a greater focus on routine issues and implementing company policies and vision whereas leadership deals with inspiration, influence, change and motivation (Dubrin, Dalglish and Miller 2006). Leaders are more likely than managers to have a vision of the potential of an organisation and encourage its development - whereas managers are more likely to focus on the implementation aspect of the vision and sustaining the vision within set boundaries (Dubrin, Dalglish and Miller 2006). But something went wildly awry in the finance sector in the US and internationally (FCIC 2011).

Bartlett (in Doogue 20 November 2010) considered the executive management stratum in the Irish finance sector to be '...gamblers chasing easy money, and the gamblers weren't in the casinos, they were in the banks.' Bartlett (in Doogue 20 November 2010) considers the era to be quite farcical as property prices boomed to prices matching London and then dropping by up to 60 per cent in a very short space of time from September 2008.

England was not immune either but again space limits added commentary - but it was well reported in the media and many would have seen on television perhaps 'those rather extraordinary images of British bankers being very publicly grilled by a government select committee... former lions of the banking system apologising profusely to the UK public. It was a scene to make the great economist John Maynard Keynes roll in his grave.' (Doogue 14 February 2009)

Doogue:...it was the removal of the Glass-Steagall Act in 1999 in the United States, which separated what banks could do, commercial banks couldn't be investment banks, and it was the removal of that after a \$300 million campaign by certain business interests to remove it, that it was only then really, that things went seriously awry.

Skidelsky: Yes, that was the big thing that released finance from its previous constraints, and banks became, as someone's put it, public utilities with casinos attached to them. I think that the release of finance from regulation, the banking system from regulation, undoubtedly promoted and accelerated the development of the financial instruments, and terrifically accelerated securitisation, which enabled the debt culture, enabled a huge pyramid of debt to be built—an inverted pyramid to be built on a very narrow base of assets.

The recent change of government in Ireland was caused in part by a governing political party that is now almost defunct (Richie 2011) for guaranteeing loans in property markets (that had higher prices than London (Doogue and Skidelsky in Doogue 14 February 2009).

The US finance sector had become quite concentrated and very powerful. 'By 2005, the 10 largest U.S. commercial banks held 55% of the industry's assets, more than double the level held in 1990. On the eve of the crisis in 2006, financial sector profits constituted 27% of all corporate profits in the United States, up from 15% in 1980 ' (FCIC 2011 p. xvii). However the comprehensive overheating of the mortgage sector was missed

despite the extensive signposts, checkpoints and signals that should have set of alarms for the US Federal Reserve. But it did not (FCIC 2011, Keen in Clark 2008).

The US Federal Reserve's comprehensively failed to halt the flow of "toxic mortgages" from 2005 and it was achievable by re-establishing cautious, though discreet, mortgage-lending standards (FCIC 2011). This did not occur. This body was the only organisation in the US that had the regulatory mandate to do so and the problem of the sub-prime mortgage boosting and bursting the housing bubble was clearly apparent much sooner than September 2008 when things came to a head (FCIC 2011). If this major US regulator had done so sooner rather than having blind faith in Hayek's economic theory, the economic woes in the western world and Europe could have been minimised (FCIC 2011, Keen in Clark 2008).

For example the once revered former Chairman of the US Federal Reserve, Alan Greenspan, believed in a free market economy (Keen in Clark 2008). He believed implicitly in the economic theories of Austrian economist Friedrich Hayek, and the "Libertarian" philosopher Ayn Rand – both stolid defenders of free market capitalism (Keen in Clark 2008). To these three men government should not meddle in the market (Keen in Clark 2008).

In October 2008 'the House Committee on Oversight and Government Reform were openly critical of his "economic theory" due the financial crisis that had brewed largely during his watch (FCIC 2011, Keen in Clark 2008).

Greenspan not only conceded that he had made mistakes, but even ventured that his entire worldview may be wrong. In reply to Committee Chairman Waxman's proposition that his ideology "was not working", Greenspan replied:

That's precisely the reason I was shocked, because I had been going for 40 years or more with very considerable evidence that it was working exceptionally well. (Keen in Clark 2008)

Almost unbelievably Greenspan's ideology throughout his occupancy as Chairman of the Federal Reserve was characterised by opposition to regulation, and by rejection of the notion that markets could make errors in costing capital assets (Keen in Clark 2008). As the House Committee Chairman Waxman stated during October 2008 according to Keen (in Clark 2008, "Over and over again, ideology trumped governance." Keen (in Clark 2008) and Waxman obviously agreed that the notion that the free market could price capital assets precisely was patently false. So to did the FCIC Report (2011) and proved the case with extensive case studies and the demise of five of the United State's largest financial institution. These major finance corporations had no idea of their assets' worth and the level of corporate social responsibility was garnished with nonchalance bordering on institutionalised sociopathic practices (FCIC 2011).

Keen (in Clark 2011) points to Greenspan's ideological conflict bordering on major hypocrisy. His is an important point as Greenspan was the major regulator up until February 2007 when he passed the baton.

The man who believed that the market always get it right, spent much of his tenure rescuing the stock market from its bouts of irrationality. In October 1987, just two months after he took over from Paul Volcker, the Market dropped 20 percent in one day. Greenspan's Fed did everything possible to prevent the crash going any further-with reassuring words, reductions in the reserve interest rate, easy provision of credit, and large scale purchases of commercial bonds. (Keen in Clark 2008)

Oddly for a person with an ideology of non-government intervention in the markets added intervention 'occurred with the Savings and Loans crisis, the collapse of Long Term Capital Management, the Dotcom bust of 2000, and Enron's failure' (Keen in Clark 2008).

Curiously circumstances indicate that Greenspan had a history of activist intervention contradicting his stated philosophy and economic theory of leaving markets to their own devices (Keen in Clark 2008). The FCIC (2011) and Keen (in Clark 2008) agree that a level of intervention should have occurred mustering the powers of the state. Keen (in Clark 2011) however clearly considers that Greenspan's intervention forays may not have been wise and suggests 'he should really have left the market to sort out its own woes?' This represents an arguable irony it would seem.

Hindsight wisdom may not be reverential to the former Chairperson of the Federal Reserve. To use Keen's (in Clark 2008) words, 'Hayek's ideology of markets that price everything with approximate accuracy is no match for Hyman Minsky's empirically-derived hypothesis that finance markets destabilise the real economy.' Keen (in Clark 2008) stated 'the new, realistic economics will be built on the shoulders of Schumpeter, Keynes, and Hyman Minsky'. The underlying assumption in this assertion is that Greenspan was adopting economic theory that was not realistic and the overwhelming evidence is presented extensively in the FCIC report (2011) with almost an encyclopaedia of examples. Added evidence is prominent in the literature when examining the economic plight of Spain, Greece, Ireland as economies under siege and other European economies - England, Germany, France, Italy and more – which are severely stretched and stressed – but unfortunately there is limited room in this paper to go into detail on this residual catastrophe except to say that the finance sectors and government regulation in those countries is not blameless (Skildelsky in Doogue 14 February 2009).

'The Federal Reserve was the one entity empowered to' regulate and prevent the crisis 'and it did not. The record of our examination is replete with evidence of other failures: financial institutions made, bought, and sold mortgage securities they never examined, did not care to examine, or knew to be defective; firms depended on tens of billions of dollars of borrowing that had to be renewed each and every night, secured by subprime mortgage securities; and major firms and investors blindly relied on credit rating agencies as their arbiters of risk. What else could one expect on a highway where there were neither speed limits nor neatly painted lines? (FCIC 2011 p. xviii)

The FCIC (2011 p. xviii) is scathing considering that the regulatory sentries were not at their post – not doing what they were paid to do and a catastrophe has resulted. The FCIC (2011) finds the view unacceptable 'that regulators lacked the power to protect the financial System' (FCIC 2011 p. xviii). 'They had ample power in many arenas and they chose not to use it' (FCIC 2011 p. xviii).

To give just three examples: the Securities and Exchange Commission could have required more capital and halted risky practices at the big investment banks. It did not. The Federal Reserve Bank of New York and other regulators could have clamped down on Citigroup's excesses in the run-up to the crisis. They did not. Policy makers and regulators could have stopped the runaway mortgage securitization train. They did not. In case after case after case, regulators continued to rate the institutions they oversaw as safe and sound even in the face of mounting troubles, often downgrading them just before their collapse. And where regulators lacked authority, they could have sought it. Too often, they lacked the political will—in a political and ideological environment that constrained it—as well as the fortitude to critically challenge the institutions and the entire system they were entrusted to oversee. (FCIC 2011 p. xviii)

Political and bureaucratic leadership and management rarely take the form of extreme measures unless major catastrophe and change occurs. Management it is assumed (Dubrin, Dalglish and Miller 2006 and Karpin 1995) involves monitoring and effective regulation. The regulatory system and management of the finance sector spiralled down from late 2006 in freefall even deeper before something significant to management and a modicum of leadership occurred in the US - with much debate about the form of intervention (FCIC 2011). In September and October in 2008 the US government (as part of a \$700 billion plus bailout) in the end entrusted more than \$180 billion to AIG because of concerns that its collapse would trigger a free flow losses throughout global financial structures and system (FCIC 2011).

The mismanagement of this sector by the alleged captains and stewards culminated the 'existence of millions of derivatives contracts of all types between systemically important financial institutions—unseen and unknown in this unregulated market—added to uncertainty (and escalating) panic' (FCIC 2011 p. xxv). The question that underpins this is whether the US government acted for self interest with its own institutions and economy, or realised it had a responsibility to the rest of the world as its poor regulation and mismanagement

fuelled inept leadership to persist and impact on a global system whilst noting it was a global herd and fault extended country boundaries.

In 2008 the United States government developed an immense salvage plan for the country's financial institutions that cost in excess of \$(US) 700 billion. The Democrats gave reluctant support to the scheme eventually after rejecting it initially in congress that saw 'the government buy back bad loans from banks that have been mixed up in the sub-prime mortgage crisis' (Barclay 28 September 2008). A sub prime mortgage is granted to people whose credit is below (therefore sub) the preferred (therefore prime) level acceptable to orthodox lenders (Jaffee 2008). It is widely argued (FCIC 2011) that deregulation on Wall Street combined with unbridled greed to encourage those with below-par income and credit ratings to apply for loans for houses they simply could not afford caused the economic crisis. Jaffee (2008) and the FCIC (2011) argue that the finance sector may have indulged in a level of predatory lending as well to people poorly placed to repay loans as does the FCIC (2011).

'Subprime mortgage lending is estimated to have funded more than 5 million home purchases, including access to first-time homeownership for more than an estimated 1 million households. Young and minority households have been among the primary beneficiaries Jaffee 2008 p.3). 'During the early 2000s, hundreds of thousands of US citizens were servicing monthly mortgage debts that totalled figures up to 50 per cent and higher of their gross monthly salary as opposed to loans in the vicinity of 25 per cent thirty years ago. Increases in interest rates boosted payments in many cases beyond 75 per cent of many income levels and defaults followed for obvious reasons that contributed significantly to the recession which started in September 2008 (Jaffee 2008).

'The US banking system provided during the period 2002 to 2006 \$1.3 trillion for sub prime mortgages, over a third of which are now in default. Indeed in the last nine months Wall Street and global banks have written off \$515 billion of sub prime loans, and now with falling house prices, we have rising default rates as well on prime loans, home equity loans. The IMF projected in April the total losses on US real estate this year could be just under \$1 trillion, and this has been haunting Wall Street for months; it's greatly depressed bank stock and investors perceive there's still a lot more bad news to come. (Hale in Doogue 20 September 2008).

This money was in addition to the millions already 'paid out by the government to keep markets afloat' in the economic meltdown to 'bail out some of the big investment and insurance corporations (Barclay 28 September 2008). The question is whether tax payers should be propping up some of these major institutions that have made such alarmingly poor investment decisions (Barclay 28 September 2008).

In September 2008 the US share market dropped significantly as did many others around the world – Australia included. The US government allowed a major institution - Lehman Brothers - to go under and arranged a merger for another couple of major finance institutions (Gittins in Barclay 28 September 2008).

Major companies included Lehman Brothers, American International Group (AIG) and Merrill Lynch, Morgan Stanley and Goldman Sachs (Barclay 28 September 2008). The companies are some of the largest financial institutions on Wall Street and were in danger of going into receivership if the US government had not acted (Gittins in Barclay 28 September 2008). In effect the US in 2008 lost in, three of its top five investment banks: Beare Stearns merged with JP Morgan, as they were close to bankruptcy; Lehman Brothers did become bankrupt; Merrill Lynch perceived in mid September 2008 that they must sell out to another financial entity and duly did so and were "absorbed" by the Bank of America (Hale in Doogue 20 September 2008).

Effectively the US government began to provide some support to alleviate the problems that these major financial institutions faced in terms of bad debts but quickly changed their tactics and bought the bad debts (Gittins and Barclay in Barclay 28 September 2008). The US government to Gai and Gittins (in Barclay 28 September 2008) had little choice but to take this sort of major financial intervention using taxpayers' money. Reich maintains a similar line as he suggested that the US government considered that when Lehman Brothers became defunct the prospect of a run on banks could cause many other failures increasing the financial catastrophe (Reich in Moore 30 September 2009). 'This is about the lesser of two evils, one evil is that people who have been stupid, often very highly paid people who have made silly decisions' and the 'normal rules of capitalism are that if a bad decision was made it is not a problem in the public domain but in this case these people had to be "bailed out" not to save their careers but it was done 'as the alternative is worse' when a financial and banking system just stops working and business cannot access needed finance to maintain employment (Gittins and Barclay in Barclay 28 September 2008).

This was (and is) an extremely serious issue as the US government acted knowing that the public 'disapproved of rich bankers being bailed out by taxpayers' but the alternative was worse it was argued (Gittins in Barclay 28 September 2008). Gittins (in Barclay 28 September 2008) considered that steps would be taken to restrain this type of unethical behaviour executives in the US finance sector. The extent to which restraining unethical behaviour among executives seems minimal from the research undertaken (FCIC 2011, Reich in Moore 15 September 2009). To Gittins (in Barclay 28 September 2008) if this major bailout did not occur small business would be placed in jeopardy if major financial institutions were allowed to fail. Small and medium business to Gittins (in Barclay 28 September 2008) would not have further dealings with their bank, and even though other financial arrangements could be made with other institutions in the interim shareholders and clients could suffer and the domino effect may occur and fiscal haemorrhaging could take a considerable toll on business.

The \$700 billion bailout needs to be placed in perspective. The US economy has a gross domestic product (GDP), or value of all final goods and services produced within a nation in a given year of \$14.72 trillion (2008 est. CIA 2011). The US (or any nation's) GDP at purchasing power parity (PPP) exchange rates represents the 'sum value of all goods and services produced in the country valued at prices prevailing in the United States' (CIA 2011).

The cost of this financial crisis in the US and developed economies is difficult if not impossible to estimate - and it is still accruing on a global basis. However \$700 billion as a percentage of the US GDP at purchasing power parity (PPP) represents a massive 14.72 trillion dollars (\$14,720,000,000,000) The bailout is considered to be 'reasonably modest and sensible' (Gai in Barclay 28 September 2008). In the US, 700 billion dollars is equal to \$1 million multiplied by 1000. It has 9 zeros like this: \$7,000,000,000. Gai has a point as \$700 Billion is marginally less .05 per cent of the \$14.72 trillion US annual GDP PPP. But it is the principles and ethics that rankle many and the poor regulations that are inept at calling those responsible to account.

The regulations have been feeble in calling those to account who are responsible for this economic catastrophe. The problem was that these US financial institutions were lending money to people unable to service their debt and Barclay and Gittins (in Barclay 22 September 2008) suggest they even knew they may not be able to pay the money back which underpins and defines the sub prime mortgage problem as does the FCIC (2011). This is what started the problem but it escalated it as these institutions at odds with the concept of CSR were not only having a very large number of debtors but also being involved in very complex fiscal transactions that 'flowed from sub prime but also other derivative arrangements' that Wall Street became involved in but adding considerable complexity and making it extremely difficult to establish who owed what to whom and how to get a fix on an audit trail as many executive employees may not be employed to assist in unravelling a complex web of fiscal transaction (Gittins in Barclay 28 September 2008).

Lessons learnt on Wall Street have been negligible one year after the financial meltdown and the reason continues to be underpinned by the concept of greed within the financial sector (Reich in Moore 15 September 2009). The ongoing practice of opportunism to generate enormous amounts of capital 'using other people's money' remained driving factor unabated in Wall St. according to Reich (Reich in Moore 15 September 2009) Where limits were placed on executive salaries in companies where bailouts were needed by limiting executive salaries to \$US500,000 - \$US100,000 - less than the US President's salary (Reich in O'Brien 5 February 2009). 'Little has altered and Wall St. has been successful in avoiding any significant impositions of conditions' (Reich in Moore, 15 September 2009). 'Momentum for reform appears to be lost as the urgency has diminished' (Reich in Moore 15 September 2009).

Reich makes the important point that major financial institutions may now be even more dangerous and take even greater risks knowing that the government in the US bailed them out with taxpayers dollars and may do so again as the stated philosophy by the US government is 'that large financial institutions must not fail' (Reich in Moore 7.30 report 15 September 2009). Reich expressed concern that the bailout involved the US government acquiring the "toxic" loans and the financial sector being able to avoid the responsibilities for their actions (Reich in O'Brien 5th February 2009). To coin a phrase used by Adams (16 September 2008) this in effect was best referred to as a situation where 'profits were privatised and the losses were socialised.'

Basic ethics are an all encompassing concern when itemising the considerable dimensions of the problem. Doogue (20 September 2008) expresses concern by stating that 'what it really comes down to is this: who should governments prioritise? The bailouts of Fanny Mae Nickname for the Federal National Mortgage Association - FNMA), and Freddy Mack (Nickname for the Federal Home Loan Mortgage Corporation -

FHLMC), for instance, would suggest that the community and home-owners have been put ahead of, say, the shareholders in Lehman Brothers, who were not rescued and are really licking their wounds, are left to themselves, they're not getting any taxpayers' money.' So the economic bail out has many incongruous manoeuvres that involve aspects of Keynesian economics, socialisation of some major quarters of the finance sector – government absorbing toxic debt and propping up a poor performing finance sector by awarding it the good debts to with what appears to be one new regulation being limiting company executives' salaries in companies "socialised" to \$500 thousand (Reich in Moore 15 September 2009).

Other penalties did occur though. 'AIG was so large and so deeply integrated in the global financial system through credit default swaps and policies like that, that the Federal Reserve felt it could not afford to let AIG go bankrupt, that AIG going bankrupt would have been a systemic risk. So they made the loan, and imposed a tremendous price; they will become the owner of 80% of AIG's equity, effectively destroying the value of the stock. It now trades at \$2 a share compared to \$25 two weeks ago and \$75 one year ago' (Hale in Doogue 20 September 2008).

Paulson, former U.S. treasury secretary, and former chairman of Goldman Sachs in 'showed remarkable political insensitivity' letting the short-sellers win (Hale in Doogue 20 September 2008). Hale (in Doogue 20 September 2008) calls into question the actions of Paulsen. The 'massive attack on our three institutions, Bear Stearns in March, Lehman Brothers last week {September 2008}, AIG, by the hedge funds engaging in short-selling activity, spreading rumours, engaging in mischievous talk about these companies, and clearly contributing to their problems. And what he's done in each case, is to basically let the short-sellers make a lot of money, at the same time the stockholders have been effectively wiped out' (Hale in Doogue 20 September 2008)

Reich called for an outlawing of "wild investments," compensation and salary bonus systems that were based on long term investment strategies rather than "short term winning" but lamented that few major conditions had been placed on the corporations (Reich in O'Brien 5th February 2009). Keen like Das (both in Adams 16 September 2008) wanted added regulation to minimise irrational speculation by finance executives who would invest in rising assets and increase the borrowing to do so to fuel the process where the bust is out of proportion to the boom. Das and Keen (both in Adams 16 September 2008) were of the view that regulations were hard to formulate to avoid corporations working out ways to circumnavigate them and there were many regulations in place but their major criticism was that the regulator was unsure of their role but were cautious with the type of regulation. The FCIC (2011) was not so tame in its pointed criticism.

To Das the basis of the problem was a lack of regulation within the financial sector and the lack of understanding by the regulator which led to an increasing level of debt and an increasing level of risk and irrational investments and pricing of debt dating back to the late 1980s leading to huge speculative bubbles in a variety of markets' (in Adams 16 September 2008).

Keen and Das are both on record as forecasting the financial meltdown of September 2008 (Adams 16 September 2008). Das (in Adams 16 September 2008) considers that the incentive structures and profits were that attractive that nay in the financial sector "overstayed their welcome" despite realising that the market and loans structures were obviously exposed to high risk. Keen (in Adams 16 September 2008) considers that the lack of CSR was due to what he referred to as an abundance of "scam merchants" in the market and illustrates this by providing an extreme statistic in relation to regulation – or the lack thereof - by citing the situation in one US state – Florida. According to Keen the regulator in Florida had permitted 11,000 former felons to be mortgage brokers – despite them having convictions for financial fraud (Keen in Adams 16 September 2008).

CSR had reached a low point quite obviously as peak national debt had in 2008 reached a level of debt being 380 per cent of GDP. So with the US having a GDP of 14 trillion dollars (\$14,000,000,000,000) according to Gai (in Barclay 28 September 2008) (\$14.72 Trillion in 2008 est. according to CIA 2011) in 2008 the US was facing a debt approaching \$53.2 Trillion. The question is whether this is sustainable. Keen (in Adams 16 September 2008) is of the view it is not. Keen (in Adams 16 September 2008) also suggests that this high national debt level is in uncharted waters and emphasises this point by using the US national debt in 1930 being 215 per of GDP. 'The US reached this high ratio again 'in 1987 - the year Greenspan first tried his interventionist hand at a rescue. But all that rescue really did was encourage the private sector to keep on borrowing. By the time Greenspan retired, that debt ratio was 280 percent, and it is now 290 percent' (Keen in Adams 16 September 2008).

Das (in Adams 16 September 2008) considers that the “savers” of the world are in fact countries such as China, Singapore and Japan as they have, through loans, funded the debt in the US which but notes that China is mindful of revaluing as they do not wish to be compensated by a weaker US dollar.

The economic meltdown of 2008 represents ‘the biggest bankruptcy in history, with the collapse of the Wall Street bank Lehman Brothers, and the largest government bailout ever with the US Federal Reserves 85 billion dollar purchase of the global insurance giant American International Group’ (Doogue 20 September 2008). ‘Merrill Lynch narrowly avoided bankruptcy’ in September and many suggested ‘that Goldman Sachs, among others, will struggle to see out the crisis’ (Doogue 20 September 2008). The role of the Federal Reserve and Treasury through this crisis is a major issue of debate as the supposed regulator. Doogue 20 September 2008).

This section provided an overview of the role and responsibilities of the US “captains” and “stewards” of the financial sector and basically showed catastrophic failure – but still the almost sociopathic nature and greed seems to persist in the finance sector (Reich in Moore 30 September 2009) – has anything been learnt: has anything been regulated? This section has provided some insight into immoral, amoral management and mismanagement combined with poor leadership. The next section looks in more detail at regulation and the standard is no better.

Regulation

To glance at reality we have to escape from the market matrix and look at the global village from outside its boundaries, through the eyes of the victims of globalization outlaws: the slaves, the one billion people who live with less than a dollar a day, the Western middle class which is sinking into poverty, those who lose their home because of the subprime mortgage crisis and those who lose their savings because of that.’ Napoleoni, L. (2 June 2010).

The FCIC (2011) is scathing as it states that the regulatory sentries were not at their post – not doing what they were paid to do and a catastrophe resulted. The FCIC (2011) finds the view unacceptable ‘that regulators lacked the power to protect the financial System’ (FCIC 2011 p. xviii). ‘They had ample power in many arenas and they chose not to use it’ (FCIC 2011 p. xviii).

To give just three examples: the Securities and Exchange Commission could have required more capital and halted risky practices at the big investment banks. It did not. The Federal Reserve Bank of New York and other regulators could have clamped down on Citigroup’s excesses in the run-up to the crisis. They did not. Policy makers and regulators could have stopped the runaway mortgage securitization train. They did not. In case after case after case, regulators continued to rate the institutions they oversaw as safe and sound even in the face of mounting troubles, often downgrading them just before their collapse. And where regulators lacked authority, they could have sought it. Too often, they lacked the political will—in a political and ideological environment that constrained it—as well as the fortitude to critically challenge the institutions and the entire system they were entrusted to oversee. (FCIC 2011 p. xviii).

The FCIC (2011) concluded extensive failures in financial regulation, monitoring and supervision culminating in sheer devastation and instability in the US and international financial markets. The FCIC (2011) is highly critical of former Federal Reserve chairman Alan Greenspan and key institutions for a naive and broad philosophy accepting blindly that financial institutions could effectively police themselves coupled with the notion that is now easily proven to be false premise that markets would self correct. To draw an analogy to represent the incredulity of these dual notions it is akin to considering that a living organism can inflict a major wound and heal repeatedly in a new strengthened form.

The FCIC (2011) considers that successive US administrations (G. Bush, Clinton and G.W. Bush) and Congresses, enthusiastically propelled by the omnipotent financial industry, were in full support of the notion of industry self correction and self policing. This resulted in stripping “key safeguards” essential to avoiding catastrophe that eventually saw the loss of trillions and trillions of dollars of dollars in the US alone (FCIC 2011). Even worse the US government permitted financial firms to pick their preferred regulators and rating agencies culminating in the ‘race to the weakest supervisor’ (FCIC 2011 xviii).

Dramatic failure in risk management and corporate governance within important financial institutions was a key cause of this crisis (FCIC 2011). The FCIC (2011) and Das (in Adams 16 September 2008) consider that executive managers within the finance held the utopian view that a preservation instinct was operative inside major financial firms. The view was that this alleged safety mechanism was ‘shielding them from fatal risk-taking without the need for a steady regulatory hand, which, the firms argued, would stifle innovation’ (FCIC 2011 p. xviii). The numerous firms acting recklessly with inappropriate exposure to risk of a scale never seen before in economic history backed by too little capital to balance that risk was a recipe for disaster (FCIC 2011, Das in Adams 16 September 2008) - if not a strategic plan to induce economic crisis in global proportions as occurred. The financial crisis provides an example of a deep-seated herd instinct among regulators and senior managers in the finance sector that epitomises groupthink, rigid paradigm obfuscation underpinned by myopia and greed all within an astonishing toxic mix in an overheating cauldron with no evidence of a significant and objective backward step.

Many of these institutions grew aggressively through poorly executed acquisition and integration strategies that made effective management more challenging. The CEO of Citigroup told the Commission that a \$40 billion position in highly rated mortgage securities would “not in any way have excited my attention,” and the cohead of Citigroup’s investment bank said he spent “a small fraction of 1%” of his time on those securities. In this instance, too big to fail meant too big to manage. (FCIC 2011 p. xix)

The quick deal, the short-term gain, the excitement of the gamble, and the view that the payoff was inevitable and the risk minimal (FCIC 2011, Keen in Adams 16 September 2008). The industry was disconnected from quality service. Institutionalised self seeking activities were the norm with the bottom line as the only issue of the quality service agenda and devoid of customer consideration and the public at large (Hopper and Hopper 2009). Improper consideration in relation long-term consequences was the new norm and fanned by the corporate boardroom saturating all ranks with the mortgage broker charged notion to gather an ever growing number of mortgagees regardless of their capacity to service a loan (FCIC 2011, Hopper and Hopper 2011).

The research, much of which cannot be documented in this limited study space, reveals astonishing examples of cited by the FCIC in relation to “governance breakdowns and irresponsibility” (FCIC 2011). Three excellent examples of institutionalised ineptitude are: AIG’s senior management’s lack of knowledge of the terms and extreme risks being a \$79 billion exposure to derivatives and mortgage-related “securities” (FCIC 2011). The second is the “sky is the limit approach” by Fannie Mae’s mission to establish much greater market share, increased profits, and bonuses leading to heightened, if not stratospheric, exposure to loans with greater risk as the “housing market was peaking” in the US: (FCIC 2011): and the rest is history. The last example is the expensive surprise when Merrill Lynch’s top echelon of their management structure finally comprehended that the company held \$55 billion in “super-senior” and supposedly “super-safe” mortgage-related securities that resulted in billions of dollars in losses (FCIC 2011).

In the preceding years before the crisis reached its crescendo the number of key financial institutions, and too many households, borrowed to the maximum leaving all parties very susceptible to financial anguish or devastation if the worth of investments turned down even marginally and this is exactly what happened (FCIC 2011).

The US government was poorly prepared and ill equipped for the crisis, and its knee jerk and contradictory reaction added to the ambiguity and panic in the financial sector. To be more specific ‘key policy makers—the Treasury Department, the Federal Reserve Board, and the Federal Reserve Bank of New York—who were best positioned to watch over our markets were ill prepared for the events of 2007 and 2008’ (FCIC 2011 p. xxi) .

There was a notion within the major financial institutions that “risk” had been “diversified” but the FCIC report (2011) considers that it had been concentrated (FCIC 2011). These institutions considered they were defraying risk of the debt by drawing in other financial institutions based in the US, or in Europe for example, but they were merely subcontracting the risk to a third party (securitisation) but the mortgagee was still their client. This calls into question just how detached from their clients these institutions had really become?

Repeatedly in March, April and May 2007 the FCIC report (2011) claims major regulators were at odds with the reality of the situation as the contagion spread, like a feeding frenzy by sharks in the bay of plenty. The FCIC (2011) says that the regulators responded in an ad hoc basis with various programs to reduce the impending surge: “putting their fingers in the dike” is the actual term used (refer FCIC 2011, p. xxi). ‘There was

no comprehensive and strategic plan for containment, because they lacked a full understanding of the risks and interconnections in the financial markets' (FCIC 2011 p. xxi).

...the record reflects that senior public officials did not recognize that a bursting of the bubble could threaten the entire financial system. Throughout the (US) summer of 2007, both Federal Reserve Chairman Ben Bernanke and Treasury Secretary Henry Paulson offered public assurances that the turmoil in the subprime mortgage markets would be contained. When Bear Stearns's hedge funds, which were heavily invested in mortgage-related securities, imploded in June 2007, the Federal Reserve discussed the implications of the collapse. Despite the fact that so many other funds were exposed to the same risks as those hedge funds, the Bear Stearns funds were thought to be "relatively unique." Days before the collapse of Bear Stearns in March 2008 SEC (U.S. Securities and Exchange Commission) Chairman Christopher Cox expressed "comfort about the capital cushions" at the big investment banks.

This was an example of blind faith in a capitalist structure. In August 2008, a few weeks before the US government takeover of Fannie Mae and Freddie Mac, the FCIC (2011) considers that Treasury Department were able to finally comprehend and quantify the bleak financial circumstances of those two institutions. But the regulators had failed in appreciating the extent of exposure until a month before Lehman's collapse in 2008. The 'Federal Reserve Bank of New York was still seeking information on the exposures created by Lehman's more than 900,000 derivatives contracts' (FCIC 2011 p. xxi). The regulations and the regulators, it could be argued, were tardy and should have had the finger on the pulse to monitor and insist on audited reports of these major institutions. Major financial institutions do not have stained glass windows.

The FCIC (2011) argues that the regulatory stewards within the US government inflamed panic and uncertainty through inconsistency with major financial institutions. At the zenith of the crisis Bear Stearns was rescued and Fannie Mae and Freddie Mac were placed under a custodian within conservatorship arrangement with the Federal Housing Finance Agency (FHFA). Lehman Brothers was sacrificed but AIG was saved — increasing tension in the market (FCIC 2011).

...the failures of credit rating agencies were essential cogs in the wheel of financial destruction. (FCIC 2011 p. xxv)

The FCIC 2011 on this issue does not pull any punches and firmly apportions a very high level of blame at the doors of the credit rating agencies as 'key enablers of the financial meltdown. The mortgage-related securities at the heart of the crisis could not have (legally) been marketed and sold without their seal of approval (FCIC 2011 p. xxv).

This crisis could not have happened without the rating agencies. Their ratings helped the market soar and their downgrades through 2007 and 2008 wreaked havoc across markets and firms. (FCIS 2011 p. xxv)

Investors depended, at times, with blind confidence on the rating agencies and in certain instances were under regulatory constraints and therefore obligated to use them (FCIC 2011). Basically regulatory capital practices and standards were formulated upon their advice.

The FCIC (2011) researched Moody's performance and the results were appalling. 'From 2000 to 2007 Moody's rated nearly 45,000 mortgage-related securities as triple-A. This compares with six private-sector companies in the United States that carried this coveted rating in early 2000. In 2006 alone, Moody's put its triple-A stamp of approval on 30 mortgage-related securities every working day. The results were disastrous: 83% of the mortgage securities rated triple-A that year ultimately were downgraded.

... there were three rating agencies which were private companies; Moody's, Standard & Poor's, and Fitch, which were responsible for giving AAA or AA or A or B or BB and so forth ratings to bonds. These companies have existed for many decades. What's much less well known even than the fact that the rating agencies were being paid to rate the bonds is that the reason that they were in the position to

demand that payment is that they had been protected by the Securities and Exchange Commission regulations since 1975 in the US that made it very difficult for anybody to compete with them. So they were pretty much free to do whatever they wanted to. There are many regulations that have been issued over the years, even before 1975, requiring institutional investors to get various levels of grades of bonds that they hold in their portfolios from these three companies. (Friedman in Duffy 17 August 2009).

Many other problems in terms of the regulators are available in the FCIC report 2011. Unfortunately the examples are too numerous to include in this paper. That said briefly the regulator failed to address serious systemic faults that included extensive fraud perpetrated by the finance firms and their clients, flawed computer models, pressure from financial organisations that paid for the ratings, the relentless drive for market share, the lack of human and physical resources within financial companies to work properly - despite record profits, and the absence of meaningful public oversight. To use an academic term to state the situation succinctly – it was and is a shameful mess.

Conclusion

Greed played a large part in this history of economic saga with bonuses. To Hooper (in Doogue 4 December 2010) the financial sector considered they should be ‘uncapped and unlimited.’ This particular view of how capitalism should operate is riddled with greed and has simply permitted financial services to simply do what it did, to make money out of money and to detach itself completely from the real economy, to turn a blind eye to the most outrageous conflicts of interest, the most outrageous fee structures, the most outrageous compensation, the most outrageous growth of bank balance sheets with ever-less capital underpinning it, which led to these colossal remuneration and the distortion of people going into banking because salaries were so high there, leading to this enormous debt overhang which is crushing the potential of the Western economy to recover’ (Hooper in Doogue 4 December 2010) CEOs demanding greater risk .

The salary of CEOs is an area that needs added research. The statistics of an outgoing CEO of a Macquarie’s bank in Australia as one example shows the stratospheric salaries. Hopper and Hopper (2009) express significant concern about CEO salaries or ‘packages’ in the US as well.

In Australia Curtin (19 May 2007) added an interesting insight into the dimension of a salary of \$33 million. Moss’s salary (outgoing CEO of a prominent Australian bank) ‘equalled 108 prime ministers, 335 doctors, 446 builders or 669 teachers.’ Curtin drew on other observations by readers further stating that this salary level also matched ‘the combined salary of 250 professors...more than 2400 disability support pensions’ and a teacher named ‘Irene Buckler calculated she would have to work for 471 years, or about nine working lifetimes, to match Moss’s payout. Ms Buckler (in Curtin 19 May 2007) further adding notions of incredulity that ‘Allan Moss works 471 times harder than I do or that shuffling money to make massive profits for a small group of shareholders is 471 times more important than educating children to ensure a better future for us all.’

This figure comes from a country like Australia that has a population of 22 million people. The salaries of CEOs and the type of people being recruited. The rewards received is an issue that needs to be examined

In 2008 Moss departed from Australia’s ‘largest investment bank with an estimated \$100 million “swag” of cash, shares, options and bonuses’. While home owners struggle to pay their mortgages, this company boss needs to work out what to do with ... \$100,000,000’ Lekakis (7 February 2008).

As early as September 2004 Countrywide executives recognized that many of the loans they were originating could result in “catastrophic consequences.” Less than a year later, they noted that certain high-risk loans they were making could result not only in foreclosures but also in “financial and reputational catastrophe” for the firm. But they did not stop.

No one said “no.”
(FCIC 2011 p. xxii)

There many case studies of CEOs that warrant further investigation. Former Chair and CEO of Lehman Brothers Richard Fuld would be a good starting point as a case study. The lingering question is how a 158 year old

investment firm whose 2008 bankruptcy was the largest in US history, was so distracted, deaf and blind to an obvious array of economic alarm bells that their company was in severe strife (Ward 2010)? According to Ward (2010) the clues lies in the Lehman's culture which operated like in toxic Taylorist mode where intimidation was rife cowering those who should have questioned Fuld but did not - as though he were a king.

The FCIC (2011) reported that major financial institutions knew many of the loans they offered did not meet their own underwriting standards or those of the originators. 'Nonetheless, they sold those securities to investors. The regulators failure to realise that corporations are comprised of humans with weaknesses such as greed, "mistakes, misjudgements, misdeeds, irresponsibility" combined with will to take risk for self interest for quick financial return no matter what the cost, and blind faith like a born again disciple of corporatism is at the basis of this crisis (FCIC 2011). Not all were at fault and many innocent people with years of dedicated service lost their jobs.

When General Douglas MacArthur effectively became the "ruler" of Japan following World War II, 'he arranged for 1,937 incompetent senior executives in 154 leading companies to be replaced by competent managers drawn from the ranks of middle management.' (Hopper and Hopper, 2009 p. xv). The rest is history in relation to Japan and the question remains whether the right people are leading given the overwhelming evidence that the right people were not leading but many people are still in their positions. A person with the power of MacArthur is not a realistic proposition in western democracies but nevertheless what MacArthur did was look to the middle ranks of organisations and find people with the right attitude and promote them to senior positions and with development and training Japan emerged as an economic powerhouse (Hopper and Hopper 2009). The US has declined Hopper and Hopper 2009).

So this is what occurred. The downturn global economy experienced a massive downturn. The crisis was fuelled by sub-prime mortgages, multiple investment bank failures, the collapse of home prices, and the advent rigid as opposed to ridiculously easy credit, all combining with unbelievably appalling management and regulation pushing the US and many countries on the globe, with few exceptions (like Australia and Singapore, and China) into a deep recession by mid-2008. This for the US was the deepest and longest downturn since the Great Depression (FCIC 2011). To facilitate financial markets stability the US Congress established a \$700 billion relief program (bailout) in October 2008. The US government used a proportion of these funds to purchase equity in US banks. In some cases this impacted on innocent shareholders but significant returns to the government by early 2011 have occurred (CIA 2011). January 2009 saw the US Congress an additional \$787 billion fiscal stimulus bill signed into law to alleviate the collateral damage of the crisis with additional spending, tax cuts and job creation.

But trouble lies ahead for an economy allowed to get out of control by disastrous regulation.

The US debt has now exceeded \$14 trillion with the US government expecting a federal deficit in 2011 of \$1.6 trillion with the state and local municipal levels of government debt soaring to \$2.4 trillion (Mann Washington 26 February 2011 p. 14). At least 46 states have been forced to cut public services therefore spending in state services, 'including healthcare (31 states) and services to the elderly and disabled (29 states). At the same time, a swath has been cut through education, the sector that President Barack Obama nominates as critical to America "winning the future" in an increasingly competitive global economy: 35 states cut their kindergarten to year 12 funding, 43 cut into higher education' (Mann Washington 26 February 2011 p. 14). It gets worse as 'most of the \$180bn of federal stimulus money made available to the states will run out in August, increasing pressure on state budgets (Mann Washington 26 February 2011 p. 14).

Finally the problem of establishing who should be punished for the immense financial failures as well as a clear definition of 'a financial crime' signifies an added dimension of failure. This seems to be too hard and the research indicates little action. So what of the future? Unless ethics, corporate social responsibility, respect for customers and the public returns.

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The Development of Foreign Direct Investment in Emerging Countries

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Abstract

The Foreign Direct Investment (FDI) has followed a general increasing tendency worldwide during the last decades. In the case of the emerging countries, such as, Brazil, Russia, India, China and Mexico, the behavior has been almost the same. In fact, these countries are getting more important on the attraction of foreign capitals and the outward of direct investment. In terms of the Investment Development Path, the emerging countries are in the third stage (It has five). Thus, it provides a measure of the degree of multinationalization of the countries enterprises. Therefore, the aim of this paper is to analyze the behavior of FDI (inward and outward) of these countries taking into account their structural variables. This includes a static analysis, a dynamic analysis and the development of outward performance index for each country. The results showed the relationship that the structural development has with the inward and outward FDI.

Keywords: Foreign Direct Investment, Emerging Countries, Investment Development Path, Structural Factors, Economic Development, Multinationalization.

Introduction

The present research is an analysis of the foreign direct investment behavior (inward and outward) of the emerging countries (Brazil, Russian Federation, Indian, China and Mexico) taking into account their structural factors and relating them with the economic development. All this explained by the Investment Development Path, design by Dunning in 1981 and modified in later years. This theory classifies the countries into 5 stages depending of the structural factors. The first three stages correspond to the emerging countries and the last two of the developed countries.

The rest of the paper focuses in a theoretical revision of the Investment Development Path and the description of each one of the stages on it. Also, the evolution of the foreign direct investment in Brazil, Russian Federation, Indian, China and Mexico is analyzed. A methodological proposal is made with its subsequent implementation, and the conclusions that were reached.

Investment Development Path (IDP)

The Investment Development Path (IDP) is a model that relates the close linkage between the economic development of a country and the foreign direct investment (FDI) that emits and receive considering that this development can generate some advantages to the ownership of the local enterprise thereby benefiting multinationalization process. This also increases the attraction of FDI due to the impact that it has on the generation of new locational advantages and improving the existent ones. In other words, the economic development, according with the structural evolution of an economy, is related with the multinationalization. This situation impacts on the reception and emission of FDI. In this way it is possible to observe the dynamic interaction of the FDI that relates the economic development of a country generated by the economic structure and the entrance and emission of FDI.

The model of the IDP was developed by Dunning (1981), and modified several times mainly by Dunning (1986, 1993), Dunning & Narula (1996), Durán & Úbeda (2001), y Durán & Úbeda (2005). It is a process integrated by 5 stages. In stage 1, the inflow of FDI is very low and practically it is directed to the primary sector, to the exploitation of natural resources (Dunning & Lundan, 2008). In this stage are the less developed countries, within its the main advantages that they have is the cheap labor force. In stage 2, the

reception of FDI increases due to the improvement in the structural factors of the country, such as the infrastructure, transportation, communications and qualification of the labor force. Also, the local markets grow in size or in purchasing power. However, the emission of FDI is still low. The emerging countries are classified into the third stage and one of their main characteristics is that they are important destinations for the FDI worldwide. Besides that they generate FDI towards other countries, which begin to be noticeable. All this, because there are several improvements in the activities related with innovation, infrastructure, technological capabilities, a higher education level, among others.

By and large, the first three stages of the IDP belongs to the developing countries, which are characterized because they are big receptors of FDI, with a low emission of FDI.

The last two stages correspond to the developed countries. In the stage four, are the countries newly developed. One of their main characteristics is the high level of emission of FDI to other countries, which are mainly investments in goods and services of high added value. So these countries have become leaders in the generation of technologies. Finally, the stage 5 is integrated by the developed countries, the ones that has more time in this classification; besides they have a higher quantity of intangible assets in comparison with the countries of the four stage, even though they have a similar structure (Durán & Úbeda, 2005). It is possible that the countries in this stage present positive and negative quantities of net investment with a trend to the equilibrium. Therefore the emission and reception of FDI keeps increasing, which is a natural and predictable process (Dunning, 1993).

The IDP is idiosyncratic, specific for every country and it has its own development path determined by the degree and nature of its assets, natural and created, its strategy of economic development and the government role. (Dunning & Narula, 1996). These factors determine the operation of the foreign and local enterprises in a region, where the proper interaction of the advantages of the enterprises and the countries make a virtuous circle in which one advantage drives the other (Bonaglia & Goldstein, 2006).

It is also worth to mention that according to the stage of develop of each country, it is the level of FDI that it should receive and be able to assimilate the potential benefits that come with the FDI (Dunning & Lundan, 2008) and stimulate a continuous economic growth. Whereas the larger the technological gap between the countries, the lower the internalization of benefits the recipient country of FDI (Dunning & Narula, 1996).

The IDP in BRICs countries and Mexico (BRICs+Mex)

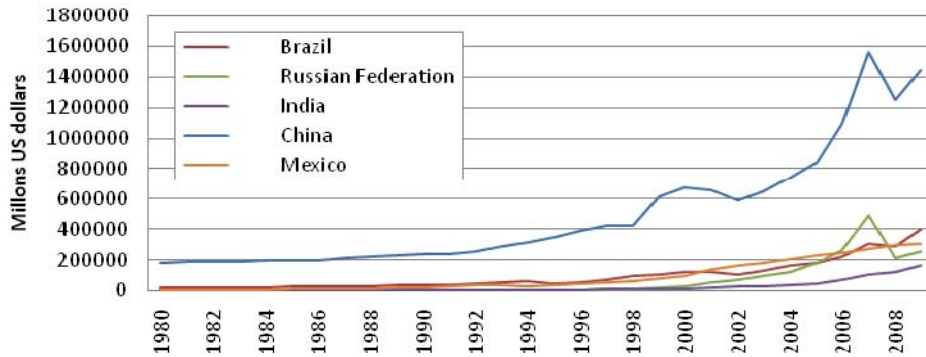
As it was mentioned before, the IDP relates the economic development of a country with the entry and exit of FDI, divided into 5 stages. The third stage corresponds to the emerging countries. Within which Brazil, Russia, India, China and Mexico can be found (UNCTAD, 2010), theoretically considered in the third stage of the IDP. In fact, some authors have previously identified the evolution of some countries through other stages and the position of the emerging countries in the third stage. Among these authors we can mention Dunning (1981), Dunning & Narulla (1996), Tarzi (1999), Durán & Úbeda (2001), Dunning, Kim & Lin (2001), Kalotay (2004), Divarci et al (2005), Bonaglia & Goldstein (2006), Boudier-Bensebaa (2008), Sathye (2008), Gorynia et al (2009), Molina & Alcaraz (2010). Hence, it is possible to realize the interest and the importance of these countries and its research for academics and entrepreneurs.

A first approach to the identification of the appropriate stage in terms of the IDP of the countries that was mentioned before is by the observation of its behavior of inward and outward of FDI. In this regard, we can realize that China is the country with more amount of investment received, and it is much greater than the rest of the group. The FDI inflows to these countries began to increase more significantly during the decade of the 90's, which is comprehensible since in this period there were several changes worldwide, such as processes of reform, liberalization of trade, privatization of public companies, global economic expansion, economic deregulation, deregulation of financial markets and the easing of the requirements for foreign direct investment. This has promoted that the emerging economies receive greater amounts of foreign investments.

Russia, India, Brazil and Mexico make a relatively homogeneous group in terms of receiving FDI (stock), and remarkably away from China. The growing trends, according to what has been reviewed about the IDP, is an indicator of the evolution through the path described for these countries which allows to imply the stage in which they are, the third stage of the IDP. Another feature of these countries and that also is specific to the third stage is that they are important receptors of FDI worldwide.

In Chart 1 it can observe that, particularly in two occasions has suffered sharp falls in the inwards of FDI that refer to 2001-2002 and 2007-2008. In the first case may be due to the unfortunate events of 11/01 in the U.S.; and in the second case, by the global economic crisis originated in the U.S. in late 2007.

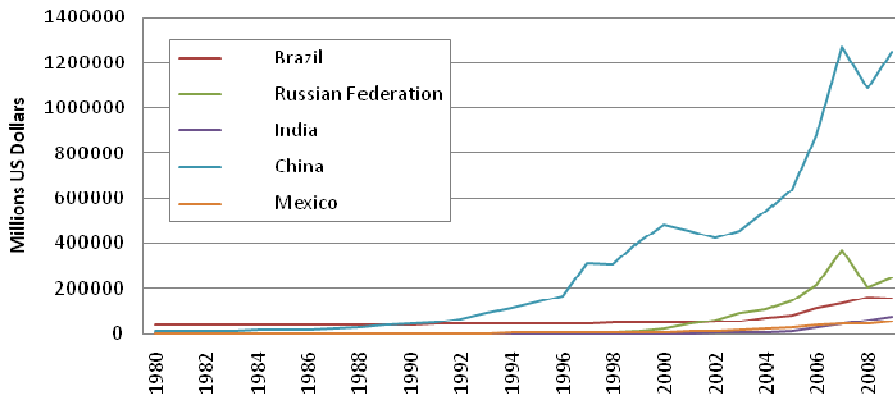
CHART 1. FDI STOCK INWARD



Source: Own elaboration based on UNCTAD data

In the Chart 2, it can be observed the emission of FDI of the countries under study. The behavior of the countries is very similar to what has been reviewed and explained with the inward of FDI. However, it is important to mention that the increase in the outward of FDI of one country is another characteristic of the countries that belong to the third stage of the IDP.

CHART 2. FDI STOCK OUTWARD



Source: Own elaboration based on UNCTAD data

Moreover, the outward of FDI of these countries is very important because it represents the generation of Multinational Enterprises (MNE's). In this respect, it is possible to say that the MNE's of the emerging economies are having a greater participation in the international markets, according to Vives & Mendoza (2008). That is the case of China and the worldwide participation of its enterprises, which is completely coherent with its high outward of FDI.

Likewise it is important to note that the multinational enterprises of the emerging countries seek for developed economies to establish and perform their activities (because of the advantages of their location) as countries with the same economic and structural development (Bonaglia, Goldstein, & Mathews, 2007).

In the described paths of the different countries, when the domestic gross product is related with the Net Outward Investment (NOI), defined as the outward stock of FDI minus the inward stock of FDI, we can

realize the evolve that these countries have followed between 1990 and 2009 (with the exception of Russia, due to the lack of data for the years 1990, 1991 y 1992) according to the IDP model. Comparing this relationship for each one of the countries under study in this paper (appendix 1), and according with the diagram of Dunning & Narula (1996) we can mention again that the 5 countries (Brazil, Russian Federation, India, China and Mexico) belong to the third stage of the IDP. However, although all belong to the third stage, each one has its own particular path and specific development, just as was mentioned by Dunning & Narula (1996).

According to Appendix1, in the first decade of study it can be observed an irregular behavior, this reflects the large number of changes that occurred worldwide. However, the data are adjusted more to what is in the theoretical papers

In terms of the IDP, the country that has a higher development is China. This according to its path which place it on the last part of the third stage, very close to the fourth stage, which is the stage of the newly developed countries. Russia shows a development very similar like China, and according to the information reviewed, it would also be close to the next stage.

According to the path outlined, the country that is after China and Russia is Brazil, then India, and finally Mexico, the three classified in the third stage of the IDP.

This is an approach to economic development of a country, generated by its structural development and related to both, inwards and outwards of FDI. However, it is necessary to conduct a more detailed study, for which a methodology is proposed and presented below.

Methodology

The methodology that is proposed consists of three parts. The first is a static analysis, then a dynamic analysis and finally the development of an index that will show the degree of multinationalization of each country, on the understanding that the outward of FDI is determined by the structural development of the country and in some way it is a measure of development of an economy.

For the static and dynamic analysis, we follow the methodology proposed by Duran & Ubeda (2001) and Duran and Ubeda (2005), and it is shown below:

- a) A factor analysis in order to identify the factors that will define the structural development of the countries.
- b) A multiple regression analysis to observe the behavior of the variables that define the structural development in relation to the inward and outward of FDI.

The other two analysis that the methodology of Duran & Ubeda (2001) and Duran and Ubeda (2005) considers, are a cluster analysis, to group the countries according to their structural characteristics and from that classify them according to their stage of development the IDP; and a variance analysis. These last two tests will not be made, due to we assume that the countries under study all belong to the emerging countries and therefore they are classified in the third stage of IDP. With this consideration, both the cluster analysis and the variance analysis would have no sense.

The following variables were used to make an approximate measure of the degree of structural transformation (Lall, 1996; Narula, 1996; Durán & Ubeda, 2001, 2005):

- a) The GDP per capita and GDP growth were used as an indicator of market potential.
- b) The CGF per capita (capital gross formation) as an indicator of the accumulation of physical assets.
- c) For the measurement of technological endowment, namely the strategic assets, were used the number of researchers engaged in research and development, the expenditure on research and development (R&D), the patents application by residents, the number of articles published in scientific journals. The expenditure on education was also included.
- d) To measure institutional development we used spending on health.

The dynamic analysis, consist of a panel data study to see if the development that the countries have had during the period of 1990-2009 has made an homogeneous path for both inward and outward of investment in these countries.

Finally, we obtain the multinationalization index from the methodology proposed by Gorynia et al (2009). This index reflects two groups of factors determining the outward of FDI by the multinational enterprises in a particular country. The differences in the index values between countries, shows the difference in these two groups of factors, which determines the outward of FDI by MNE's to other countries. The group of

factors that were used are the advantages of ownership (innovation, brands, management skills, access to information, etc.) and location factors (market size, production costs, infrastructure, technology, etc.)

The analysis of the Outward FDI Performance Index (OPI) shows the magnitude of the outward of FDI is issuing on the potential size of its economy, and indirectly would indicate which country has a better capacity to evolve through the stages of the IDP (Gorynia, Nowak, Tarka, & Wolniak, 2009).

Analysis of results

Before commenting the results, it is necessary to emphasize that the variables used have been relativized to avoid bias in the measurements. Once mentioned that, the first analysis that were performed is the static one, through a factorial analysis which allowed us to obtain the structural development factor for the countries under study.

Only one factor was obtained by this analysis, integrated by the GDP per capita, education expenditure per capita and the health expenditure per capita. The best results were obtained with the interaction of these three variables as a development factor. In this regard, although the R&D expenditure is very important, the results were not optimal so it was not considered.

The reason why the R&D expenditure does not appear as variable in the development factor, may be explained because, according to the IDP model, a main characteristic of the countries in the fourth stage is the generation of new technologies and the leadership that they have in this field. By contrast, in the emerging countries, according to the IDP model, the generation of new technologies is not a characteristic that defines them. Therefore it is possible that the R&D expenditure does not appear in the factorial analysis.

TABLE 1. RESULTS OF THE FACTORIAL ANALYSIS

Variables	Communalities	Factor
GDP per cápita	.991	.995
Education expenditure per cápita	.986	.993
Health expenditure per cápita	.962	.981
Measure of sampling adequacy of Kaiser-Meyer-Olkin.		0.724
Test of Bartlett sphericity		15.718
Sig.		0.000

Source: Own elaboration based on the results from SPSS

The second part of the static analysis was a regression analysis. The structural factors identified by the factorial analysis were used as independent variables relating them to both, income and emission of FDI as dependent variables. The outcome was positive and consistent with the inward of FDI. This means that the development factor promotes the attraction of foreign capitals in the emerging countries analyzed.

However, there is no relationship between the development factor and the outward of FDI, which means that the structural development of these countries is not enough to explain the multinationalization of FDI from these countries abroad.

TABLE 2. REGRESSION ANALYSIS RESULTS

	Model	
Constant	639 (5.512), (.012)	R ² = .799 F = 11.931
Development Factor	448 (3.454), (.041)	

Source: Own elaboration based on results from SPSS.

In the dynamic analysis we conducted a panel data analysis applied to Brazil, Russia, India, China and Mexico in the period of 1993-2009. In this analysis were used logarithms of the stock of the foreign direct investment for both inwards and outwards for a better adjustment and to eliminate problems of heteroskedasticity and

nonlinearity. In the process of determining the model with the best adjustment, problems of autocorrelation were also present, which were eliminated by the use of lags. It is also important to mention that the analysis was performed with fixed effects. The models used are:

$$\begin{aligned} LOGFDI_{pc}IN_{it} &= B1_{it} + B2 LOGFDI_{pc}IN_{it}(-1) + (B3 LOGGDP_{pc} - B4 LOGGDP_{pc}(-2)) + \delta_t + \varepsilon_{it} \\ LOGFDI_{pc}OUT_{it} &= B1_{it} + B2 LOGFDI_{pc}OUT_{it}(-1) + (B3 LOGGDP_{pc} - B4 LOGGDP_{pc}(-2)) + \delta_t + \varepsilon_{it} \end{aligned}$$

where:

- LOGFDI_{pc}IN_{it} = Logarithm of the inward stock of FDI per capita in each country i at time t
- LOGIED_{pc}OUT_{it} = Logarithm of outward per capita stock of FDI in country i at time t
- LOGGDP_{pc} = Logarithm of GDP per capita
- δ_t = Standard error
- ε_{it} = Error term.

The results in Table 3, shown that a country's economic growth, generated by a structural transformation will promote growth in both inward and the outward of foreign direct investment. This is consistent with the revised theory. Specifically in the obtained models can be observed that in the case of the BRIC+Mex the FDI not only depends on the current GDP, but also from earlier periods.

TABLE 3. TEST RESULTS WITH FIXED EFFECTS

Variables	Model FDI inwards	Model FDI outwards
<i>LOGIED_{pc}IN (-1)</i>	0.822568* (13.61544)	0.932794* (22.79519)
<i>LOGPIB_{pc} - LOGPIB_{pc} (-2)</i>	1.145635** (2.387799)	1.814775** (3.382428)

Source: Own elaboration based on results of the E-views.

* Statistically significant at 1% ** Statistically significant at 5%.

The Outward FDI Performance Index relates the degree of development of an economy. So indirectly it indicates which country has a bigger trend to multinationalization. The interpretation of the OPI is as follows when the index value approaches to 1 or more, the greater its behavior toward the integration of its enterprises to foreign markets. In terms of the IDP it means evolution in the path described.

In the following table it is clear that China is the country with the highest values of the OPI even though in the last decade they have been declining, it still being the country with a greater trend toward multinationalization.

After China, comes Russia, for which the years 1990, 1991 and 1992 are omitted because there is no information available. This country shows a certain behavior to the outward of the FDI. However, the index shows some changes, i.e. increases and decreases significantly. This could possibly be explained by the outward of FDI from multinationals rather than a constant and increasing evolution of the index of this country.

Brazil is third country in importance according to the OPI (in regard with the emerging countries that are under study). Particularly from 1995 to 2009, unlike Russia, Brazil shows an almost steady behavior during that period.

Finally, the other two countries, Mexico and India, have the lowest levels of performance. In the case of Mexico, it can be observed that there has been a gradual and steady growth. In the case of India, the growth practically began in 2006 with a considerable increase in comparison of 2005 and continuing with a slight increase in the years 2007, 2008 and 2009, growing even more than Mexico.

TABLE 4. OUTWARD FDI PERFORMANCE INDEX

Years	Brazil	Russia	India	China	Mexico
1990	0.915	-	0.004	0.768	0.099
1991	0.941	-	0.004	0.736	0.082
1992	1.035	-	0.011	0.827	0.092
1993	0.816	0.046	0.009	0.824	0.070
1994	0.634	0.055	0.010	1.020	0.084
1995	0.479	0.069	0.011	0.976	0.110
1996	0.391	0.084	0.014	0.920	0.086
1997	0.334	0.122	0.009	1.363	0.078
1998	0.307	0.176	0.009	1.098	0.070
1999	0.391	0.225	0.017	1.204	0.069
2000	0.325	0.312	0.015	1.151	0.052
2001	0.372	0.598	0.022	1.067	0.073
2002	0.460	0.771	0.034	0.943	0.077
2003	0.376	0.796	0.039	0.816	0.090
2004	0.376	0.654	0.040	0.796	0.103
2005	0.329	0.702	0.044	0.816	0.128
2006	0.328	0.687	0.093	0.823	0.121
2007	0.292	0.818	0.110	0.890	0.126
2008	0.382	0.454	0.187	0.822	0.159
2009	0.310	0.604	0.189	0.708	0.186

Source: Own elaboration based on UNCTAD data

Conclusions

In this paper we have observed the relationship between the structural factors of Brazil, Russia, India, China and Mexico and the inward and outward of FDI. This means that in order for a country to receive and emit more FDI, it needs to improve its structural characteristics.

The static analysis has allowed us to identify that the variables that integrate the development factor are the GDP per capita, the education expenditure per capita and the health expenditure per capita.

In other papers (Duran & Ubeda, 2001 and Duran & Ubeda, 2005), the degree of technological development is a very important variable for countries that belongs to stages 4 and 5 of the IDP. Nevertheless, in this study the degree of qualification of human capital produce better results than other technology assets as the number of researchers, R & D expenditure, inter alia. This behavior is completely consistent with the theory, since the countries of the third stage of IDP are not characterized as generators of new technologies. This situation will change as countries increase their level of structural development, as China in this paper.

The dynamic analysis allows us to observe from the models obtained that the FDI not only depends on the current GDP, but also from earlier periods in the case of the countries under study.

The results reached with the Outward FDI Performance Index are consistent with those obtained in previous analysis because the level of development is determined by outward FDI. This can be seen clearly in the case of China, since it is the country with the highest level of participation of investments in foreign markets and therefore more prone to multinationalization, then find Russia, Brazil, Mexico and India, countries with a lower level of development.

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For the full list of references contact the author(s).

APPENDIX 1

TABLE 5. NOIP AND GDPPC DE LOS PAÍSES BRIC+MEX

Year	Brazil		Russian Federation		India		China		Mexico	
	NOIP	GDPPc	NOIP	GDPPc	NOIP	GDPPc	NOIP	GDPPc	NOIP	GDPPc
1990	26.08	3199.66	---	---	-1.78	379.04	162.92	565.56	-236.82	3453.23
1991	22.88	2928.25	---	---	-1.84	329.11	162.03	602.28	-328.62	4054.59
1992	-32.79	2760.98	---	3295.08	-1.88	323.81	161.51	702.18	-371.35	4599.60
1993	-75.89	3050.99	14.24	3076.75	-2.42	309.79	168.36	836.91	-421.33	5004.66
1994	-115.83	3745.12	-4.65	2744.11	-3.33	347.97	162.33	810.56	-319.53	5126.26
1995	-21.11	4755.65	-15.19	2688.04	-5.40	387.39	168.11	970.74	-403.15	3423.11
1996	-66.04	5115.14	-25.32	2644.18	-7.65	400.71	176.07	1095.24	-457.53	3904.67
1997	-147.62	5227.73	-40.40	2736.03	-10.12	427.21	-87.66	1182.35	-531.62	4628.03
1998	-304.63	4988.29	-27.41	1835.13	-13.27	422.32	-89.01	1192.75	-596.46	4779.47
1999	-306.78	3419.96	-59.44	1330.85	-13.39	442.41	157.63	1241.33	-715.06	5370.78
2000	-403.64	3701.63	-82.25	1770.77	-14.01	448.68	138.91	1325.87	-893.16	6397.34
2001	-409.04	3137.04	-59.57	2099.52	-16.17	455.47	148.75	1387.23	-1272.12	6760.80
2002	-259.26	2825.09	-58.72	2377.12	-20.18	468.36	117.70	1486.47	-1480.96	6968.70
2003	-429.26	3042.81	-40.50	2984.05	-24.16	539.65	140.05	1627.85	-1589.62	6788.37
2004	-500.71	3609.92	104.29	4112.69	-27.24	624.26	143.78	1864.07	-1752.73	7273.10
2005	-548.63	4740.27	234.33	5340.29	-29.59	719.36	146.38	2158.24	-1871.26	8014.25
2006	-567.05	5789.79	346.49	6941.87	-38.19	794.06	145.10	2522.77	-1974.17	8886.73
2007	-912.92	7017.26	852.97	9119.14	-52.99	980.82	199.32	3045.99	-2131.68	9483.53
2008	-653.63	8311.12	-77.07	11857.53	-51.50	1061.32	103.69	3684.78	-2313.48	9964.34
2009	-1255.03	7900.43	-25.29	8812.94	-72.41	1028.20	127.19	3916.68	-2336.15	7921.37

Source: Own elaboration based on UNCTAD data

The fundamental factors effect on extensiveness disclosure of financial reporting through company's website

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Abstract

The aim of this study is to analyze the influence of company characteristics which reflected in company size, level of profitability, level of liquidity, level of leverage and the company age on the extensiveness disclosure of financial information in manufacturing and services company's website which registered on Indonesia Stock Exchange (IDX). The sample that used in this study is 60 manufacturing and services companies which registered in Indonesia Stock Exchange on the year of 2008-2009. Purposive sampling method were used to get the samples. The Hypothesis analyzed by multiple linear regressions. The results of this study show that the company size gives the significant influence toward the extensiveness disclosure of financial information on manufacturing and services company's website. While liquidity level, leverage level, profitability level and the company age give no influence on the extensiveness disclosure of financial information in the websites of manufacturing and services companies.

Keyword: Company Characteristics, disclosure of financial information, website

Background

Each year, 'go public' companies published reports concerning its financial audited by independent public accountants. This financial report is an information that allows the parties outside the company's management to determine the condition of a reporting period. Hertanti (2005)^[11] in her study states that the financial statements are the main tool for managers to demonstrate the effectiveness of achieving objectives and to carry out the functions of accountability within the organization. Meanwhile, according to Pernyataan Standar Akuntansi Keuangan (PSAK) (IAI, 2002)^[12], the objective of financial statements is to provide information regarding financial position, financial performance and cash flows of the entities that give a benefit to the majority of the users of financial statements in making economic decisions.

An adequate disclosure of information in the financial statements can be done in the form of a description of the accounting policies that are taken, contingencies, inventory methods, the number of shares outstanding and other alternative measures. A survey by the AICPA special committee of financial reporting in 1994 stated that there are various information that needed by the users of financial reports, so the changes in business approach with emphasis on user needs is essential. Companies must be transparent in revealing financial information to help decision-makers and other users of financial information in anticipation of an increasingly changing in economic conditions.

Internet Financial Reporting (IFR) is a phenomenon that is currently booming. Agustina (2008) in her study states that the worldwide companies especially the company that has been go public through the Internet have been displaying its financial information, includes complete financial information or a summary of the financial report using the IFR. The format of the internet financial information used are also varied, such as using HTML format (Hyper Text Markup Language), pdf, word or excel.

The usage of company's website for financial reporting is still voluntary, so the company can still be experimenting. The application of Internet used in companies have an important role and it can become the center of business strategy to gain advantage in competition. Research on disclosure of financial information via the Internet is still important to do to find out what the factors affecting the company's extensiveness disclosure of financial informations.

Theoretical Framework

Disclosure in Financial Information

Disclosure is defined as the provision of information needed for optimal operation of an efficient capital market (Hendriksen, 1996)^[10]. In a broader interpretation, disclosure related to information contained in financial reports and also in additional communications (supplementary communication) which consists of footnotes, information about the incident after the date of reporting, analysis, management of the company's operations in the future, the financial forecasts of operations, as well as Other information (Widiastuti, 2000, in Hertanti,2005)^[11].

A disclosure in this case is the completeness of financial information that is displayed by the company in company's website in HTML format or other downloadable document format. Recently, IFR remains a component of the practice of voluntary disclosure by the Company (Ashbaugh et al, 1999)^[4]. There are currently no laws governing the company to report financial information company through website.

Agency Cost and Signalling Cost

Disclosure of financial information through the Internet Financial Reporting (IFR) is closely linked with agency theory and signaling theory. In Signaling Theory said that large companies will need much of external funds. To obtain these funds, the company will give a signal about the quality of corporate financial disclosure through the company's website. Lang and Lundholm (1993) in Agustina (2008)^[1] explained that there is a perception that a well performing management will be more open about its information then the poorly performing management so Agustina (2008)^[1] explained that in such situations, management will be more active to increase shareholder confidence and support the management contracts.

While in Agency Theory expressed by Jensen and Meckling (1976)^[14]; the agency relationship arises when one or more persons (principal) employ another person (agent) to provide a service. At the time of granting authority, the agency relationship emerged. In the contract between management and investors, management as the agent while investors regarded as principal who delegate the authority to the agent. Therefore, the manager of management must be able to prepare the financial information as a means of accountability of agent to principals. Principals have to give their attention to their agent and the Agent will try to fulfill the desire of principal as a form of accountability through the extensiveness disclosure of financial information, one through the company's website.

Research Framework

The practice of disclosure of financial information via the Internet is indispensable to the agency theory and signal theory. In signaling theory states that the company will give positive signals to its investors to obtain an external funding. While in agency theory, an agent must be responsible to the principal. One way to give a positive signal and obtain funds from outside parties is to use the Internet Financial Reporting (IFR). IFR is also a way for company management as the agent to be responsible to the investors who act as principals.

The phenomenon of financial disclosure through the IFR does not necessarily make all companies willing to disclose their financial information through its personal website. There are various factors that influence companies to do the Internet Financial Reporting practice or not. These factors show the characteristics of the companies that can influence the conditions in the company. Hertanti (2005)^[11] in her research said the company will be revealing its financial information in accordance with the condition of the company. In this study, the factors are reflected in company size, profitability level, liquidity level, leverage level and the company age.

a. The influence of company size toward the IFR practice

Several previous studies such as conducted by Ismail (2002)^[13] and Agustina (2008)^[1] argues that firm size give an influence toward the disclosure of financial information via the Internet. This is caused by large companies usually have many number of shareholders and its scattered. Large companies must pay large agency cost to distribute financial information to their shareholders. With IFR practice, companies will be able to reduce its agency costs. Thus, the hypothesis proposed is:

H₁ : The size of the company significantly influences the extensiveness disclosure of financial information via the company's websites

b. The influence of profitability level toward the IFR practice

Signaling theory states that when a company has a good performance, management has a strong incentive to disseminate financial information to improve the confidence of the investors Debreceeny (2002)^[7]. This is very different from the companies that have poor profitability. The Company will not use the IFR for the company to hide its bad news.

Companies with high profitability will easily attract the attention of investors with the extensive reporting of financial information using IFR practices. Thus, the hypothesis in this study proposed is:

H₂ : The level of corporate profitability affects the extensiveness disclosure of financial information via the company's websites.

c. The influence of liquidity level toward the IFR practice

Erlina (2002)^[8] states that the liquidity ratio is a ratio measuring company's ability to meet its short-term financial liabilities to short-term creditors. Illiquid condition of the companies could cause the company went bankrupt. Liquidity is seen as a form of company ability to meet payments to smooth their business. Company with high liquidity level tends to do the IFR practice so many parties will know about company's financial information.

There are several previous studies such as the study done by Lestari and Chariri (2005)^[15], and also Agustina (2008)^[1] argues that the level of liquidity significantly influences the practice of IFR. Thus, the hypothesis proposed is:

H₃: The level of liquidity affects the extensiveness disclosure of financial information via the company's websites.

d. The influence of leverage level toward the IFR practice

Leverage ratios can be interpreted as the use of assets or funds to close the company flat fee or pay a fixed expense. Leverage can be used to view the risk of uncollectible debt. The practice of disclosure of financial information via the Internet can help companies to remove doubts from the shareholders of the fulfillment of their rights as funders.

Ismail (2002)^[13] in his research stated that the level of company leverage influence the disclosure of financial information via the website associated with agency costs. Thus, the hypothesis proposed is:

H₄ : The level of leverage affects the extensiveness disclosure of financial information via the company's websites.

e. The Influence of company age toward the IFR practice

According to UU No. 8, 1995, the company will be listed or already listed on stock exchanges have a mandatory to do a financial reporting. Companies listed on the Stock Exchange that has more experience in the annual report will provide more complete financial information compared to other companies (Lestari and Chariri, 2005)^[15].

Companies that have been listed for long time in Indonesia Stock Exchange has a tendency to change the method of reporting its financial information in accordance with technological developments in order to get the attention of their shareholder through the company's website using the IFR. Thus, the hypothesis proposed is:

H₅: The Age of company listing affects the extensive disclosure of financial information via the website.

Research Method

Population and Sampling Method

The population used in this study was financial information that published through the website of manufacturing and service companies listed in Indonesia Stock Exchange. Total manufacturing company that listed

on the Indonesia Stock Exchange (IDX), about 132 companies and the services company that listed in the Indonesia Stock Exchange is about 68 companies.

The sampling method that used in this study is *Non-probability sampling using purposive sampling* so that the selected samples for this study are 36 manufacturing companies and 24 services companies.

Research Variable

The dependent variable in this research is the extensiveness disclosure of financial information on the website of manufacturing and services companies that listed on Indonesia Stock Exchange. This variable was measured by using the index of disclosure methodology, the index Wallace in Nugraheni et al (2002)^[16].

$$\text{Wallace index} = \frac{n}{k} \times 100\%$$

While the independent variables that will be tested in this research are: Company size, Profitability level, Liquidity level, Leverage level and Company Age

Data Collection Method

Data used in this research is secondary data obtained using the method of documentation. This method is used to acquire data on company size, level of corporate profitability, the company's liquidity level, the level of companies leverage, company's age and the extensiveness disclosure of financial information in the company's website.

The secondary data that used in this study is the company's financial statements obtained from each website of manufacturing and services companies. Data collection method is done by downloading via the Internet. While the *website* of each company searching method is done by using search engine (Google and Yahoo!).

How to search the website above is like the way that has been done by previous researchers. If in this way *Website Company* cannot be found, the company is considered not to have *website*.

Analysis Method

In this research, a method of data analysis is data normality test, classical assumption, multiple regression analysis, and hypothesis testing.

Multiple regression analysis (multiple regression analysis) is a method of analysis used to test the influence of variables firm size, level of corporate profitability, the level of the company's liquidity, the company's leverage level and the company age to the extensiveness disclosure of financial information in the manufacturing and services companies websites.

The multiple regression models indicated as follows:

$$Y: a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

Where:

Y : The extensiveness disclosure	X3 : Levels of Liquidity
X1 : Company Size	X4 : Leverage Level
X2 : Level Profitability	X5 : Company's Age

Hypotheses in this research tested by F test and t test.

Result and Discussion

Based on descriptive statistics table 1., the minimum value of the extensiveness disclosure on the website by the company in 2 years is 45.59% obtained by PT Nippon Indosari Corporindo. While the maximum value of the extensiveness disclosure on its website by the company is 83.82% obtained by PT Multipolar. The average value of the extensiveness disclosure made by manufacturing and services companies via the website is 66.2257%.

TABLE 1: DESCRIPTIVE STATISTICS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Size	112	4E+008	3E+015	4E+013	3,058E+014
Profitability	112	-43,16	40,67	6,5304	11,36659
Liquidity	112	,09	9,84	1,7451	1,57149
Leverage	112	-1,55	77,46	2,7353	7,68042
Age	112	25,00	400,00	184,0536	91,47755
Disclosure	112	51,47	83,82	66,5704	6,89318
Valid N (listwise)	112				

Source: secondary data processed (2010)

In the variable firm size measured by the natural log of total assets, the company that has a small size in a 2 years period is PT Merck Indonesia with the calculation result of Rp 433.970.635. While companies that have large size within 2 years period is PT Bristol-Myers Squibb Indonesia at Rp 3.226.563.264.000.000. The average size of manufacturing and services companies in the year of 2008-2009 is Rp 40.000.000.000.000.

In the profitability level variable, company that has low level of profitability in the year 2008-2009 is PT Asia Pacific Fiber at -43.16%. While companies that have a high profitability level is PT Unilever Indonesia at 40,67%. The average level of profitability is at 6.7316%.

On the liquidity level variable, the company that has a low level of liquidity with the calculation result of 0.09 times in the year 2008-2009 is PT Asia Pacific Fiber. While companies that have a high level of liquidity at 9.84 times is PT Mustika Ratu. The average value of liquidity level of manufacturing and services companies is 1.7101 times. This result indicates that every Rp 1 of current liabilities owned by manufacturing and services companies secured by Rp 1.71 of its current assets.

In the leverage level variable, the company that has low leverage level at -1.55 in year 2008-2009 is PT Asia Pacific Fiber. While the company that has high leverage level at 77.46 is PT Adhi Karya. The average value of company leverage level is 2.6508. This indicates that the average debt of manufacturing and services companies of its equity is about 2.6508 times.

At the company age variable, the company that has the lowest age in 2009-2008 was PT Indopoly Swakarsa Industry and PT Inovisi Infracom by 5 month because they are new companies that listed its shares on the Stock Exchange on years of research. While the companies that have the highest age is PT Holcim Indonesia is 400 month or 33 years. The average value of age in manufacturing and services companies is 172,5833 month.

Based on the results above, it appears that the extensiveness disclosure of financial information via the website has a minimum value of 51.47% and the maximum value of 83.32% with an average of 66.2257%. This indicates that not all financial information required under *Surat Edaran Ketua Badan Pengawas Pasar Modal on December 27, 2002* expressed by both industry types the company websites. This thing occurred because of the disclosures done by the company in its website is still a voluntary. It's important for companies to be more aware in providing the extensiveness disclosure in the financial information on the company's website that can provide benefits to the user.

Hypothesis Test

Before testing the hypothesis, performed the classic assumption test. Classic assumption test results showed that all variables are qualified normality, and multicollinearity, heteroscedasticity and autocorrelation did not occur. Then performed multiple linear regression test, with the following results showed in table 2 and table 3.

TABLE 2: MULTIPLE LINEAR REGRESSIONS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	43,012	8,888		4,839	,000
	Size	,836	,299	,258	2,801	,006
	Profitability	-,060	,061	-,092	-,982	,328
	Liquidity	-,696	,433	-,148	-1,607	,111
	Leverage	,060	,085	,062	,704	,483
	Age	,004	,007	,055	,605	,546

a. Dependent Variable: Disclosure

TABLE 3: COEFFICIENT DETERMINATION**Model Summary (b)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,376 ^a	,141	,104	6,82143

a. Predictors: (Constant), Age, Size, Leverage, Liquidity, Profitability

b. Dependent Variable: Disclosure

Source: secondary data processed (SPSS, 2010)

The results of multiple regression by using $\alpha = 5\%$ are, adjusted $R^2 = 0.104$, calculated F value = 3,753 with a significance level of 0.003. This can be the basis that the null hypothesis (H_0) is rejected, it means that together the company size variable, profitability level, liquidity level, leverage level, and company age make a positive influence on the extensiveness disclosure of financial information on the websites of manufacturing and services companies in 2008 - 2009.

The first hypothesis result shows that the company size has a significant influence on the extensiveness disclosure of financial information on the manufacturing and services company's websites. This can be proved that the bigger a company, the company will likely do the disclosure of financial information via its website.

The result could be explained by the agency theory. Large companies will get more attention from society when compared to small companies so that large companies will tend to make disclosure of financial information through the company's website with hopes to be able to reduce the agency conflict associated with printing and delivery of financial statements. Large companies also have a greater incentive to show the quality of his company through the website. Thus, large companies can use innovative ways to disclose financial information in accordance with the development of technology and information. This result is consistent with the research conducted by Oyelere et al. (2000)^[17], Agustina (2008)^[1], Gunawan (2000)^[9] and Hertanti (2005)^[11].

The second hypothesis result shows that the profitability level has no influence on the extensiveness disclosure of financial information on the company's websites.

The result may indicate that companies disclose financial information on the website and that they ignore the information about the profitability of financial reporting via the Internet. This is thing happens because of the economy after the global crisis in 2008 which last less stable and cause a lot of companies that experienced a decrease of profitability so that information about the profitability level get less attention in financial reporting through the website. Based on the minimum value of profitability (-43.16%) can be seen that not only companies with high profitability are doing disclosure of financial information via the website, but also the companies that have low profitability are doing the disclosures in its website. This indicates that the companies have responsibility awareness in all investment which shareholder has invested in the organization. This result is consistent with the research conduct by Agustina (2008)^[1], and also Lestari and Chariri (2005)^[15].

The third hypothesis result shows that the liquidity level has no influence on the extensiveness disclosure of financial information on the company's websites.

The result indicates that even if a company has low liquidity levels, the company still makes a disclosure of its financial information via the website. Wallace in Hertanti (2005)^[11] states that companies with low liquidity will tend to disclose more financial information to external parties to explain the poor performance of its management in managing the company. This result is consistent with the research conduct by Fitriani (2001) in Almilia and Retrinasari (2007)^[2].

The fourth hypothesis result shows that the leverage level has no influence on the extensiveness disclosure of financial information on the company's websites.

The result indicates that low levels of leverage do not necessarily make the company hide financial information from the public. It is seen clearly at the minimum level of leverage indicated by PT Asia Pacific Fiber at -1.55 but the company has the extensiveness disclosure of 70.59%. In addition, the leverage associated with corporate debt. Most debt comes from banks that rely more on direct access to financial information from companies that have debt than using such indirect access using the company's websites. This result is consistent with the research conduct by Oyelere et al. (2003)^[18] and also Prabowo and Tambotuh (2005) Based on the results of ANOVA test between company size (X_1), profitability level (X_2), liquidity level (X_3), leverage level (X_4) and also the company age (X_5) toward the extensive disclosure of financial information on the website of manufacturing and services companies (Y) on Table 7 above, known that the value of calculated F is 4.255 > the value of F table (1,898) with a significance of 0.01 (significance level $\alpha = 0.1$). This indicates that the company fundamental factors reflected by above variables give significant influence together on the extensive disclosure of financial information on website.

TABLE 4: ANOVA TEST (F TEST)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	873,229	5	174,646	3,753	.003 ^a
	Residual	5304,641	114	46,532		
	Total	6177,870	119			

a. Predictors: (Constant), Age, Size, Leverage, Liquidity, Profitability

b. Dependent Variable: Disclosure

Source: secondary data processed (SPSS, 2010)

The fifth hypothesis result shows that the company age has no influence on the extensiveness disclosure of financial information on the company's websites.

This result proves that the company age is not taken into consideration for investors to invest in a company. The investors pay more attention to the items in the disclosure made by the company. This will further raise awareness for companies to disclose its information, both financial and non-financial information through the company websites. These results also prove that it is not the age that causes a company to do the disclosure of financial information via the websites but that is because the companies want to follow the development of technology information used by other companies. In addition, Lordanita (2006) in Agustina (2008)^[1] also states that the more experienced companies, their management will doing more disclosure through the companies websites to attract its investors. This result is consistent with the research conduct by Prabowo and Tambotuh (2005)^[19].

The result of ANOVA test between company size (X_1), profitability level (X_2), liquidity level (X_3), leverage level (X_4) and also the company age (X_5) toward the extensive disclosure of financial information on the website of manufacturing and services companies (Y) on Table 4., show that the value of calculated F is 4.255 > the value of F table (1,898) with a significance of 0.01 (significance level $\alpha = 0.1$). This indicates that the company fundamental factors reflected by above variables give significant influence together on the extensive disclosure of financial information on website.

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a. Predictors: (Constant), Age, Size, Leverage, Liquidity, Profitability

b. Dependent Variable: Disclosure

Source: secondary data processed (SPSS, 2010)

Conclusion, Implication and Limitation

Based on the results of data analysis and discussion conducted previously, can be conclude as follows:

There is positive influence among the company size, profitability level, liquidity level, leverage level and the age of the company to the extensiveness disclosure of financial information in the manufacturing and services company's websites. However, partially, only the size of the companies that have positive influence on the extensiveness disclosure of financial information in manufacturing and services company's websites, while the level of liquidity and leverage has no significant influence toward the extensive disclosure of financial information in manufacturing and service company's websites just like profitability levels, and age did, in line with the result of Amalia (2005) ^[3] and Celik et al. (2006) ^[5] research.

Based on the result above, the company need to raise an awareness of the importance of full disclosure of financial information on the company's website which will provide benefits to those who use financial reports as well as society at large.

This research has several limitations. First, the population used in this research is relatively small and not represent all company that listed in Indonesia Stock Exchange. The next limitation is the assessment of the extensiveness financial information on the company website is determined on the basis of interpretation of the researcher after reading the contents of corporate financial statements issued through the website, so there will happens a difference in assessment because of author subjectivity.

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Accounting Disclosures of Corporate Social Responsibility: An Exploratory Case Study of a Conglomerate in Sri Lanka

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Abstract

The purpose of this study is to explore, how Corporate Social Responsibility (CSR) is undertaken and disclosed. With the help of an exploratory case study, we intend to create a platform for discussion on enhancement of the CSR disclosures and its usefulness. We have examined annual reports and held several interviews. We used Global Reporting Initiatives (GRI) G3 sustainability reporting guidelines as the benchmark to analyze CSR disclosures. We find that CSR engagement and disclosures are mainly focused on education, health, environment, community and livelihood development, arts and culture, and disaster reliefs. The quality of reporting has been affected due to poor interpretation of the materiality and deviation from neutrality, comparability and accuracy. It can be argued that the company is engaged in CSR as advocacy advertising to enhance its image as a good corporate citizen and to minimize the risk of sustaining commercially in a globally competitive business environment.

Introduction

As per Global Reporting Initiative's (GRI), sustainability reporting or CSR reporting is the practice of measuring, disclosing and being accountable for organizational performance while working towards the goal of sustainable development. Financial reporting now goes beyond the traditional mode of providing only financial information (Gray, Owen, & Maunders, 1983) and includes Corporate Social Responsibility (CSR) reporting or sustainability reporting. CSR is simply regarded as a good practice which is now on the top of the corporate agenda.

We do not have adequate evidence on the level and quality of CSR disclosures in emerging markets. Therefore, the need arises to study the CSR engagement and reporting in emerging markets. The intellectual questions to be asked in this regard are: What is the real purpose and use of CSR disclosures in emerging markets? Do firms make CSR disclosures symbolically to enhance the corporate image? Do firms use CSR disclosures as a strategic weapon or a tool to minimize their risk of survival? Do CSR disclosures help improve future earnings of firms? Do CSR disclosures really meet the information needs of stakeholders? To answer these questions, we have selected the largest Sri Lankan conglomerate, John Keels Holdings Plc (JKH) for our study. This company had started CSR reporting from the year 2004/05 in the annual report itself and expanded its disclosures by issuing a separate sustainability report in the year 2008/09 based on GRI G3 sustainability reporting guidelines.

Literature Review

CSR disclosures are continuously and tremendously increasing (Adams & McNicholas, 2007; Bebbington, Higgins, & Frame, 2009). Accountability of a firm has now crossed the boundaries of traditional role of doing businesses economically to achieve good financial performances for its owners (Gray, et al., 1983). However, firms are not legally responsible for contributing towards social and environmental sustainability and rather they are supposed to conduct business operations to maximize shareholders wealth (Jensen, 2000).

On the other hand, it could be argued that spending on CSR would enhance the value drivers of a firm (Sen & Swierczek, 2007) and it might generate more profits in the long run in a sustainable manner even though it reduces the current year's profits. Many firms tend to behave in an ethically and socially responsible manner, thus assuring the safeguard of the society and environment at large (Tinker & Niemark, 1987). Despite the fact that CSR is a voluntary and a systematic process by which firms attempt to integrate social, environmental and economic

aspects when conducting business operations while recognizing the interests of stakeholders, it can be argued that a firm has an obligation to deliver societal values and objectives (Bowen, 1953).

CSR definitions mainly include economic, environmental, and social activities that a firm can engage in (Deresky, 2000; Epstein & Roy, 2001; Haugh, 2003; Maignan & Ferrell, 2003) and CSR has become an institutionalized practice to assure social and environmental performances in addition to economic performances (Naylor, 1999; c.f. Douglas, Doris, & Johnson, 2004). The Scope of CSR has been broadening over the time and being influenced by the nature, complexities and expectations of the society (Carnegie, 1900, c.f. Dunne, 2009).

The breadth and scope of the definition of CSR and varying socio, political, and environmental factors make stakeholders hard to understand what the firms are really doing in the name of CSR (Freeman, 1984). It is extremely difficult to find a compact and comprehensive definition of CSR and to determine its scope and practice (McWilliams & Siegel, 2001) owing to contextual differences (Meehan, Meehan, & Richards, 2006). The scope of CSR generally ranges from philanthropic to sustainable development programs interwoven with corporate strategies. Everything that a firm can do for the betterment of the society and environment in any forms is considered as CSR (Barker, 2009; Sethi, 1975). The definition by Gray, Owen, and Maunders (1987) uses this broader view and emphasizes the importance of CSR engagement as a process of communicating the social and environmental outcome of organizations' economic activities and operations to interested parties and to the society at large.

CSR is also viewed as a process of aligning organizational values and behaviors with the expectations and needs of stakeholders including the society as a whole (Network, 2008) in order to achieve a sustainable development. Hence, both external and internal variables and distinct expectations of stakeholders are likely to determine the need, practice and disclosures of CSR (Carroll, 1979) and as a result CSR reporting has become highly a subjective practice (Churchill, 1974).

Legitimacy theory argues that any business organization has implicit or explicit social contracts which hold it responsible towards the society to carry out its activities in a transparent manner while contributing towards social development. Campbell, Graven and Shries (2003) found that CSR disclosures were in line with legitimacy theory. Adams and McNicholas (2007) found that most of the senior managers were of the view that the primary motive for sustainability reporting was to enhance corporate legitimacy. Stakeholder theory also argues that CSR practice would help win the support of stakeholders so that managers can run the business operations while managing the series of connections among stakeholders (Freeman, 1984). Both legitimacy theory and stakeholder theory focus on what companies ought to do in the course of CSR engagement. Many research works suggest what the firms are supposed to do in CSR rather than exploring what they are really doing (Blum-Kusterer & Hussain, 2001). Milne (2001) argues that it is possible for companies to use CSR disclosures indirectly as advocacy advertising. Political economy theory suggests that corporations tend to carry out CSR campaigns in the media to avoid any political costs that may arise in a political economy. From the institutional theory perspective, CSR can also be viewed as a well-accepted institution (Dacin, Goodstein, & Scott, 2002) despite the fact that CSR disclosure is not mandatory.

AA1000 series of principle-based standards covering Accountability, Assurance and Stakeholder Engagement, Social Accountability International's SA8000 standards to improve workplaces and communities, ISO 14000 environmental management standards, the United Nations Global Compact, (UNGC) and Millennium Development Goals (MDGs) and Global Reporting Initiative's (GRI) Sustainability Reporting Guidelines mainly associate with responsible and ethical conduct of operations of organizations. GRI has been able to incorporate the essence of most of guidelines referred above and as a result, it is generally referred to sustainability reporting standard around the world (*Survey of best practices, trends and benchmarks in Sustainability reporting*, 2010).

There is an increasing tendency for CSR (Harte & Owen, 1991) and as a result non-financial reporting has developed with gradual transformation in relation to the purpose, content, structure and the readership of reporting (White, 2005). However, due to contextual and other reasons, companies still show a reluctance to contribute for CSR (Ofori & Hinson, 2007) and disclose them. Does CSR help in improving the corporate performance? With respect to the relationship between CSR reporting and company performance, mixed results were found (McWilliams & Siegel, 2000). Aupperle, Carroll, and Hatfield (1985) and Walter and Monsen (1979) found that there were no relationship between CSR reporting and profitability. On the other hand, it has been found that CSR has potential to increase the profitability in the long run and has some association with sales increase and the value

of equity (Zairi & Peters, 2002). In addition to the financial performance, the age of firms was found to have positive correlation with CSR (Cochran & Wood, 1984).

Companies in Germany and Sweden tend to report more environmental information whereas companies in France disclosed more employee related information (Roberts, 1991). Similarly significant differences in perceptions of managers on CSR practices have been found among UK, Europe and China (Hind, 2004). Malaysian companies with significant holding of shares by directors disclosed less CSR information, while companies in which the government is a major shareholder disclosed more CSR information (Ghazali, 2007). Further, large and value driven companies were found to have given prominence for making CSR disclosures (Owen & Swift, 2001). There is hardly any research evidence available on CSR disclosures by companies in emerging economies like Sri Lanka. We attempt to fill this gap in the case of Sri Lanka.

Methodology

Since the organizational culture and behavior is said to influence CSR practice and disclosures, the study was limited to one company to examine how best it makes CSR disclosures rather than surveying on many. Therefore, exploratory case study approach was used. On the ground that large firms are on top in CSR practices and disclosures (Owen & Swift, 2001) JKH was chosen as the unit of analysis since it is the largest conglomerate in Sri Lanka.

Sustainability reports for last five years starting from the year 2004/05 were examined in addition to the information gathered from interviews. Interviews were conducted with the CSR manager, two volunteers who regularly involved in CSR programs and two staff from accounting department, who deal with preparing annual reports and sustainability reports. All the interviews were audio recorded with the consent of interviewees and played back for summarization and analysis and to explore how CSR projects are initiated, approved and implemented.

Data analysis is mainly qualitative involving content and interpretative analysis and it deals with comparison of CSR disclosures with GRI G3 sustainability reporting guidelines. UNGC and the MDGs were also perused since JKH referred them as well for sustainability reporting. A content analysis (Brockhoff, 1979) which mainly deals with word count, page count and analysis of images and reporting structure was also done for the reason that help better understanding of the magnitude of CSR disclosures.

JKH: History and Profile

John Keells Holdings Plc. (JKH) is a highly diversified conglomerate consisting of 80 companies in the group. It started business operations in 1870 and went public in 1974. The company was incorporated in 1986 and then acquired the controlling interest of the entire group. JKH was listed on Colombo Stock Exchange (CSE) and then on Luxemburg Stock Exchange with Global Depository Receipts (GDR). Thus, it became the first Sri Lankan company listed on a foreign stock exchange. Business operations include transportation and ports, leisure, property development and management, consumer foods and retail, financial services, information technology and plantation. JKH held number one position in terms of market capitalization (about 9% of total) by 31st March 2010. Share ownership of JKH is highly concentrated and about 85% of total shares was held by just 1% of total shareholders. Total assets as of 31 March, 2009 amounted to Rs.92, 216 million (US\$811.67 million) which included shareholders' equity of Rs.50, 542 million (US\$444.86 million). Group revenue has increased over last five years from Rs. 23,232 million (US\$204.48 million) to Rs. 41,023 million (US\$361.08 million), by accounting for an average growth of 10% per annum with significant fluctuations as high as of 27% and as low as of negative 2% during the period of study.

Gross profit margin has dropped from 29% to 24%, while the profit margin on revenue ranged between 12% and 13% during the same period. Profits for the year ended 31st March 2009 amounted to Rs.4, 974 million (US\$431.94 million), thus registering a 10% return on equity and a 5% return on total assets. Low percentages of returns on total assets indicated low efficiency levels of asset utilization characterized by the asset turnover ratio

which had gone down to 0.44 times from 0.60 times. However, JKH has been maintaining a steady payment of dividends.

Case Analysis

The content analysis revealed that the structure and content of CSR reporting were changing over time. Number of words and pages used for CSR disclosures gradually declined until the year 2007/08 and then increased again. A lot of images were used for reporting but many of them were not referred to corresponding CSR projects, thus reducing the relevance of those images. A fairly large space in the annual reports has been allocated for non-financial disclosures though the proportion of financial information has gradually declined. A summary of content analysis is given in Table 1.

TABLE 1: SUMMARY OF CONTENT ANALYSIS

Year	2005	2006	2007	2008	2009
No. of pages	65	18	16	18	52
No. of words	20,814	9,587	8,198	9,260	21,756
No. of images	17	22	15	6	21
Major Disclosure Categories	3	5	5	4	5
Financial information (Pages)	54(25%)	58(32%)	65(36%)	59(36%)	82(41%)
Non-Financial information (Pages)	160(75%)	124(68%)	115(64%)	105(64%)	116(59%)

CSR disclosures were found to have been grouped into three major categories of economic, environmental and social. No details of the measurable outcomes of CSR projects and direct and indirect costs involved in administering CSR projects and making sustainability reporting were disclosed.

Third party sponsored money for social works has been disclosed as if they were incurred by the company. For instance, JKH and its employees had spent only 6% of the total amount for tsunami relief projects in the year 2005/06, which had been mainly sponsored by major shareholders, donors and other business partners. Table 2 gives the summary of spending by each party with respect to those projects.

TABLE 2: SUMMARY OF SPENDING BY EACH PARTY FOR TSUNAMI RELIEF PROJECTS

TRI Fund as at 31st March 2006	Rs.	US\$	%
Contribution by John Keels Group & Employees	13,438,511	118,380.45	6%
Contribution by Other Donors	20,533,214	180,878.00	9%
Disbursed and Committed	33,971,725	299,258.45	14%
Additional Partner Contributions (Direct)			
DHL - Relief Supplies	37,000,000	325,934.66	15%
Schenker - Relief Supplies	30,000,000	264,271.35	13%
Livelihood Toshiba - Photocopiers at Concessionary Rates to Affected Small Businesses	2,300,000	20,260.80	1%
Housing Galleon Fund - The 100-House Project in Monrovia, Galle	59,800,000	526,780.89	25%
OSDP France - Funds for Housing via Kelaniya MahaViharaya	900,000	7,928.14	0%
Galleon Fund - The 50-House Project in Siribopura, Hambantota	35,700,000	314,482.90	15%
Galleon Fund - The 50-House Project in Rassandeniya, Matara	30,000,000	264,271.35	13%
Other International Finance Corporation - Funding for 7 TRI Projects (50% share)	4,817,194	42,434.88	2%
Jet Airways - Cash Contribution to President's Fund	5,000,000	44,045.22	2%
Sub Total	205,517,194	1,810,410.20	86%
Total Amount Spent	239,488,919	2,109,668.65	100%

Reconciliation of CSR Disclosures with GRI G3 Sustainability Reporting Guidelines

GRI G3 sustainability reporting guidelines (GRI G3) is the latest version which comprises of “Reporting Principles and Guidelines”, and “Standard Disclosures”. There are two sets of principles. The set one covers the aspects of defining the content namely *materiality*, *stakeholder inclusiveness*, *sustainability context* and *completeness* of the report. The other set refers to quality aspects of *balance reporting*, *comparability*, *accuracy*, *timeliness*, *reliability*, and *clarity* of the report. *Guidelines* refer to the report boundary which explains the range of entities whose performance is covered in the sustainability report. *Standard disclosures* cover ‘Strategy and Profile’, ‘Management Approach’ and ‘Performance Indicators’.

Declaration of GRI G3 Application Level

JKH has declared level C application which is for the ‘beginners’ and enhanced it to be C+ level by obtaining a third party assurance. The application level A is for ‘advanced reporters’ while the level B is for the reporters in between ‘Advanced’ and ‘Beginners’. However, no reference was given in the sustainability report with regard to the meaning of C+ application level. Had it been disclosed, the level of understandability of the report could have been increased.

Reporting Principles of Defining the Report and Content

The content index gave the corresponding page numbers of all the standard disclosures and reference to the annual report where necessary except the reference for sustainability web page. The names of major stakeholder groups were disclosed but the company failed to describe the mechanism used to identify stakeholder needs for

sustainability information. *Materiality* which refers to the importance of disclosures to stakeholders was not adequately explained. *Sustainability context* included only 37 companies out of 80 in the group. This is a deviation from the disclosed sustainability policy which stated that all the entities over which JKH has the control, adhere to the same sustainability policy.

Reporting Principles of Quality Aspects

Neutrality

Only positive aspects of CSR engagement have been disclosed. Evidence was found on negative incidents taken place. For instance, Lanka Marine Services (Private) Limited (LMSL)- a subsidiary of JKH - was ordered by the Supreme Court to vacate and return the land occupied by them to the government on the ground that it had been acquired by violating the constitution of Sri Lanka ("S.C (FR) 209/2007," 2008) and to pay Rs. 375 million (US\$3.30 million) to the government as compensation. The same case further revealed that huge tax exemptions had been obtained in false and illegal manner (Samarajiva, 2009) and, the Bribery Commission of Sri Lanka was ordered to carry out a full investigation. Subsequently LMSL deposited Rs 153,228,593 (US\$1349797.56) with a bank as a security, ordered by the Commissioner General of Labor to pay compensation to employees. These incidents seriously questioned the ethical practice, sustainable policy and compliance with UNGC in relation to corruption. In another incident, the second largest shareholder of the company for many years was arrested on the charges of insider trading in New York in 2009. Subsequently the shareholder disposed significant stake (28 million shares) in equity but no single disclose was made in this regard in any of the public documents released by the company.

Comparability, Accuracy, Reliability and Clarity

Comparative information was provided only with regard to few items. Awards received, total energy consumption, land utilization, employee population by grade, nature of employment, gender and geography relating to employment and details of collective bargaining agreements can be highlighted as items for which comparisons were not given.

Accuracy of information disclosed had been affected due to non-disclosure of references, tools and bases used. Significant discrepancies were also observed between numbers shown under economic performance in the sustainability report and in the annual report under the same headings. Assurance taken from a third party on compliance has increased the reliability in general but it too has failed to identify those differences. The clarity of the report was at a high level and the report was attractive. Figures, tables, images and summarized texts were used to present information in a clear manner in addition to a summary of abbreviations provided.

Standard Disclosures

Profile Disclosure

The chairman/CEO's message identified seven key priority areas for sustainability strategies namely, products and services, environment, employee health and safety, labor and human rights, society and stakeholder engagement, technology and economic. Targets to be achieved within the next 3-5 years were disclosed but they were not linked with long term strategies. It is unknown how the environmental scan was done and macro-economic and political trends were identified in determining sustainability priorities. Key events, achievements and failures and the chairman's views on the performances achieved against the targets during the year and a projection of the organization's main challenges and targets for the next year were also not disclosed.

Organizational Profile

Name and operational structure of the organization, location of organization's headquarters, nature of ownership and legal form of the company were properly disclosed. However, the information pertaining to what measures have been taken to improve the efficiency of delivering products and services to customers and the degree to which outsourcing was done was not disclosed.

Only the names of countries with which JKH has major operations were disclosed but the materiality and the relevance of such operations to the sustainability issues were not disclosed. Employee details and net sales were also disclosed. No disclosure was made with regard to any of the changes in operations, size and ownership structure of the company despite the fact that such significant changes in the capital structure had taken place during the reporting period.

The number of awards disclosed during the year was 50 and majority of them were for financial performance while six were for environmental concerns and only one for research and development activities.

Report Parameters

Proper disclosures were made with regard to the reporting period, including the date of most recent report, reporting cycle and contact point for queries on the report. However, no reply was received for the email sent to the given address in the report by inquiring the discrepancies found in the numbers referred earlier. When defining the report content, identified key stakeholders, report boundary, the basis of reporting on subsidiaries were properly disclosed.

Governance Guidelines, Stakeholder Engagement

Only a very short description about the main responsibility of the board was disclosed on the ground that full disclosure has been given in the annual report. Contrary to the best corporate governance practices, the offices of chairman and CEO are held by one person without giving any explanation.

It is not clear if the voice of minority shareholders and employees on any of the strategic or policy level issues were considered as the sustainability report is silent on the matters of communication between stakeholders and board of directors. Further, it is not clear as to how performance indicators and standard disclosures were determined and stakeholder engagement was carried out.

Performance Indicators

JKH is required to disclose a minimum of 10 core indicators including one from each category in order to comply with level C application. But it disclosed 12 comprising two economic indicators, three environmental indicators and seven social indicators.

Economic Performance Indicators

The first indicator (EC1) revealed direct economic value generated and distributed by revenue, operating costs, employee wages and benefits, community investments, retained earnings, and payments to providers of funds and governments. The other indicator (EC3) covered defined benefits plan obligations towards employees. However, these defined benefits are mandatory contributions and therefore cannot be considered as additional benefits provided to employees in the purview of CSR.

Environmental Performance Indicators

Direct energy consumption (EN3) and indirect energy consumption (EN4) by primary energy source and the location and size of land owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas (EN11) are the three indicators disclosed.

As per disclosed policy on energy management practices periodic reviews and audits on energy consumption and primary utility systems are carried out. In addition, training is given to all the employees and workshops are conducted to create awareness and to promote the responsibility on energy saving among employees. The total energy consumption for the year ended 31st March 2009 was 616,058 gigajoules but the significance of energy consumption could not be ascertained due to non-availability of comparatives.

Social Performance Indicators

Total workforce by employment type, employment contract, and region (LA1) and number of employees covered by collective agreements (LA4) were disclosed with appropriate classifications under the category of Labor Practices and Decent Work.

HR policies, pay systems, training and development, recruitment were disclosed in previous years but the content of disclosures was gradually reduced over the same period. The disclosures of employee age analysis and number of employees have been removed from the sustainability reporting from the year 2006/07. It was revealed that collective agreements with employees covered only 29% of the total workforce and the work force has significantly declined by the end of year 2008/09.

Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor (HR6) and Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to eliminate them (HR7) have been disclosed under human rights category. However, management did not rule out the fact that hotel operations of the group might give opportunities for teenagers within the ages between 14 and 18.

Society Performance indicator comprising of programs or practices for assessing and managing the impact of operations on communities including entering, operating, and exiting (SO1) and the total number and percentage of business units analyzed for risks related to corruption (SO2) were disclosed.

It was revealed that English Language programs, HIV and AIDS and other health camps and the village adoption project with a building of a tank in Halmillawa are top among other projects in terms of popularity, success and involvement of community. JKH policy on anti-corruption stated that it places the highest value on ethical practices and promulgates a zero tolerance for corruption and bribery. Further, JKH has introduced its own code of conduct for executives, which encompasses rules regarding bribery and corruption. However, the Supreme Court judgment given against the company seriously questions the above policy against corruption. None of the managers involved in this transaction was removed from the office on those charges. Hence, it could be questioned whether the said policy on anti-corruption practice is merely a buzz word.

Type of product information required by procedures, and percentage of significant products subject to such information requirement (PR3) was disclosed under the product responsibility category. The disclosed policy reveals that JKH strives to maintain products and services at the highest standards through embracing industry and corporate best practices and compliance with all relevant local and international statutory and regulatory requirements in the markets they serve.

Conclusion

More descriptive disclosures covering economic, environmental and social aspects were made over the time until a separate sustainability report based on GRI G3 sustainability reporting guidelines was issued in the year 2009. Being the largest conglomerate in Sri Lanka with the highest market capitalization and having the experience of making sustainability disclosures, JKH declared the lowest application level for sustainability reporting with respect to GRI G3. This declaration has created a comfortable platform for JKH to make CSR disclosures with minimum effort and fewer requirements to comply with GRI G3 while claiming that it complied with international benchmark for sustainability reporting. Further, it appears that the needs of stakeholders for sustainability reporting have not been considered when setting disclosure priorities though it claims that stakeholder engagement was carried out. Sustainability reporting boundary was limited to 46% of the entities over which JKH had the controlling interest.

The quality of reporting has been affected in several cases. Accordingly, *materiality* was not defined and not referred to the information needs of stakeholders. The principle of *balance reporting* has been violated by not disclosing material negative incidents; *Comparability* of the report was also not maintained except in few cases and the stakeholder engagement was not adequately explained. Significant differences were found between the numbers reported in the sustainability report and in the financial statements have reduced the qualities of *accuracy and reliability* of information. Non response from JKH to the email sent inquiring such differences casts a serious doubt on the genuineness of the disclosed policy of keeping close dialogues with stakeholders.

However, the clarity of reporting was maintained throughout the report whereby summaries, tables, figures and images have contributed to increase the understandability. More emphasis was given on environmental disclosures and pictorial presentations given on bio diversity hotspots were attractive. However, the measurement unit such as gigajoule used to present energy consumption cannot be understood and compared due to the absence of explanations.

Standard disclosures included CSR strategy and group profiles with significant areas of financial performances, financial position and future prospects and 12 performance indicators. The fact that whether and how short term, medium term and long term strategies were integrated with overall sustainability strategies was not disclosed. JKH had a greater flexibility of choosing performance indicators to comply with the application level C. When disclosing social performance indicators, JKH did not make any statement when corruption charges were leveled against the company and proven in the court.

It was found that direct and indirect media coverage had been used for CSR engagement to enhance the image of JKH as a good corporate citizen. The “Red Bag Campaign” is a clear example of this motive to win the public attention in guise of addressing environmental issues. Therefore, the conduct of CSR programs and the disclosures made can be seen as a means of advocacy advertising.

On the other hand, CSR engagement of JKH is seen to have covered up bad consequences arising from socially unwarranted and unethical business practices and helped avoided political costs and risks. This is evident from the fact that there was no influential public protest against the company on the adverse verdict given on corruption charges. Had these incidents not been challenged in the court, JKH could have easily enjoyed such benefits and rather spent part of that money on CSR projects as a good corporate citizen. Non-disclosure of negative incidents can be considered as an evidence of concealment of information and might cast doubt over the credibility of CSR reporting and the quality of ethical business conduct and obligations towards the society at large.

Positive relations were seen between CSR engagement and company performances as well. Steady rates of return on sales, on equity and on total assets with annual revenue growth of 10%, an increase in gross profit by 45% and significant improvements in both operating cycle and cash cycle have been reported. However, return on net operating assets significantly fluctuated during the same period and raise a doubt if JKH has engaged in income management practices.

Operating cash flows were also found to be relatively constant irrespective of decline in cash flow adequacy and cash flow efficiency ratios mainly due to large investments. The market performance of JKH equity remained relatively steady and gained significant returns despite some occasional fluctuations. The fluctuations might have been caused by negative impact of company- specific reasons, including litigations against the company, changes in macroeconomic variables and poor market performances.

It was observed that CSR practices and sustainability reporting at JKH has become an institution and a part of corporate culture embedded at reporting level. Hence, prominence has been given for CSR disclosures despite the fact that such disclosures are not mandatory. In Sri Lankan context, even a small social work is highly regarded as a contribution to the society and therefore, JKH could engage in philanthropic nature of social works while reporting the same in line with international benchmark of reporting. The prevailing conditions and practice have created the opportunity for JKH to engage in such a broad concept of CSR as a socially responsible and ethical person by making minimum disclosures as per GRI G3 rather than exploring the ways and means of contributing to the society in a sustainable manner.

All in all it could be seen that JKH is engaged in the process of CSR programs and disclosures with a view to increase the public image of the company as a good corporate citizen and to reduce the corporate risk while operating in a highly dynamic business environment to win the consent of stakeholders.

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Additional Evidence on Audit Delay in Malaysia

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Abstract

This study examines whether audit committee effectiveness, auditor remuneration and auditor business risk are associated with audit report lag. It extends the audit delay literature by providing evidence that audit delay is negatively associated with audit committee financial expertise, and positively associated with statutory audit fees. Diffused ownership, a proxy of auditor business risk, delays the issuance of audit report. However, this study fails to document significant relationship between non-audit fees and audit delay.

Key words: Audit delay; Auditor fees; Non-audit fees; Audit committee financial expertise.

JEL classification: G34; M42

1. Introduction

Delivering timely information to investors and capital markets is an important goal of policymakers (Krishnan and Yang, 2009). As audit delaysⁱ exacerbate information asymmetry between management and investors, regulators are interested to ascertain the effectiveness of board, particularly its subcommittee that is responsible to monitor the company's accounting and auditing process namely audit committee, in ensuring the completion of audit on a timely basis. In 1999, the capital market regulator in Malaysia namely the Securities Commission shortened the time period for companies to release audited financial statements from six months to four months. In 2001, Bursa Malaysiaⁱⁱ amended the Listing Requirements requiring a listed company to make a mandatory statement in the annual report on the extent of compliance with the best practices in audit committee as set out in the Malaysian Code on Corporate Governance (2000) and reasons for non-compliance. We capitalize on these significant regulatory initiatives to assess the role of audit committee in promoting audit report timeliness.

Given the importance of audit timeliness to investors, recent studies on audit delays by Lee, Mandé and Son (2009), Pizzini, Lin, Vargus and Ziegenfuss (2010), Mohamad-Nor, Shafie and Wan-Hussin (2010) and Habib and Bhuiyan (2011) incorporate new audit delay determinants that have not been examined before such as auditor tenure, internal audit function, audit committee characteristics and audit firm industry specialization respectively. Although Mohamad-Nor *et al.* (2010) show that audit committee size and diligence shorten audit delay in Malaysia, however, they fail to find significant relationship between audit committee financial expertise and audit report lag, and their results could be influenced by omitted variables. We extend this line of research by examining the role of audit committee financial expertise, audit firm remuneration and ownership structure on audit delay.

A comprehensive review of the literature on audit committee and financial reporting by Bedard and Gendron (2010) indicates that the association between audit committee and timeliness of financial reporting is rarely investigated. Although existing studies document that audit committee financial expertise enhances the various indicators of financial reporting quality, however, the evidence that audit committee financial expertise enhances audit report timeliness has not been previously documented. Our study also contributes to the audit delays literature by examining the association between auditor remuneration and audit delay, using data outside the US. Prior studies on the association between audit fees and audit delay are all conducted in the US (Ettredge, Li and Sun, 2006; Lee *et al.*, 2009; Pizzini *et al.*, 2010). Ettredge *et al.* (2006) and Pizzini *et al.* (2010) show that audit delays are increasing in the level of audit fees scaled by total assets. Lee *et al.* (2009) document that audit report lag is significantly higher for companies with larger abnormal audit fees. However, they show that non-audit fees reduce audit delays,

which implies that the provision of non-audit services increases auditor learning, thereby enabling the auditor to complete the audit more quickly. A final contribution of this study relates to the recent debate on the convergence of international corporate governance, and provides evidence to what extent mimicking the best US practices on audit committee promotes efficiency of the external reporting process in Malaysia (see, for example, Yoshikawa and Rasheed, 2009; Bedard and Gendron, 2010).

Our results based on a sample of 324 companies publicly traded on Bursa Malaysia for financial year ended 2002 indicate that audit committee financial expertise shortens audit delay. Our result extends the previously documented benefits associated with audit committee financial expertise such as constraining financial misstatements and earnings management (Xie, Davidson III and DaDalt, 2003; Abbott, Parker and Peters, 2004; Bedard, Chtourou and Courteau, 2004; Dhaliwal, Naiker and Navissi, 2010) to include audit report timeliness. We also show higher audit fees are associated with lengthy audit delays, consistent with Ettredge *et al.* (2006) and Pizzini *et al.* (2010). However, in contrast to Lee *et al.* (2009) we fail to find any evidence to support the knowledge spillover effect of non-audit services in reducing audit report lags. We also find firms with concentrated ownership have shorter audit report lag, consistent with Bamber, Bamber and Schoderbek (1993), but in contrast to Habib and Bhuiyan (2011).

As for the control variables, we find larger firms have shorter delays. Firms receiving going concern uncertainty audit report require more audit effort, as measured by audit delay. Companies audited by large international firms take less time to release their audited financial statements. Finally, audit delays are decreasing in the audit committee size, but increasing in the number of audit committee meetings and board size.

The next two sections develop our hypotheses and present our empirical procedures. Section 4 discusses our results, followed by the concluding remarks in Section 5.

2. Theoretical background and hypotheses

The revised Malaysia Code on Corporate Governance (2007) recommends that all the audit committee members should be financially literate. Aside from this, the Bursa Malaysia Listing Requirements stipulate that at least one of the audit committee members must be a member of the Malaysian Institute of Accountants. Krishnan and Lee (2009) define audit committee as possessing financial expertise when the members have working experience that are directly associated with accounting and auditing specialty (e.g., financial controller, internal auditor). Thus, members that have experience that are not directly involved in financial matters, such as chief executive officer (CEO), is not considered as a financial expert.

According to the Bursa Malaysia Corporate Governance Guide (2009), experience in accounting and auditing is important in monitoring the financial reporting process, analyzing critically the financial statements and understanding internal controls system. By having members who possess financial expertise, the committee can discharge their duties efficiently and providing high quality financial and non-financial information in a timely manner.

Basioudis (2007) argues that the appointment of expert in accounting-related matters enhances the quality of financial reporting. He also claims that the appointment of such expert leads to improvement of client's management image (e.g., objectivity, expertise, competence of management). Such improvement is most welcome by the auditors since they will receive a better quality and reliable accounting information from their client. This leads the auditors to rate the client's inherent risk as low. It is also consistent with the argument that audit committee expertise would enhance the committee's monitoring role (Krishnan and Visvanathan, 2009). This would reduce audit risk assessment and audit effort.

There is ample empirical evidence consistent with the intuition that having financial expertise in the audit committee is associated with high quality financial reporting. For instance, audit committee financial expertise minimize incidence of financial restatements (Abbott *et al.*, 2004). Further, the financial experts are more proactive in their duties, where it is found that firms with higher number of financial experts dismiss the audit firm Andersen

earlier (Chen and Zhou, 2007). Also, companies that are involved with fraudulent financial statement have fewer members who are expert in accounting (Beasley, Carcello and Hermanson, 1999). This may also explain why high litigation risk companies have more financial experts in their audit committees (Krishnan and Lee, 2009). The presence of expert will minimize audit failure and reduce the possibility of company being sued by shareholders. Thus, it is not surprising that after the introduction of Sarbanes-Oxley Act in 2002 (SOX) companies have given more emphasis on the appointment of members with accounting expertise in audit committees (Beasley, Carcello, Hermanson and Neal, 2009). In tandem with this, Naiker and Sharma (2009) document that firms with audit committees that have former audit partners are less likely to have internal control deficiencies. Likewise, Dhaliwal *et al.* (2010) provide evidence that audit committee accounting expertise is positively associated with accruals quality, and Carol Liu and Zhuang (2011) show that audit committee expertise strengthens the association between management forecast accuracy and analysts' forecast accuracy.

In Malaysia, a study by Rahmat, Iskandar and Saleh (2009) show that financial literacy of audit committee is negatively associated with financial distress. They argue that financially literate member is more effective in monitoring operational and financial process as compared to less financially literate member. Another Malaysian study by Ismail and Rahman (2011) indicates that audit committees with two or more financial experts are less likely to restate the quarterly reports. This implies that the existence of knowledgeable audit committee members contributes to betterment of financial reporting and high quality audit. Since the preparation of financial statements is monitored by accounting expert, it would help to reduce financial misstatement risk. As for auditor, the presence of the expert in audit committee will minimize their workload and in turn, expedite financial information release. Hence, the following hypothesis is proposed:

H1: There is a negative relationship between audit committee financial expertise and audit report lag.

The amount of audit fee charged is an indicator of audit effort and the extent of client riskiness. Client riskiness and the audit effort are closely related as, in general, risky clients demand extensive audit. The purpose of extensive audit is to ensure that the audited accounts are free from any material misstatements. This explanation indicates that audit fee is a potential determinant of audit report timeliness.

Lee *et al.* (2009) show that abnormal audit fee is positively associated with audit report lag. They argue that higher fee reflects the complexity and scope of the audit task, and the additional audit task required affects audit duration. Therefore, audited financial statements for client with high audit fees need longer time to be issued as compared to lower audit fee clients. In a related vein, Ettredge *et al.* (2006) document that audit fees is significantly and positively associated with audit delay. These findings contradict the argument that by charging higher fees, auditor can allocate more resources for audit engagement and reduce delay. Instead, higher audit fees imply the comprehensiveness of auditor's job in facing complex/risky client, which leads to longer delays. Putting additional effort is important, because Caramanis and Lennox (2008) posit that companies are prone to engage in earnings management when there is low audit effort. Hence, based on the prior discussion, the following hypothesis is proposed:

H2: There is a positive relationship between audit fees and audit report lag.

One of significant issues in auditing research is the amount of non-audit fees paid to external auditors for the provision of non-audit services such as taxation advice, information systems design and management consultancy. From the regulators' perspective, it has been argued that non-audit fees paid would impair auditors' independence, or their appearance of independence. The lucrative non-audit fees paid to the external auditor make auditors overly dependent on non-audit fees rather their core business, i.e. providing auditing services. This "loss leader" explanation predicts a negative association between non-audit fees and audit fees. The lack of independence, arising from stronger economic bond to the client may also manifest itself in reduction of qualified audit reports (Firth, 2002).

As for the relationship between non-audit fees and audit lag, two possible arguments can be put forward. A positive relationship between non-audit fees and audit delay might arise due to the reason that non-audit services are usually purchased by clients who are involved with corporate restructuring such as mergers and acquisitions, or facing financial difficulties (Firth, 1997). These corporate changes are accompanied with rationalization of operations, reorganization of marketing strategies and brand management, integration of information systems and implementation of workable turnaround strategies. All these create demand for external consultancy services, and

possibly additional audit effort. Knechel and Payne (2001) find a positive relationship between non-audit fees (tax fee) and audit lag. They explain that the tax services are potentially purchased to sort out contentious tax issues which must be resolved before audit opinion can be produced.

However, in the case of management advisory services, Knechel and Payne (2001) observe a negative relationship between non-audit fees and audit delay, consistent with the knowledge spillovers effect (Simunic, 1984; Clatworthy, Mellett and Peel, 2002). The spillovers effect enables the external auditors to have better understanding of the clients' overall business and their information systems, resulting in reduced audit effort, as measured by audit delay. Lee *et al.* (2009) provide evidence in support of the knowledge spillovers from the joint provision of non-audit services and audit services which enhance audit efficiency, leading to shorter audit delays. Given the two opposite predictions, our second hypothesis is non-directional:

H3: There is a relationship between non-audit fees and audit report lag.

Bamber *et al.* (1993) and Henderson and Kaplan (2000) argue that in companies with dispersed ownership, there are many shareholders that rely on the financial statements. Reliance of many people on the statements would increase auditor's litigation risk or put auditor's reputation in danger, and thus, increase auditor's business risk. Auditor business risk is "the risk that the audit firm will suffer loss resulting from the engagement" (Johnstone, 2000). The losses can be in the form of the monetary amount and reputational damage. In addition, dispersed ownership companies demand extensive audit in order to assure the shareholder's on the credibility of financial statement (Leventis and Caramanis, 2005) and consequently it takes longer time to audit this type of companies (Al-Ajmi, 2008). In contrast, companies with concentrated ownership have fewer shareholders and consequently auditor business risk is expected to be low.

In line with the above argument, empirical studies indicate concentrated ownership has influence on audit timeliness. For instance, the number of shareholders is negatively associated with the frequency of issuing interim report and timeliness of corporate internet reporting (Abdelsalam and Street, 2007; Al-Ajmi, 2008). Similarly, Bamber *et al.* (1993) show that audit lag or the amount of audit work is negatively related to ownership concentration. In a similar vein, Jaggi and Tsui (1999) reveal that family ownership is inversely associated with delay, even though the result is insignificant. According to Jaggi and Tsui (1999), in the case of family owned companies, auditor's liability is restricted to this group of shareholder (i.e. family members), and the resulting low auditor business risk leads to less audit effort and timely audit report. Hence, based on the prior discussion, the following hypothesis is proposed:

H4: There is a negative relationship between ownership concentration and audit report lag.

3. Empirical tests

3.1 Sample selection

The annual reports of Malaysian public listed firms on the Main and Second Board are utilized in the study. The year 2002 is selected for two reasons. Firstly, it is the first full year that listed firms have to disclose the extent of compliance with the Malaysian Code on Corporate Governance (2000) when the Code became an integral part of the revamped Listing Requirements (2001) under the "comply or explain" regime. Secondly, in 2002, listed firms need to disclose non-audit fees in their annual reports. Although there were 856 firms listed on the Main and Second Boards of Bursa Malaysia in 2002, by 2010 a large number of these companies are no longer active. Removing inactive or dead companies, newly listed companies in 2002, financial institutions and other companies with missing data, we are left with 324 companies, as shown in Table 1.

TABLE 1 SAMPLE COMPANIES

SECTOR CLASSIFICATION	BOARD		Total
	MAIN	SECOND	
Consumer Product	33	28	61
Industrial Product	53	53	106
Construction	19	7	26
Trading and Services	36	19	55
Properties	32	1	33
Plantation	14	2	16
Others	23	1	24
Practice Note 4	3	0	3
Total	213	111	324

* Others include Hotel, Infrastructure Project Companies, Mining and Technology.

Only three Practice Note 4 (PN4 or financially distressed) companies are included in our sample. During the study period, there were almost 100 companies categorized as financially distressed and by 2010, most of these PN4 companies were delisted. We believe our sample is more representative of the audit report lag phenomenon among non-financially distressed Malaysian companies. Information obtained from the annual reports is supplemented with other financial and ownership information from Datastream.

3.2 Measurement of variables

We model audit delay as a function of audit committee financial expertise, audit fees, non-audit fees, ownership concentration and a set of control variables that are widely used in prior studies (Knechel and Payne, 2001; Lee *et al.*, 2009; Krishnan and Yang, 2009; Mohamad-Nor *et al.*, 2010), as follows:

$$AUDLAG = \beta_0 + \beta_1 ACEXP + \beta_2 LNAFEE + \beta_3 LNNASFEE + \beta_4 OWN + \beta_5 LNASSET + \beta_6 ADJSALES + \beta_7 SUBS + \beta_8 FOREIGN + \beta_9 DEC31 + \beta_{10} LOSS + \beta_{11} LEVE + \beta_{12} INVREC + \beta_{13} GCOPIN + \beta_{14} BIG4 + \beta_{15} ACIND + \beta_{16} ACMEET4 + \beta_{17} ACSIZE + \beta_{18} BSIZE + \beta_{19} BIND + \beta_{20} CEODUAL + \beta_{21} EI + \beta_{22} ZFC + \square. \quad (1)$$

where

AUDLAG = a continuous variable representing number of days from fiscal year end to the date of audit report, or a dummy variable = 1, if audit lag exceeds three months, 0 otherwise.

ACEXP = proportion of audit committee members who have accounting or related financial management expertise.

LNAFEE = natural log of audit fees paid to external auditor.

LNNASFEE = natural log of non-audit fees paid to external auditor.

OWN = proportion of closely held shares, taken from Datastream.

LNASSET = natural log of total assets.

ADJSALES = sales/total assets.

SUBS = square root of number of subsidiaries.

FOREIGN = 1, if company has foreign operations, 0 otherwise

DEC31 = 1, if fiscal year ends at 31 December, 0 otherwise.

LOSS = 1, if ROA (profit after tax/total assets) is negative, 0 otherwise

LEVE = total debt/total assets

INVREC = (inventories and receivables)/total assets

GCOPIN = 1, if going concern uncertainty audit opinion is issued, 0 otherwise.

BIG4 = 1, if the auditor is PricewaterhouseCoopers, Ernst & Young, KPMG or Deloitte, 0 otherwise.

ACIND = proportion of independent nonexecutive directors on audit committee.

ACMEET4 = 1, if more than four audit committee meetings are held during the year, 0 otherwise.

ACSIZE = number of audit committee members.

BSIZE = number of board of director members.

BIND = proportion of independent directors on board.

CEODUAL = 1, if CEO and Chairman is the same person, 0 otherwise.

EI = 1, if firm reports extraordinary items, 0 otherwise.

ZFC = financial condition as defined by Zmijewski's financial condition index; and

□ = error term

We include several control variables which have been found to be associated with audit delays such as audit firm size, client size, audit complexity, financial performance, and other corporate governance mechanisms. We expect that clients audited by large international audit firms (*BIG4*) have shorter audit lag. In addition, we predict smaller firm (measured by total assets and total sales), firm with greater audit complexity (as proxied by subsidiaries, inventory and receivables, extraordinary items, and widespread international business), poorly performing firm (represented by negative earnings, high Zmijewski's financial condition index, high leverage and going concern uncertainty audit opinion) and firm with poor corporate governance mechanisms (less independent audit committee members, smaller audit committee size, less frequent audit committee meetings, larger board size, less independent board members and existence of CEO duality) has lengthy audit delay (Ng and Tai, 1994; Jaggi and Tsui, 1999; Geiger and Rama, 2003; Lee *et al.*, 2009; Mohamad-Nor *et al.*, 2010). Finally, audit delay is expected to increase with busy season (Knechel and Payne, 2001).

4. Results

4.1 Descriptive and univariate tests

The results in Table 2 indicate that the mean of audit report lag for our sample firms is 97 days which is similar to Mohamad-Nor *et al.* (2010), but about two weeks shorter than the audit delays (116 days) documented by Che-Ahmad and Abidin (2008) in Malaysia during 1993. However, audit delay in Malaysia is 40 days longer than that documented by Lee *et al.* (2009) in the US over the same period. The minimum audit lag in our sample is 23 days, while the maximum audit lag is 123 days.

On average, 38 percent of the audit committee members are considered as financial experts. The average audit fees and non-audit fees for our sample are RM187,000 and RM85,000 respectively. In addition, on average, 49 percent of shares are closely held i.e. shares held by insiders which include (but not limited to) shares held by officers, directors and their immediate families, individuals who hold 5 percent or more of the outstanding shares and pension plans. Firm size ranges from the smallest with total assets (revenue) of RM25 million (RM0.5 million) to the largest with total assets (revenue) reaching RM57 billion (RM15 billion). On average, board and audit committee have 7.9 members and 3.6 members respectively. Interestingly, only 15 percent of the board chairs dominate the firms by simultaneously holding the CEO positions. Prior to the introduction of the Code, Abdul-Wahab, How and Verhoeven (2007) document nearly 30 percent of Malaysian companies have CEO duality. This reduction in the incidence of CEO duality might be caused by the Code on Corporate Governance (2000) which recommends both roles to be separated. On average, two thirds of audit committee members are independent, and slightly more than one third of board members are independent, although there are companies who fail to comply with the 50 percent audit committee independence and 33 percent board independence requirements as stipulated in the Code. Only seven percent of the audit committees in our sample companies are fully independent (not tabulated). Nearly 60 percent of firms have more than four audit committee meetings during the year.

TABLE 2 DESCRIPTIVE STATISTICS (N=324)

	Min	Max	Mean	SD
<i>AUDLAG</i> (in days)	23	123	96.97	23.868
<i>ACEXP</i>	0	1	0.38	0.19
<i>LNAFEE</i>	1.79	7.70	4.69	0.96
<i>LNNASFEE</i>	0	7.95	2.05	2.24
<i>OWN</i>	0.41	90.96	48.63	20.04
<i>LNASSET</i>	7.39	10.76	8.54	0.59
<i>ADJSALES</i>	0	2.56	0.65	0.46
<i>SUBS</i>	0	13.86	3.24	1.93
<i>FOREIGN</i>	0	1	0.45	0.49
<i>DEC31</i>	0	1	0.58	0.49
<i>LOSS</i>	0	1	0.21	0.40
<i>LEVE</i>	0	1.14	0.22	0.20
<i>INVREC</i>	0	0.82	0.28	0.18
<i>GCOPIN</i>	0	1	0.06	0.24
<i>BIG4</i>	0	1	0.74	0.43
<i>ACIND</i>	0	1	0.67	0.15
<i>ACMEET4</i>	0	1	0.56	0.49
<i>ACSIZE</i>	2	6	3.58	0.72
<i>BSIZE</i>	4	15	7.95	1.79
<i>BIND</i>	0	0.83	0.38	0.1
<i>CEODUAL</i>	0	1	0.15	0.36
<i>EI</i>	0	1	0.75	0.43
<i>ZFC</i>	-5.58	23.38	-3.07	2.05

Note: All the variables are defined in the Measurement of variables' section.

In addition, 75 percent firms report extraordinary items, while 74 percent firms are audited by *BIG4*. Only six percent of our sample firms received going concern uncertainty audit opinions. This percentage is considerably lower than the incidence of audit qualifications recorded in previous studies over the same period by Ali, Kadir, Yusof and Lee (2009) and Mohamad-Nor *et al.* (2010) because our sample excludes financially distressed firms that subsequently became inactive. Nearly half (45 percent) of our sample firms have foreign operations and 21 percent report negative earnings. Inventory and receivables, on average, constitute 28 percent of total assets.

As slightly more than one-third of our sample companies issue the audit reports within three months, we also partition the sample according to audit lag exceeds three months ($n = 213$) and within three months ($n = 111$), as shown in Table 3. The *t-test* on means difference indicates that companies with audit delays exceeding three months have significantly lower audit committee expertise (37 percent vs. 43 percent), ownership concentration (45 percent vs. 55 percent), total assets and revenue, and incidence of employing *BIG4* (68 percent vs. 87 percent). However, companies in the longer audit delay group have significantly higher number of subsidiaries, incidence of losses (26 percent vs. 11 percent), financial leverage (24 percent vs. 18 percent), inventories and receivables (30 percent vs. 25

percent), occurrence of going concern issues (9 percent vs. 1 percent) and likelihood of conducting more than four audit committee meetings (63 percent vs. 44 percent).

TABLE 3 MEAN DIFFERENCES BETWEEN FIRMS WITH AUDIT LAG MORE THAN THREE MONTHS (N = 213) VS. FIRMS WITH AUDIT LAG NOT EXCEEDING THREE MONTHS (N = 111)

	< 3 months	>3 months	t-value	Sig.
<i>AUDLAG</i> (in days)	67.21	112.48	-37.408	0.000
<i>ACEXP</i>	0.4305	0.3657	2.912	0.004
<i>LNAFEE</i>	4.6502	4.7225	-0.644	0.520
<i>LNNASFEE</i>	2.3700	1.8882	1.837	0.067
<i>OWN</i>	55.3210	45.1410	4.462	0.000
<i>LNASSET</i>	8.6362	8.4907	2.113	0.035
<i>ADJSALES</i>	0.7361	0.6131	2.263	0.024
<i>SUBS</i>	2.8552	3.4469	-2.640	0.009
<i>FOREIGN</i>	0.4144	0.4742	-1.024	0.307
<i>DEC31</i>	0.58	0.58	-0.015	0.988
<i>LOSS</i>	0.1081	0.2629	-3.291	0.001
<i>LEVE</i>	0.1804	0.2407	-2.559	0.011
<i>INVREC</i>	0.2538	0.2965	-1.940	0.053
<i>GCOPIN</i>	0.01	0.09	-2.874	0.004
<i>BIG4</i>	0.87	0.68	3.952	0.000
<i>ACIND</i>	0.6850	0.6738	0.627	0.531
<i>ACMEET4</i>	0.4414	0.6338	-3.365	0.001
<i>ACSIZE</i>	3.60	3.57	0.417	0.677
<i>BFSIZE</i>	7.92	7.97	-0.230	0.818
<i>BIND</i>	0.3794	0.3833	-0.324	0.746
<i>CEODUAL</i>	0.1802	0.1455	0.811	0.418
<i>EI</i>	0.6937	0.7793	-1.692	0.092
<i>ZFC</i>	-3.3111	-2.9485	-1.513	0.131

Note: All the variables are defined in the Measurement of variables section.

To test for the presence of multicollinearity, we analyze the Pearson correlations and Variance Inflation Factors (*VIFs*). The highest correlation (0.74) is between *LNAFEE* and *LNASSET* (see Table 4) and their *VIFs* are 3.7 and 3.5 respectively (untabulated).

INSERT TABLE 4

4.2 Multivariate tests

Table 5 displays the regression analysis. Model 1 is the ordinary least squares (OLS) regression where the dependent variable is audit report lag (in days) and Model 2 represents logistic regression where the dependent variable takes the value of 1, if audit lag exceeds 3 months, 0 otherwise.

TABLE 5 REGRESSION ANALYSIS (N=324)

Variable	Model 1		Model 2	
	Coefficients	<i>t</i> -value	Coefficients	<i>Wald</i>
Constant	208.715	7.871***	13.302	14.746***
<i>ACEXP</i>	-21.291	-3.294***	-2.060	6.481***
<i>LNAFEE</i>	5.000	2.183**	0.599	4.343***
<i>LNNASFEE</i>	-0.440	-0.458	-0.092	1.656*
<i>OWN</i>	-0.211	-3.281***	-0.190	5.515***
<i>LNASSET</i>	-14.564	-4.023***	-1.643	12.516***
<i>ADJSALES</i>	-9.797	-3.017***	-1.118	6.605***
<i>SUBS</i>	0.776	0.866	0.123	1.024
<i>FOREIGN</i>	0.460	0.172	-0.043	0.017
<i>DEC31</i>	-0.812	-0.338	0.086	0.087
<i>LOSS</i>	4.375	1.381*	0.747	3.220**
<i>LEVE</i>	10.483	1.141	0.968	0.638
<i>INVREC</i>	13.654	1.582*	1.445	1.762*
<i>GCOPIN</i>	14.350	2.700***	1.948	3.198**
<i>BIG4</i>	-6.390	-2.256**	-0.842	4.924**
<i>ACIND</i>	-6.696	-0.809	-1.362	1.554
<i>ACMEET4</i>	7.432	3.059***	0.819	7.807***
<i>ACSIZE</i>	-4.349	-2.388**	-0.391	2.922**
<i>BSIZE</i>	1.997	2.543***	0.243	6.257***
<i>BIND</i>	11.128	0.385	0.813	0.267
<i>CEODUAL</i>	-0.12	-0.037	-0.406	1.136
<i>EI</i>	3.200	1.110	0.239	0.471
<i>ZFC</i>	-0.945	-1.112	-0.082	0.412
<i>F</i> value	6.260			
<i>Adj. R squared</i>	0.264			
<i>P</i> value	0.000			
<i>Cox & Snell R Square</i>			0.257	
<i>Nagelkerke R Square</i>				0.355

* $p < .10$, ** $p < .05$, *** $p < .01$, based on one-tailed results. In Model 1, the dependent variable is number of days from fiscal year end to the date of audit report. In Model 2, the dependent variable takes the value of 1, if audit lag exceeds three months, 0 otherwise. All variables are defined in the Measurement of variables section.

Out of 22 variables tested in Model 1, ten of them are significant at the conventional level. The sign of the coefficients for the hypothesized variables are in predicted directions and three of them are significant. They are *ACEXP*, *LNAFEE* and *OWN*. Results from both models show that these three variables have strong relationship with audit lag. Controlling for the other factors that influence audit delay, we find that financial expert on the audit

committee is associated with shorter delay. We also document that audit delays increase with audit efforts, as measured by audit fees. Moreover, we find that concentrated ownership promotes audit timeliness.

However, in contrast with Lee *et al.* (2009), we fail to find any significant relationship between *LNNASFEE* and *AUDLAG*. We can provide two possible explanations for the lack of association between non-audit services and audit lag. Firstly, as elaborated in section 2 earlier, different types of non-audit services may influence audit delay in different ways. Although our sample firms disclose non-audit services fees, however, we are not able to ascertain the different types of services (tax, accounting information system, management consultancy, etc) they purchase from the incumbent auditors. The lack of publicly available data on the different types of non-audit services purchased prevent us from performing a meaningful analysis on the role of non-audit services, as observed by Beattie and Fearnley (2002). Secondly, given that our sample period is the first full year of the implementation of the Listing Requirements on non-audit fees disclosure, the likelihood of non-compliance with this new regulation may introduce measurement error in the non-audit fees variable.

As for the other corporate governance variables, consistent with previous study by Mohamad-Nor *et al.* (2010), we find that audit delay is decreasing with audit committee size. However, unlike Mohamad-Nor *et al.* (2010), we show that smaller board size reduces audit lag. Surprisingly, we also document that firms with more than four audit committee meetings have longer delays, which suggests that the delay could be caused by debate on financial reporting issues. Although, this new finding contrasts with Mohamad-Nor *et al.* (2010), it is consistent with Goodwin-Stewart and Kent (2006) and Naiker and Sharma (2009) who show that firms that conduct more frequent audit committee meetings are more likely to demand higher quality audit and report internal control deficiencies.

As for the other control variables, in line with our expectation, larger firms have shorter audit delays. Our evidence also indicates that firms with going concern audit opinion and non-*BIG4* auditor have longer audit delay. In economic terms, firms audited by *BIG4* release their audited financial statements six days earlier than their non-*BIG4* counterparts, and firms receiving going concern uncertainty audit opinions take 14 days longer to issue audited financial statements, compared to firms with clean audit opinions.

The adjusted *R-squared* (26.4 percent) that we obtain for the Model 1 is higher compared to previous Malaysian studies by Mohamad-Nor *et al.* (2010) and Che-Ahmad and Abidin (2008), and comparable with Pizzini *et al.* (2010) and Habib and Bhuiyan (2011). This might be due to the inclusion of the new hypothesized variables plus other control variables such as sales to assets ratio, extraordinary items, financial condition index, leverage, inventory and receivables, foreign operations and negative earnings. In addition, as mentioned earlier, unlike Mohamad-Nor *et al.* (2010), our sample is arguably more representative as it excludes financially distressed companies that were subsequently delisted.

When we rerun the regression using dichotomous dependent variable, the results are qualitatively similar, except for the variable *LOSS*. In the logistic regression, firms that do not report losses are more likely to issue the audited financial statements within three months compared to their counterparts who tend to take longer than three months.

5. Summary and conclusions

This study examines the relationship between four hypothesized variables namely audit committee expertise, audit fees, non-audit fees and ownership concentration, and audit report lag. The results based on a sample of 324 Malaysian firms in the year of 2002 show that out of four hypotheses, three are supported. Firstly, we find a negative relationship between audit committee expertise and audit delay. This shows the important role of audit committee financial expertise in facilitating timely audit reporting in Malaysia. Consistent with Raghunandan and Rama (2007), Krishnan and Visvanathan, (2009), Naiker and Sharma (2009), Dhaliwal *et al.* (2010) and Ismail and Rahman (2011), we provide strong evidence on the positive impact of audit committee accounting experts on financial reporting quality. Thus, the evidence seems to support the regulatory stance taken by the Malaysian Securities Commission which requires all audit committee members to be financially literate.

Secondly we find a positive significant relationship between audit fees and audit lag, consistent with Ettredge *et al.* (2006) and Pizzini *et al.* (2010) who use US data in the SOX era. Moreover, we find a negative relationship between ownership concentration and audit lag. This result is consistent with the argument that

companies with dispersed ownership have many shareholders who rely on the financial statements. Consequently, it would increase auditor business risk, and the amount of work to be done. Other studies by Bamber *et al.* (1993) Abdelsalam and Street (2007) and Al-Ajmi (2008) provide similar empirical evidence supportive of this argument.

We find no evidence to support our intuition that the purchase of non-audit services reduces audit report lag, in line with the knowledge spillovers effect. Other salient factors that explain the cross sectional variations in audit delay are audit committee size and board size. Larger audit committee promotes speedier completion of financial statements audit, in tandem with Pucheta-Martinez and Fuentes (2007), whilst larger board delays the audit reporting process. Yermack (1996), Loderer and Peyer (2002), Beiner, Drobetz, Schmid and Zimmermann (2004) and Ahmed, Hossain and Adams (2006), among others, show that there is a lack of monitoring role if a firm has larger board size.

Going forward, our study provides useful benchmark for comparison with future studies on audit delay using recent data after the establishment of the Malaysian Securities Commission's Audit Oversight Board in 2010. The recent requirement for Malaysian companies to disclose publicly the annual expenses incurred by the internal audit function also provides an interesting avenue for future research to examine the contribution of internal audit function in shortening audit delay.

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For a full List of references, please contact the author(s).

Table 4

Pearson correlation

	AUDLAG	ACEXP	LNAFEE	LNNASFEE	OWN	LNASSET	ADJSALES	SUBS	FOREIGN	DEC31	LOSS	LEVE
AUDLAG	1	-.190(**)	.044	-.083	-.296(**)	-.117(*)	-.146(**)	.170(**)	.079	-.022	.192(**)	.173(**)
ACEXP	-.190(**)	1	-.039	-.008	.025	-.026	.079	-.131(*)	-.089	.029	-.102	-.100
LNAFEE	.044	-.039	1	.417(**)	-.153(**)	.745(**)	-.031	.670(**)	.416(**)	.107	.043	.170(**)
LNNASFEE	-.083	-.008	.417(**)	1	.036	.396(**)	.065	.233(**)	.071	.022	.016	.156(**)
OWN	-.296(**)	.025	-.153(**)	.036	1	-.058	.156(**)	-.302(**)	-.168(**)	.029	-.159(**)	-.153(**)
LNASSET	-.117(*)	-.026	.745(**)	.396(**)	-.058	1	-.210(**)	.545(**)	.244(**)	.090	-.044	.187(**)
ADJSALES	-.146(**)	.079	-.031	.065	.156(**)	-.210(**)	1	-.193(**)	.070	.002	-.162(**)	-.058
SUBS	.170(**)	-.131(*)	.670(**)	.233(**)	-.302(**)	.545(**)	-.193(**)	1	.394(**)	.088	.019	.212(**)
FOREIGN	.079	-.089	.416(**)	.071	-.168(**)	.244(**)	.070	.394(**)	1	.090	-.043	.021
DEC31	-.022	.029	.107	.022	.029	.090	.002	.088	.090	1	.012	-.018
LOSS	.192(**)	-.102	.043	.016	-.159(**)	-.044	-.162(**)	.019	-.043	.012	1	.338(**)
LEVE	.173(**)	-.100	.170(**)	.156(**)	-.153(**)	.187(**)	-.058	.212(**)	.021	-.018	.338(**)	1
INVREC	.111(*)	.048	-.178(**)	-.114(*)	.043	-.444(**)	.571(**)	-.164(**)	.008	.016	-.057	.041
GCOPIN	.185(**)	-.033	-.013	.117(*)	-.139(*)	.090	-.152(**)	.032	-.053	.012	.214(**)	.371(**)
BIG4	-.232(**)	.019	.037	.130(*)	.095	.109	-.041	-.091	-.005	.085	-.062	-.107
ACIND	-.012	.040	.051	.114(*)	.002	.003	.022	.017	.021	.122(*)	.038	.071
ACMEET4	.200(**)	-.050	.111(*)	.042	-.043	.144(**)	-.063	.161(**)	.044	-.002	-.040	.056
ACSIZE	-.060	-.302(**)	.101	.110(*)	.033	.141(*)	.064	.069	.074	.021	-.036	-.036
BSIZE	-.003	-.031	.294(**)	.169(**)	.138(*)	.333(**)	.129(*)	.195(**)	.161(**)	.057	-.126(*)	.017
BIND	.039	-.014	-.001	.053	-.132(*)	-.007	-.098	.011	-.039	.068	.062	.030
CEODUAL	.007	.048	-.021	.025	-.081	-.018	-.040	.061	-.053	-.076	.048	.051
EI	.115(*)	-.018	.284(**)	.105	-.185(**)	.221(**)	-.059	.235(**)	.240(**)	.184(**)	-.018	.059
ZFC	.104	-.029	.116(*)	.065	-.093	.136(*)	-.149(**)	.153(**)	.033	-.044	.320(**)	.731(**)

The table is continued on the next page

	INVREC	GCOPIN	BIG4	ACIND	ACMEET4	ACSIZE	BSIZE	BIND	CEODUAL	EI	ZFC
AUDLAG	.111(*)	.185(**)	-.232(**)	-.012	.200(**)	-.060	-.003	.039	.007	.115(*)	.104
ACEXP	.048	-.033	.019	.040	-.050	-.302(**)	-.031	-.014	.048	-.018	-.029
LNAFEE	-.178(**)	-.013	.037	.051	.111(*)	.101	.294(**)	-.001	-.021	.284(**)	.116(*)
LNNASFEE	-.114(*)	.117(*)	.130(*)	.114(*)	.042	.110(*)	.169(**)	.053	.025	.105	.065
OWN	.043	-.139(*)	.095	.002	-.043	.033	.138(*)	-.132(*)	-.081	-.185(**)	-.093
LNASSET	-.444(**)	.090	.109	.003	.144(**)	.141(*)	.333(**)	-.007	-.018	.221(**)	.136(*)
ADJSALES	.571(**)	-.152(**)	-.041	.022	-.063	.064	.129(*)	-.098	-.040	-.059	-.149(**)
SUBS	-.164(**)	.032	-.091	.017	.161(**)	.069	.195(**)	.011	.061	.235(**)	.153(**)
FOREIGN	.008	-.053	-.005	.021	.044	.074	.161(**)	-.039	-.053	.240(**)	.033
DEC31	.016	.012	.085	.122(*)	-.002	.021	.057	.068	-.076	.184(**)	-.044
LOSS	-.057	.214(**)	-.062	.038	-.040	-.036	-.126(*)	.062	.048	-.018	.320(**)
LEVE	.041	.371(**)	-.107	.071	.056	-.036	.017	.030	.051	.059	.731(**)
INVREC	1	-.087	-.184(**)	.035	.009	.025	.035	-.023	-.076	-.048	-.042
GCOPIN	-.087	1	.004	-.003	.068	.042	-.050	.044	-.005	.030	.261(**)
BIG4	-.184(**)	.004	1	.034	-.198(**)	.070	.023	.072	-.076	-.045	-.148(**)
ACIND	.035	-.003	.034	1	-.048	-.057	.103	.311(**)	.000	.016	.021
ACMEET4	.009	.068	-.198(**)	-.048	1	.114(*)	.070	.049	.001	.115(*)	.061
ACSIZE	.025	.042	.070	-.057	.114(*)	1	.293(**)	.124(*)	-.077	-.010	-.065
BSIZE	.035	-.050	.023	.103	.070	.293(**)	1	-.228(**)	-.135(*)	.004	-.042
BIND	-.023	.044	.072	.311(**)	.049	.124(*)	-.228(**)	1	.091	.002	-.004
CEODUAL	-.076	-.005	-.076	.000	.001	-.077	-.135(*)	.091	1	-.083	.108
EI	-.048	.030	-.045	.016	.115(*)	-.010	.004	.002	-.083	1	.057
ZFC	-.042	.261(**)	-.148(**)	.021	.061	-.065	-.042	-.004	.108	.057	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Note: All the variables are defined in the Measurement of variables section.

ⁱ In this paper, audit delay, audit lag and audit report lag are used interchangeably.

ⁱⁱ Bursa Malaysia is the Malaysian Stock Exchange.

Could FDI Really Enhance Technological Capability and Economic Progress?

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Abstract

This paper investigates the interdependent, dynamic relationships between technological capability (embodied vs. disembodied technology), FDI (inward vs. outward), and economic progress (GDP) by examining six nations in three clusters. We use Vector Autoregressive modeling to analyze quarterly time-series data between the Asian Financial Crisis of 1997 and the Subprime Mortgage Crisis of 2008. We find that: 1) inward FDI doesn't affect GDP of our sample countries; 2) outward FDI has a positive long-run impact on GDP of Frontier countries (Canada and US), but not the other countries; 3) embodied technology position does not affect GDP of Frontier countries, but it positively affects GDP of Brazil and Taiwan; 4) disembodied technology position doesn't affect GDP of Catching-up countries, but has a positive long-run impact on GDP of Korea and Canada; and 5) US's GDP benefits from outward FDI only. These findings provide insightful policy implications for countries at different development stages.

Introduction

A nation's technological capability (TC) can be enhanced through R&D spillovers (e.g., Coe and Helpman, 1995, 1997; Eaton, and Kortum, 1997; Keller, 2004; Narula, 2001; Shih and Chang, 2009). From the perspective of a recipient country, the benefits from foreign R&D include learning about new product and process technologies, management know-how, organizational methods and the import of technology-embedded goods and services. The enhancement of TC is thus critical for countries striving to catch up with technologically advanced nations (Benito and Narula, 2007; Coe, Helpman and Hoffmaister, 2009). Previous studies have suggested that countries take advantage of foreign R&D efforts and acquire proper technologies from abroad for further productivity gains. However, actual productivity gains depend on a country's efforts to accumulate absorptive capacity in order to effectively utilize its stock of knowledge and cumulative R&D outcomes (Coe and Moghadam, 1993).

Absorptive capacity, as a core competence, has been proposed for examining knowledge diffusions and R&D spillovers at country-level (e.g., Borensztein, De Gregorio and Lee, 1998; Coe, Helpman and Hoffmaister, 2009). Criscuolo and Narula (2008) suggested that countries upgrade absorptive capacity through foreign direct investment (FDI) in order to increase knowledge accumulation. In addition, they pointed out that a country must have a minimum level of absorptive capacity in order to effectively acquire exogenous technologies that could benefit its domestic production and contribute to its economic growth. As indicated in previous studies (e.g., Borensztein, De Gregorio and Lee, 1998; Xu, 2000), such a threshold is a necessary condition for nations to accumulate knowledge at the catching-up phase. The learning-curve effect of such a knowledge accumulation process is expected to take off after the absorptive capacity threshold is obtained. As a country improves its TC and reduces the technological gap between itself and the frontier nations, however, its rate of learning tends to decrease due to the increasing complexity of exogenous technology. Moreover, the decreasing quantity of available exogenous technologies makes it difficult for a country to keep the same progress for TC enhancements. As such, the varying absorptive capacity conditions of each country may result in asymmetric effects of R&D spillovers, thus calling for multiple TC-related policy recommendations to fit different countries' needs.

Consistent with this notion, Shih and Chang (2009), by using network analysis, suggest two strategies: 1) a "development-oriented" strategy focusing on embodied technology, and 2) a "research-oriented" strategy focusing on disembodied technology, for nations requiring upgrade of their TC for further economic growth during the catch-up process. More specifically, the development-oriented strategy is recommended for the catching-up countries with insufficient absorptive capacity so that they utilize new knowledge learned through the spillover of technology embodied in capital goods to enrich their national technological base, and subsequently perform patent-related

innovations in the form of disembodied technology. In contrast, the research-oriented strategy is better for countries with sufficient absorptive capacity that possess high TC in disembodied form, and then perform further innovations via the embodied forms of product engineering and development to achieve an enhanced status in international technology diffusion networks. However, due to the lack of a performance-related assessment in Shih and Chang's study, it is still unclear whether the research-oriented or the development-oriented strategy can perform better than its alternative at different developmental stages.

To address this question, three methodological issues should be considered. First, our focal variables, i.e., TC, FDI, and economic progress, are interdependent. For example, FDI can help a country to achieve economic progress, but a country with economic success may also attract more FDI, suggesting reverse-causality. Second, the focal variables affect each other over time, meaning that the relationships among them are inherently dynamic. Thus, time-series data analysis is required. Third, the effect of one variable on another may vary across countries in different conditions with respect to absorptive capacity. For example, the impact of FDI on economic progress may differ for a high absorptive capacity country such as USA vs. for a low absorptive capacity country such as Brazil. Thus, analysis should be performed at a country level, and policy recommendations should be made accordingly.

In this paper, we propose a new approach, vector autoregressive (VAR) modeling, to investigate the interdependent, dynamic relationships between TC, FDI, and economic progress, using quarterly time-series data (1998:1Q-2007:4Q). Specifically, we try to answer the following: 1) If technological change is a good source of productivity growth, what would be the relationship between technological capability and economic progress of our sample countries with different absorptive capacity conditions? 2) Since it is not clear that the motivation of FDI activity could necessarily result in greater national economic development, could we justify the relationship between FDI activity and economic progress of our sample countries? 3) If FDI spillovers do exist, what would be the relationship between inward/outward FDI flows and technological capability of our sample countries?

Literature Review and Research Issues

International R&D Spillovers and Productivity Gains

The endogenous growth theory postulates that economically motivated R&D activities are the fundamental source of sustained economic growth and that such sustained growth is made possible by sufficient spillovers of R&D results (Grossman and Helpman, 1991). Such an innovation-driven perspective suggests that a country's productivity gains could be increased through both domestic and international R&D efforts. Coe and Helpman (1995) were among the first to show that international R&D spillovers exist and are trade related. However, their work was limited to the relation of R&D spillovers and total factor productivity (TFP), which does not distinguish between technological change (innovation) and efficiency change (catch-up) as suggested in the literature (Fare, Grosskopf, Norris and Zhang, 1994; Perelman, 1995). When the two aspects were examined, it is found that technological change appears to be the greater source of productivity growth in OECD industrial activities (Perelman, 1995).

Although the existence of international R&D spillovers was verified in subsequent studies (e.g., Keller, 1998; Lichtenberg and van Pottersberghe, 1998), the technology diffusion across countries was found to be heterogeneous. Frantzen (2000), for instance, pointed out that the influence of foreign technology diffusion upon a nation's productivity is more important than domestic efforts in R&D. This is especially true in smaller economies (i.e., non-G7), which are more open and form a majority within OECD. Kim and Lee (2004) revealed similarly that TFP growth is mainly attributable to international R&D spillovers for low R&D-intensive countries, while domestic R&D efforts are more important for high R&D-intensive countries. Kao, Chiang and Chen (1999) discovered that smaller OECD countries benefit more from international R&D spillovers than larger countries. As other nations gain more international R&D spillovers from the major countries such as the US and Japan (Kao, et al., 1999), the US seems to be the net loser as its worldwide market shares of high-technology output continue to be challenged (Luintel and Khan, 2004).

FDI and Economic Growth

FDI has been considered as a crucial factor attributable to improving economic growth in host countries (e.g., Grossman & Helpman, 1991; Hanel, 2000; Hermes and Lensink, 2003; Batten and Vo, 2009) for catching up technological capability through technology diffusion (Wang and Blomstrom, 1992) and R&D spillovers (Wang and Yu, 2007) resulted from MNE activities. The literature of FDI-assisted economic development has viewed FDI as a means for nations to acquire needed technology for advancing economic growth (e.g., Grossman and Helpman, 1991; Borensztein, De Gregorio and Lee, 1998), to obtain R&D spillovers for productivity gains (e.g., Coe and Helpman, 1995; Perelman, 1995), and to cultivate and source innovations of multinationals (MNEs) for improving competitive advantage (e.g., Dunning and Narula, 1996; Porter, 1990). However, due to the heterogeneity of technology diffusion across countries, the learning effects of technological capability and R&D spillovers that accompany FDI inflows may not always result in desired economic growth in host countries, nor do high levels of FDI sustain economic growth equally across countries in different development stages (Narula and Dunning, 2000; Narula and Dunning, 2010). Thus, it is not clear that the motivation of FDI activities could necessarily result in greater national economic development.

Narula and Dunning (2010) postulate the framework of an Investment Development Path (IDP) to study the relationship between FDI and economic growth of countries during various development stages. According to IDP, inward FDI precedes outward FDI which yields a negative net outward investment (NOI) flow at the early development stages (from Stage I to III) of the host country. In general, the pace of inward FDI tends to increase quicker than that of outward FDI, resulting in more negative NOI, as the GDP increases at Stages I and II. A turning point occurs at Stage III when the pace of the two FDI flows reversed, narrowing the FDI deficit of the host country. Ideally, this trend will continue into Stage IV when NOI becomes positive and increases until the host country enters Stage IV when a declining of positive NOI is observed. Although IDP depicts a general relationship pattern between FDI and a nation's economic development, it is suggested that any development implications of cross-country comparisons be undertaken with caution.

The focus of technology gap and absorptive capacity is thus suggested for examining the effect of FDI on knowledge accumulation that could lead to desired economic growth of the host country (Crisciolo and Narula, 2008). It is important to match FDI with domestic capacity building during the IDP process in order to prevent the crowding-out effect from happening as observed in Latin America in the 1970s and in Africa in the 1990s (Agosin and Machado, 2005). Crowding-out effects could occur in the host country when domestic firms are displaced or pre-empted by foreign-owned MNEs through inward FDI. Foreign MNEs may out-perform domestic firms due to ownership advantage in the form of brand names, technological assets, or knowledge of networks that are difficult to be replicated (Mody 2004). In addition, crowding-out effects are likely to predominate if the technology gap between foreign MNEs and their domestic counterparts is large (Narula and Dunning, 2010). Therefore, a host country's absorptive capacity accumulated by local firms plays a pivotal role in acquiring international R&D spillovers through FDI related activities that are affiliated with foreign MNEs (Blalock and Simon, 2009).

FDI and International Technology Diffusion

As discussed previously, International technological diffusion between firms can be disembodied or embodied in nature. Embodied technology can be acquired through international trade of intermediate goods (Grossman and Helpman 1991; Eaton and Kortum 2002). It is commonly seen that intermediate goods such as equipment goods and components are imported by domestic firms and foreign affiliates in the host countries. When foreign intermediate goods are used in the production process for final products, it involves the implicit usage of the technology in embodied form. Disembodied technological diffusion consists of pure knowledge spillovers. Typical channels are the publication of ideas in the scientific literature, the mobility of qualified personnel and, most important, reverse engineering. Such knowledge spillovers represent externalities to other firms, which could be realized by inward FDI activity (Frantzen, 2000). It has been noted that the growth of productivity capacity is attributable to FDI activity. When domestic firms have the capacity to internalize these externalities usefully, the industrial development and economic growth will then be possible (Narula and Dunning, 2010).

FDI has long been viewed as an important channel for international technology diffusion. Governments all over the world commit large amounts of incentives to attract FDI of foreign MNEs to their jurisdiction. It has been noted that FDI spillovers are significant and economically important (Keller, 2004). Previous case studies have shown that FDI by foreign MNEs could trigger and widespread changes for technological advancements in relatively small countries such as Costa Rica and

Tanzania (Larrain, Lopez-Calva and Rodriguez-Claré, 2000; Portelli and Narula, 2006). Some recent micro-level productivity studies also support the existence of FDI spillovers. Zhang, Li, Li and Zhou (2010), for example, found that the variety of technologies and management practices brought by foreign firms through FDI positively increase the productivity of domestic firms in China, and that the positive relationship is relatively strong when the firm size and the technology gap are significant. Supporting evidences are also found in the US. For instance, Xu (2000) discovered that there is a positive relation between FDI and productivity growth based on the time series data of U.S. outward FDI into forty countries; while Keller and Yeaple (2003) found that FDI spillovers are positive and large by examining FDI activity in the United States. In addition, vertical FDI spillovers may spread to other players in the value chain within the host country (Blalock and Gertler, 2002). It has been observed that foreign subsidiaries have an incentive to provide technological knowledge to their suppliers (Keller, 2004). As a strategy for sustaining competitive edge, MNE subsidiaries tend to establish a long-term relationship with local suppliers for sourcing needs. The knowledge transfer between MNE subsidiaries and upstream suppliers may strengthen technological capability of the whole value chain. A crowding-in effect is likely to happen if promising business opportunities in the upstream supply chain are observed by existing firms or new entrants. Cumulatively, such vertical FDI spillovers could outweigh the loss of local competitors that produce the same products in the host country due to a crowding-out effect.

Methodology

The Sample

As previously discussed, the learning effects of technological capability and R&D spillovers that accompany FDI inflows may not always result in the desired economic growth in host countries due to the heterogeneity of technology diffusion consequences. We presume that the effect of FDI may not result in the same level of economic growth across countries in different development stages. In order to draw possible policy implications of motivating FDI activities for the host governments, we focus on six countries to investigate the relationships between FDI, technological capability, R&D investment, and economic growth. The six countries are selected based on: 1) their relative economic development stage in the world development system, and 2) their relative positions in the international diffusion networks in terms of both embodied and disembodied technology. As a result, we select six countries including the US, Canada, Korea (South), Taiwan, Brazil and Mexico. According to the IDP and the knowledge accumulation stage (Narula and Dunning, 2010; Criscuolo and Narula, 2008), the US and Canada are the frontier-sharing nations; Korea and Taiwan are the pre-frontier-sharing countries; while Brazil and Mexico fall behind as catching-up nations. As shown in Shih and Chang's study (2009), both the US and Canada are the "source" countries that possess the leading position in disembodied as well as embodied technology; both Korea and Taiwan are the "intermediate" countries in terms of disembodied technology but with a leading position in terms of embodied technology; while Brazil and Mexico are "beginner" countries that are catching up their disembodied and embodied technology in the international diffusion networks.

Variables

Technological Capability:

Technological Capability (TC) of a country is measured by its technological positions (i.e., betweenness centrality scores) in the international technology networks (ITD) proposed by Shih and Chang (2009). In network analysis, the betweenness of a node measures the extent to which it can play the role of a gatekeeper or broker with a potential for control over the interactions between pairs of others (Marsden, 1982). Betweenness centrality is an appropriate indicator measuring the extent to which nodes broker indirect connections between all other nodes in a network. In the context of international technology diffusion, a particular country with higher betweenness centrality represents more opportunities to broker the flows of diffusion among other countries since most technology diffusion will pass through this country, and thus it should possess competitive advantages in terms of brokerage opportunities. This study uses the betweenness scores that are calculated according to Shih and Chang's ITD analysis (2009). To capture TC, we use two variables, EMB and DISEMB, representing the ITD positions of our sample countries in terms of embodied and disembodied technology, respectively. A brief explanation of such calculation is discussed in the Appendix.

FDI and Economic Progress:

Two types of foreign direct investment (FDI), i.e., inward FDI (IFDI) and outward FDI (OFDI) of a country are obtained from the IFS monthly reports of IMF. In addition, economic progress of a country is measured by its GDP reported in the IMF Database. Table 1 illustrates descriptive statistics of our focal variables, i.e., TC, FDI, and GDP. Interestingly, when we look at the ratio of EMB to DISEMB, Mexico, Brazil, and Taiwan reveal more orientation toward EMB, while US, Canada, and Korea reveal more orientation toward DISMEB. In addition, when we look at the ratio of IFDI to OFDI, Mexico, Brazil, and Taiwan show higher focus on IFDI, while US, Canada, and Korea show higher focus on OFDI. As such, Mexico, Brazil, Taiwan focus more on EMB-IFDI, while USA, Canada, Korea focus more on DISEMB-OFDI.

Control Variables:

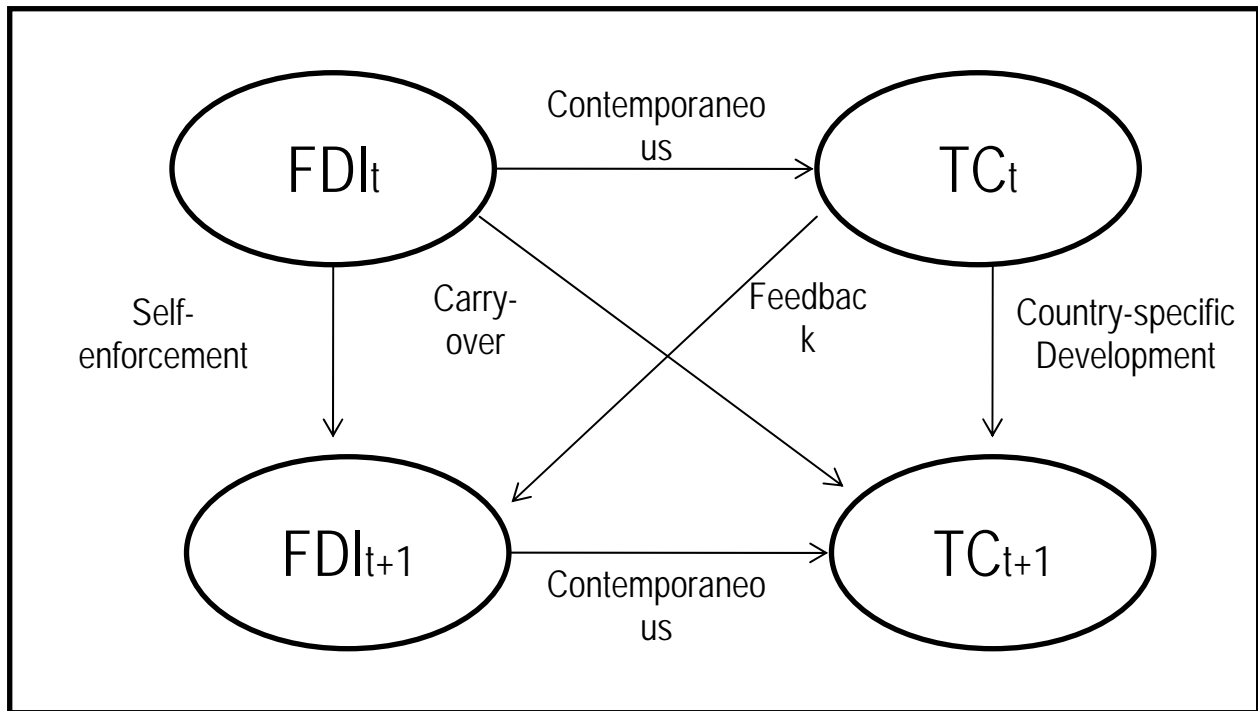
Firstly, a nation's absorptive capacity (AC) is used as an endogenous control variable. AC has been viewed in the literature as a mediating factor that determines the knowledge accumulation resulting from international R&D spillovers and FDI activity in host countries. Thus, it is important to examine the relation between TC, FDI, and economic growth after controlling for the mediating effect of absorptive capacity. We use the number of patents divided by the number of R&D personnel as a proxy of absorptive capacity, which captures the quality of R&D personnel or R&D Productivity of a country. Secondly, the exchange rate (vs. US Dollar) of a host country is included as an exogenous control variable, since FDI can be affected by exchange rate which is set by the foreign exchange market. Thirdly, time trend and seasonality dummy are also used to control for potential trend and seasonality, which is inherent in the quarterly-level time series dataset.

Overview of VAR Modeling

The issue of how to deal with endogeneity should be one of the central issues for empirical researchers when examining the relationships among TC, FDI, absorptive capacity and economic progress. Specifically, FDI can increase current TC (contemporaneous effect) and future TC (carry-over effect) of a country, while its TC may influence the current and future FDI decisions toward the country (feedback effect). In addition, there may be strong autocorrelations in TC (e.g., country-specific development path) as well as in FDI (e.g., self-enforcement path). Such dynamic, interdependent relationships among variables (see Figure 1) may result in "chain reactions" in the system (Dekimpe and Hanssens, 1995). Thus, ignoring the simultaneity among discretionary spending and financial performance measures may result in biased and inconsistent estimation results (Hayashi, 2000).

One way of dealing with the simultaneity problem is to use instrument variables (IV) method (Hayashi, 2000). Even though the bi-directional relationship between two variables (e.g., FDI vs. TC) can be examined by using a set of separate simultaneous equations, the possible dynamic interdependence (i.e., chain reactions) among focal variables cannot be fully explored. In addition, heterogeneity bias (or aggregation bias) problem cannot be resolved even with IV method in a dynamic linear panel model setting (For the proof regarding heterogeneity bias, see Pesaran and Smith, 1995, pp.103-108). For instance, if there exists heterogeneity across countries with respect to their TC positions (e.g., US vs. Brazil), then same FDI may yield different economic outcomes. If this is the case, as far as we include dynamics in the model (e.g., lag terms in FDI, we are doomed to obtain biased estimates even when we use instrument variables. Accordingly, Pesaran and Smith (1995) propose the MGE (Mean Group Estimator), the key idea of which is to estimate parameters for each individual unit (e.g., a firm or a country) when there exists heterogeneity across individual units.

Figure 1. Chain Reactions between FDI and TC



Another way to address simultaneity bias is to apply the Vector Autoregressive (VAR) specification. VAR, originally designed by C. Sims (1980), is an N-equation, N-variable linear system of equations in which each variable is explained by its own lagged values, plus current and past values of the remaining N-1 variables. This simple framework provides a systematic way to capture rich dynamics in multiple time series. By applying innovation accounting techniques such as Impulse Response Function (IRF) analysis, for instance, one can fully examine the impact of one endogenous variable on the other endogenous variable in the system. In particular, IRF analysis systematically traces the incremental effect of a one-unit shock (i.e., unexpected change) in an endogenous variable on other endogenous variables, capturing the consequence of chain reactions among variables (Enders, 2004).

Originated in the field of economics, VAR modeling has been used in diverse management disciplines including accounting (e.g., Bar-Yosef et al., 1996), finance (see Campbell et al., 1997, pp.279-286 for a review), marketing (for a review, see Dekimpe and Hanssens, 2004), and strategy (e.g, Nair and Filer, 2003). In fact, VAR modeling would be particularly useful to examine intriguing issues in international business such as the development of TC through FDI, long-term impact of FDI on economic progress, and dynamic relation between TC and economic progress, to name a few.

VAR Model Specification

Before specifying our VAR model, we first perform the Phillips-Perron panel unit root test to see if our focal endogenous variables (i.e., EMB, DISEMB, IFDI, OFDI, AC) are stationary (Maddala and Kim, 1998). If some variables are non-stationary, then one should test for the presence of cointegration, which represents a long-term equilibrium among non-stationary variables (Enders, 2004). Depending on the results of unit-root and cointegration tests, VAR models are specified in the levels (no unit roots case), in the differences (unit roots without cointegration case), or in error-correction format (cointegration case), respectively (Dekimpe and Hanssens, 2004). The Phillips-Perron panel unit root test results suggest that all variables are stationary at $p < 0.05$ for all 6 countries.

As a result, we set up our *VAR model in level* for each country. Note that we do not perform cointegration tests since there is no non-stationary variable.

Next, we specify our structural-form VAR model then multiply both sides of the model by B^{-1} and obtain the reduced-form VAR model as shown in Figure 2. Note that the coefficient matrix in Figure 2 represents the dynamic, interdependent relationships among endogenous variables in the system. For example, an increase in current TC in terms of EMB due to an increase in the last period's inward FDI (IFDI) would be captured by the coefficient π_{13}^p for $p=1$.

Figure 2. Reduced-form VAR Model

$$x_t = \Pi_0 + \sum_{p=1}^P \Pi_p x_{t-p} + e_t, \quad e_t \sim N(0, \Sigma_e)$$

$$\text{where } x_t = \begin{bmatrix} EMB_t \\ DISEMB_t \\ IFDI_t \\ OFDI_t \\ GDP_t \\ AC_t \end{bmatrix}, \Pi_p = \begin{bmatrix} \pi_{11}^p & \pi_{12}^p & \pi_{13}^p & \pi_{14}^p & \pi_{15}^p & \pi_{16}^p \\ \pi_{21}^p & \pi_{22}^p & \pi_{23}^p & \pi_{24}^p & \pi_{25}^p & \pi_{26}^p \\ \pi_{31}^p & \pi_{32}^p & \pi_{33}^p & \pi_{34}^p & \pi_{35}^p & \pi_{36}^p \\ \pi_{41}^p & \pi_{42}^p & \pi_{43}^p & \pi_{44}^p & \pi_{45}^p & \pi_{46}^p \\ \pi_{51}^p & \pi_{52}^p & \pi_{53}^p & \pi_{54}^p & \pi_{55}^p & \pi_{56}^p \\ \pi_{61}^p & \pi_{62}^p & \pi_{63}^p & \pi_{64}^p & \pi_{65}^p & \pi_{66}^p \end{bmatrix}, e_t = \begin{bmatrix} e_{EMB_t} \\ e_{DISEMB_t} \\ e_{IFDI_t} \\ e_{OFDI_t} \\ e_{GDP_t} \\ e_{AC_t} \end{bmatrix}$$

Estimation & IRF Analysis

We estimate the reduced-form model using the Ordinary Least Squares (OLS) method, which provides us with consistent and asymptotically efficient estimates (Enders, 2004). All variables are measured by taking the logarithm, which is useful to derive the elasticity of any innovation (Nijs et al., 2001). We also include exogenous control variables such as exchange rate, time trend, and seasonality dummy. As for the number of lags (p), we use Schwarz's Bayesian Information Criterion (SBC), following a conventional procedure (Nijs et al., 2001; Enders, 2004). As a result, we choose one lag for US, Canada, Taiwan, and Korea; two lags for Mexico; and three lags for Brazil.

Next we perform Impulse Response Function (IRF) analysis, which is a useful tool to quantify the dynamic effect of a focal variable on the other endogenous variable. IRFs describe the response of endogenous variables to the shocks on other endogenous variables over certain time periods. Following Koop, Pesaran, and Potter (1996), we derive Generalized Impulse Response Functions (GIRF) using the estimated residual matrix as well as estimated coefficients matrices from the reduced-form VAR model in Figure 2. Specifically, we compute two forecasts on a focal variable (e.g., TC), one based on information set without a shock in the other focal variable (e.g., IFDI), and another with a shock. Then the difference between the two forecasts captures the incremental effect on TC of a shock or unexpected increase in IFDI over time (Enders, 2004). Different from conventional Choleski decomposition method, GIRF method is known to be insensitive to the ordering (Pesaran and Shin, 1998; Nijs et al., 2001).

We compute impulse response functions up to 20 periods, i.e., 20 quarters or 5 years in our data. Specifically, we regard the sum of IRF values as the long-run effect. We compute standard error of IRF using Monte Carlo simulation (# of iterations = 1000). Then we apply a ' $|t\text{-stat}| > 1.28$ ' criterion to identify statistically significant IRF values, which means that we sum all the IRF values whose significance is greater than this cutoff.

Concluding Remarks

Summary of Findings

The research objective of this study is to investigate the interdependent, dynamic relationships between TC, FDI and economic progress by using 1998-2007 quarterly time-series data between two imperative global economic events, i.e., the 1997 Asian Financial Crisis and the 2008 Subprime Mortgage Crisis. We selected six nations in three clusters: 1) US and Canada (Frontier/Source), 2) Korea and Taiwan (Pre-frontier/Intermediate), and 3) Brazil and Mexico (Catching-up/Beginner) according to their IDP stage (Narula and Dunning, 2010) and their ITD position in terms of embodied and disembodied technology (Shih and Chang, 2009). By using

TABLE 1. IRF ANALYSIS RESULTS

Effect on log(GDP) of	Mexico	Brazil	Taiwan	Korea	Canada	US
log(IFDI)	0	0	0	0	0	0
log(OFDI)	-0.014	0	0	0	0.011	0.006
log(EMB)	0	0.037	0.009	0	0	0
log(DISEMB)	NA	NA	0	0.021	0.005	0
Effect on log(EMB) of	Mexico	Brazil	Taiwan	Korea	Canada	US
log(IFDI)	0.511	-0.198	0.111	0	0	0
log(OFDI)	0	0.241	0	0	0	0
Effect on log(DISEMB) of	Mexico	Brazil	Taiwan	Korea	Canada	US
log(IFDI)	NA	NA	-0.063	0	0.019	0
log(OFDI)	NA	NA	-0.101	0	0	0

TABLE 2. SUMMARY OF FINDINGS ON FDI, TC, AND ECONOMIC PROGRESS

Effect on Economic Progress	Mexico	Brazil	Taiwan	Korea	Canada	US
of IFDI	0	0	0	0	0	0
of OFDI	(-) ***	0	0	0	(+) **	(+) ***
of EMB	0	(+) **	(+) **	0	0	0
of DISEMB	NA	NA	0	(+) ***	(+) *	0

*: Statistically significant when $|t| > 1.28$ criterion is applied;

**: Statistically significant when $|t| > 1.645$ criterion is applied;

***: Statistically significant when $|t| > 1.96$ criterion is applied.

VAR modeling, we examine the endogenous relationships among our focal variables, including IFDI, OFDI, EMB, DISEMB, and GDP. As shown in Table 2, our empirical findings reveal that: 1) during the period of 1998-2007, inward FDI does not affect GDP of our sample countries; 2) outward FDI positively affects GDP of Frontier/Source countries (Canada and US), but not the other countries; 3) EMB does not affect GDP of Frontier/Source countries, but it positively affects GDP of Brazil and Taiwan, who show more orientation toward IFDI-EMB (see Table 1); 4) DISEMB does not affect GDP of Catching-up/Beginner countries, but positively affects

GDP of Korea and Canada, who show higher focus on OFDI-DISEMB (see Table 1); and lastly, 5) US's GDP benefits from OFDI, but not by other factors such as EMB and DISEMB.

Contributions, Limitations, and Future Research

As aforementioned, VAR modeling is attractive for the following reasons: 1) *dynamics*: long-run effect of one variable on another can be quantified, 2) *no endogeneity bias*: reverse-causality relationship between focal variables (e.g., FDI vs. TC) can be easily incorporated, and 3) *no heterogeneity bias*: through unit-by-unit analysis (instead of conventional panel design) different condition across countries can be considered and asymmetric policy recommendation can be made. Another unique methodological contribution of this paper is to combine network analysis and VAR modeling approach. By using network analysis, we obtain TC position in terms of EMB and DISEMB, and then, we analyze long-term implications of TC position on economic progress. To our knowledge, this paper is the first one to use VAR modeling, coupled with network analysis, to address ITD issue associated with FDI and TC.

Our work suggests two strategic implications for the countries that aspire to upgrade their TC for further economic progress through international R&D spillovers and FDI activity. First, our findings recommend that countries at the Catching-up stage focus first on EMB position for economic progress; countries at the Pre-frontier/Intermediate stage may want to focus on EMB or DISEMB position, depending on their situation and countries at the Frontier/Source stage may want to focus on DISEMB. Second, countries at the Frontier/Source stage may benefit from outward FDI considering their high internal R&D costs. As such, our findings provide insightful policy implications for countries at different development stages.

However, there are certain limitations inherent in our study, which we leave for future investigation. First, VAR modeling is a reduced form approach, which is regarded as less reliable than the structural modeling approach for policy simulation (Stock and Watson, 2001). Future study may impose more 'structures' based on further economic assumptions to construct Structural VAR modeling (Enders, 2004). Second, one may want to apply fixed- or random-effect dynamic panel specification with IV/GMM method to investigate the research questions raised in this paper. In this case, however, the heterogeneity across countries should be considered. When the heterogeneity problem across units exists, instrument variables cannot resolve the endogeneity problem as long as we estimate dynamic panel model with lag terms (Pesaran and Smith, 1995). This could be problematic when a researcher needs to specify lag terms in order to capture the chain reactions among economic progress, FDI, and TC.

In spite of the limitations, this study provides a new methodology to analyze the interdependent, dynamic relationships among FDI, technological capability and economic progress. Our findings provide insights for policy makers to determine whether to focus their limited resources on achieving certain technological position or on attracting/stimulating certain type of FDI in order to compete successfully in the international technology network.

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Factors Influencing Individual Investor Behaviour: An Empirical study of the Indian Financial Market

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Abstract

The Indian capital markets have witnessed unprecedented activity in the last few decades, especially after the economic liberalization. The capital markets, which were the exclusive, preserve of a few traders operating from regional stock exchanges like Bombay Stock Exchange has since 1980's become more broad based and inclusive. A large number of retail and small investors have entered the stock markets primarily through the Initial Public Offer (IPO) market. International studies have shown that the increased participation of the investors in the stock market is a reflection of the general growth in the economy and people with increased income tend to invest it in equities and debt instruments to realize higher returns. In that sense the growth of the stock market is also vote for positive economical fundamental in the economy. In this scenario it is important that we try to understand the attitude and behavior of the players in the capital market, more particularly the individual investors who are perhaps the most vulnerable players in this huge market. The individual investors who enter the market are not always well informed and it is quite difficult to predict their behavior. During the past few decades, there has been an intense debate about the dynamics of stock prices and investor responses. The prevalent theory has been the Efficient Market Hypothesis (EMH) by Fama (1970), which stipulates that stock prices move in accordance with the change in valuation. In recent years, a new set of ideas, known as Behavioral Finance (BF), has gradually provided an alternative to EMH by stipulating that systematic biases exist in market dynamics. One aspect of this is that individual investors as well as experts are subject to the behavioral biases. The present paper tries to examine the economic and social utility derived by the individual investors. It also Studies the influence of psychological factors on the individual investors investment behaviour and risk perception. We find evidence to the effect that investment decisions are not always rational psychological factors like fear of loss, overconfidence and anchoring effect investor's ability to optimize his/her investments. Similarly investors in the study area showed a marked aversion for risk.

Introduction

The Indian capital markets have witnessed unprecedented activity in the last few years. After the economic liberalization initiated in 1991, the stock markets, which were the exclusive, preserve of a few traders operating from regional stock exchanges like Bombay Stock Exchange became broader based and inclusive. A variety of new investors entered the market attracted by the investment opportunities. A large number of retail and small investors have entered the stock markets primarily through Initial Public Offer (IPO) by companies. The business organizations have also realized the potential of generating funds from the relatively cheaper equity route rather than through debt. Today it is common to find new as well as established players tapping the capital market for their funds. The growth of the equity cult attracted people from all walks of life and there was a sea change in the attitude of the middle class towards stock market trading. Some international studies have revealed that the increased participation of the investors in the stock market is a reflection of the general growth in the economy and people with increased income tend to invest it in equities and debt instruments to realize higher returns. In that sense the growth of the stock market is also a vote for positive economical fundamentals in the economy. However, recent studies have touched upon the fact that the reverse is also true.

The financial markets the world over have been a source of great interest to the investors as well as researchers. The markets are an enigma and attempts to unravel the behavior of the markets and its participants have always been a challenging task. Over the years many attempts have been made to develop a model which could predict market

behavior but most of the theories of traditional finance and economic theories have either failed or if at all only partially succeeded in describing the market behavior. For a longtime economic thought was dominated by the notion of a rational economic man who makes informed decisions so as to maximize his expected utility. However various studies have conclusively proved that man is anything but rational in his actions. Thus the quest to identify and explain how the investors in the financial markets behave continues. The so called irrational behavior of these individual investors can be to a large extent be understood by the help of Behavioral finance (Peters, 1996). Behavioral finance is a relatively new field which draws upon theories of Psychology and social sciences. Advocates of behavioral finance believe that investors are not rational and are influenced by the information structure as well as their own unique personal characteristics. The aversion of the traditional approach to understand and explain the decision processes of investors was the main reason to trigger the emergence of behavioral finance as an approach which tries to identify and understand the meaning of psychological decision processes for financial markets (Ricciardi and Simon, 2000). It is also true that traditional literature tends to focus more on the institutional investors and less on the individual investor in describing the aggregate market behavior. But no study to understand the financial markets can be complete without an attempt to understand the individual investors who as individuals may be too small a unit of the market but together they carry a lot of weight and tend to punch much above their weight. Since the 1990's the investor interest in Indian financial market has grown manifold. Consequently it attracted many new investors which lead to the democratization of the Indian financial markets. As the market became more inclusive it brought with it the need to understand, educate and protect the interests of the large number of small individual investors who could be and were unduly influenced by unscrupulous operators. Thus the opening up of the economy was duly followed by some of the biggest securities scams witnessed in the country. One underlying truth about all these scam was that while it did affect institutional investors who it could be argued were often willing participants but the brunt of the aftershocks was felt by the gullible lay investors. The need to identify the investment behavior of these individual investors assumes urgency as the Indian Financial system has been slowly integrating itself to the international markets. The attitude and beliefs which influenced the decision process of individual investor needs to be understood. It will be interesting to know how the individual investor's attitude and behavior is formed and the influence of various factors.

The study of the attitude and behavior of investor is based on two fundamental assumptions that an investor is rational and predictable and that their behavior can be influenced. It is often argued that the stock market investments are based on risk-benefit analysis. But "Psychologists have theorized that a person's attitude and behavior are not always consistent with efficient market theory or the maximization of expected utility- Wayneryd (1999).

Understanding investor's behavior and knowing investor's motivation are never simple. Investors may state their intentions but act contrary to the stated intention. They may not be in touch with their latent drives and they might respond to stimuli that change their mind at the last minute. Nevertheless an understanding of investors and investment process will provide researchers with a theoretical base from which to analyze the investors.

The present study on investor's behavior throws light on the various dimensions of investor's behavior like socio economic factors, market information and personality. The first section of this paper is the introduction, the second section is the literature review, the third section establishes the methodology and hypotheses of the study, the fourth section presents the stud results and the fifth section is the conclusion and recommendations.

Review of literature

For decades, economists have speculated theorized and argued about the rational actor-a completely logical creature who always makes the sensible financial choice. Now psychologists are weighing in and they are finding that real people often do not act that way. Irwin (1993) viewed that, "Behavior is in which the outcomes remain uncertain with the possibility of an identifiable negative outcome". Bebchuk and Stole (2003) have shown that, when shareholders cannot observe the level of investment in long-run projects, under-investment may result because the increased long-term investment will not be factored into the share price as much as the actual increase in net present

value would imply. The standard finance theory has for long relied upon the belief that investors are rational and efficient processors of information. Therefore their decisions are efficient and well thought out one's. This outlook has been influenced by the Modern Portfolio theory (Markovitz, 1952) and Capital Asset Pricing Model (Sharpe, 1964). It is assumed that the market participants (investors) will maximize their expected utility and the stock prices change is unpredictable as it only responds to genuinely new information. The price prevailing at any point will have already discounted already know information.(Shiller, 2000). However research has increasingly shown that investors are not always rational and that they are not efficient in the way they process information. Many a time investor's bias, cognition and emotions influence the accuracy of their judgment. Kahneman and Tversky (1979), Shefrin and Statman (1994), Shiller (1995) and Shleifer (2000) are among those who have used psychological and social sciences theory to explain the financial markets and its less than perfect behavior. Traditional finance theorists believe that the mis-pricing created by the noise traders (irrational investors) will be corrected by the rational investors, who sense an opportunity to maximize their utility. But in practice as shown by Shleifer and Vishny (1997), it is often costly to correct the mis-pricing. This is so because as they pointed out, arbitrageurs — the people who are supposed to buy low and sell high — need capital to do their jobs. And a severe plunge in asset prices, even if it makes no sense in terms of fundamentals, tends to deplete that capital. As a result, the smart money is forced out of the market, and prices may go into a downward spiral (Krugman, 2009). There are quite a few instances of the anomalies in the Indian markets that cannot be explained by traditional finance theory. For example the Securities Scam of 1992 was a classical case of rogue traders taking the investors for a ride by manipulating the pricing of certain stocks. This was followed by the scam in what came to be known as the KP stocks after the rogue trader Ketan Parekh. In most of these cases the investors were attracted by the high price differentials but they invariably lost out when the bubble burst. All though it can be said that the institutional investors as well as the individual investors suffered but the institutional investors failed in spite of their experience and expertise but the individual investor often did not have these privileges. These only reinforce (Case and Shiller, 1989) the need to explore other models of human behavior to explain the actions of the investor. A seminal and perhaps one of the most quoted works which is used to contradict the standard financial theory is the Prospect theory (Kahneman and Tversky, 1979). The prospect theory explains that contrary to the Expected Utility theory, people are not often looking to maximize their utility rather often they are more interested in cutting their losses. Kahneman and Tversky, (1979) attribute it to the fact that the pain of loss often outweighs the joy of gain, this is often referred to as loss aversion in behavior finance literature. Shefrin and Statman (1985) refer to this tendency of realizing gains easily and holds on to the losses as the 'Disposition Effect'. In the behavioral finance literature the disposition is explained by decision maker's framing of choices in times of potential gain and losses as also the fact that investors tend to be risk averse in gains region and risk seeking in the loss region of the S-shaped value function (Hens and Vlcek, 2005). This tendency of investors to defer selling stocks which has gone down and selling stock which has risen can also be explained by "Regret Theory". Investors are likely to sell stocks which are gaining prices and hold on the stocks which are going down so that they can avoid experiencing regret for losing money or not booking profits when the stocks were rising. In other words the fear that the prices may fall in future prompts selling while the hope that losses can be recovered in the future leads to investors holding on to loss making stocks. Kahneman and Tversky (1979) have shown that individuals tend to see events with extremely low probability as impossible which events that have high probability of occurrence are considered as certain. Kahneman and Tversky call this as "the certainty effect", certainty effect is a major foundation of prospect theory. The prospect theory also makes a distinction between "value function" and "utility function" as exposed in expected utility theory. Loss aversion is also a function of the framing of the choices. Framing is the notion that how a concept is presented to individuals influence their decisions (Ritter 2003). People make different choices in situations with identical final wealth levels due to the effects of problem description, or of framing. There are numerous demonstrations of a 30 to 40% shift in preferences depending on the wording of a problem. No normative theory of choice can accommodate such behavior since the first principle of rational choice is that choices should be independent of the problem description or representation (Barberis and Thaler, 2003). For example marketers often use "free gift" along with a purchase worth certain amount/units as an attraction to push up sales. But the customer does not realize that probably they could be better off buying the "free gift" instead of buying larger units of a product being promoted. While framing deals with how the problem is presented to the decision maker (Barberis and Thaler, 2002) the opposite is also true. The method by

which individuals define and understand such problems is termed as “Mental Accounting” (Thaler, 1999). Mental accounting can explain why investors are likely to refrain from adjusting their reference point for a stock (Shefrin and Statman, 1985).

Heuristics are another major aspect of human cognitive process which has a profound influence on investor behaviour. Heuristics is used to reduce the cognitive dissonance experienced by an individual investor. Cognitive dissonance was proposed by Leon Festinger (1957) where he explained cognitive dissonance as a state when two subjective beliefs of the individual are not in agreement with each other. This is a fluid state and the individual tends to restore equilibrium by either modifying information or refusing to acknowledge certain information which does not confirm to their belief systems. Heuristics can be defined as the process of learning through trial and error. Each individual develop their own “thumb rule” based on their experiences. Overconfidence is the tendency for people to over-estimate their knowledge, abilities and the precision of their information [Bhandari and Deaves,(2005)]. Studies have shown that people attribute higher values to their abilities than is warranted and this often leads to what is known as “self attribution bias” (Miller and Ross (1975)). Over confidence manifests itself in many ways including trading behavior. Barber and Odean (2001) found that the more people traded, the worse they did, on average. And men traded more, and did worse than, women investors. Representativeness is another aspect which tends to influence the investors behavior. Khaneman and Tversky (1974) show that when people try to determine whether a particular object A belongs to the class B they will try to access the degree to which object A reflects the essential characteristics of B. While it is often beneficial to use representative heuristics it can often lead to people under weighing long-term averages. People tend to put too much weight on recent experience. For many investors, investing constitutes more than simply weighting the risk and expected returns of various investment assets. Or, as in the words of Fisher and Statman (1997: 48): "... some - perhaps most - investors have preferences that go beyond expected turns and risk. A preference for stocks of socially responsible companies is one example."Recent literature in behavioral finance, in which marketing and consumer behavior theories and concepts are applied to distinguish between utilitarian and expressive characteristics of investing. Investing in the stocks of specific companies can offer utilitarian benefits like low risk and high returns, but also expressive benefits. For example, investments can help investors to demonstrate their feelings of patriotism, social responsibility and fairness or convey a position of high status to other investors (Statman, 1999; 2004). Hoffman(2007) argue that "...investors - like consumers - may sometimes also deliberately want to signal to outsiders, by displaying and discussing about their investments with other investors in their social networks." This may be in order to attain or maintain status; i.e. investments as a form of conspicuous consumption (Janssen & Jager, 2003; Veblen, 1899). Or this may be to satisfy other, more socially oriented needs, like the need to participate in investment related conversations or to affiliate with other investors. Behavioral finance scholars (Statman, 2004), and even Fama and French (2005) - two proponents of traditional finance - have often called for a greater acceptance of the link between decision-making processes for investments versus consumption goods. (Statman, 2004: 154) have argued that finance journals which are mostly confined to the utilitarian benefits of low risk and high expected returns should go beyond it and address the question of social utility derived by investors.Hirschleifer and Teoh (2003: 25) endorse this view, stating that: “We are influenced by others in almost every activity, and this includes investment and financial transactions”. Shiller (1984: 457) joins Hirschleifer and Teoh, characterizing investing in speculative assets as “a social activity”. Stock trading may even offer an investor so-called ‘flow experiences’ (Csikszentmihalyi, 1997; Statman, 2002: 17). This feeling comes close to that of ‘getting a kick’ as uttered by the investor quoted above and is related to the feeling of camaraderie day traders may experience when they come together in trading rooms like players in a casino (Statman, 2002).

Methodology

Participants and Design

The data for this study was collected through a survey using an interview schedule directed at active individual investors. Before using the questionnaire to collect final data, it was pilot tested amongst 100 Bachelor and Master level business management students in Srinivas College, Mangalore.The final questionnaire was distributed to

clients of 4 well-known stock brokering firms in Mangalore. The investors were approached in person and via e-mail and they were asked to fill up the questionnaire. The four stock brokering firms offer a wide range of investment-related services, as e.g., analysts' reports on overall market developments or individual stocks, financial news items, stock tips, Demat services and such other investor services. This makes the clients of these brokering firms appropriate respondents group. Incomplete questionnaires were deleted, after which 400 questionnaires remained for further analysis. After the data were collected, diverse descriptive statistical techniques were used to get an insight into the characteristics of the respondents. The survey study as described above was capable of greatly improving our knowledge of micro level investor behavior.

Hypothesis

1. Economic needs and social needs influence the behaviour of investors in the Indian Financial Markets.
2. People tend to take risk when they believe that the potential for higher returns on their investment is greater than the loss they might incur by investing / speculating in the share market.
3. The role of market knowledge and information in influencing investment behavior is highly significant as investors with greater knowledge and information tends to make better investment decisions.
4. There is a positive co-relation between the investors' income and the investment behavior.
5. The psychological and personal characteristic of an investor determines the level of risk he is willing to take.

Results

The behavioral finance literature argued that investors may care about more than risk and returns. Investing may offer expressive benefits like status and feelings of social responsibility besides utilitarian benefits like low risk in combination with high returns. Tastes differ and different investors like stocks for different reasons as they try to satisfy different needs with their investments. We have performed an empirical study on the different social, economical and psychological needs the investors aim to satisfy by investing. Our investment survey made a distinction between these different needs and showed important differences for male and female, old and young investors, and investors with a high level of investment-related knowledge and experience and investors with a low level of investment-related knowledge and experience. Some of the major findings of the study are :

1. We found the seventy six percentage of the total respondents where male and twenty four percentage where female investors. This confirms to the findings of Barber and Odeon (2001) who found investing to be a traditionally masculine task in the US, and therefore, as a group, men can be considered to be more in tune to investing than women.
2. The age group of the investors in the study area plays an important role in their investment decisions and objectives. People in the age group of 45-55 years were more averse to risk taking and preferred to invest in government debentures and other debt instruments. In the study Thirty two percent, that is one-third of the respondents where in the age group of 25-35 years. Twenty percentage of the respondents where in the age group of 35-20 years, eighteen percent where below 25 years of age and twelve percentage where in the age group of 45-55 years. The average age of the respondents was 40.8 Years and the standard deviation was 15.73. The average age reflects the fact that young adults and middle aged players tend to be more active in the share market. The average income of respondents was 36,800 rupees per month.
3. The education level of the investors also determines their awareness of investment avenues as well as their preference for certain type of investment avenues. Investors with little or no education made investments which are more emotionally driven while more educated investors made their investments after careful study of the market conditions and often based their investments on the advice of experts. To study the impact of education levels of investors on investor awareness and preference, the sample respondents were grouped in to four categories based on their qualifications, namely, Post graduate, Graduate, Intermediate, and no formal education. 24.3 percentage of the respondents where Post-graduate, 39.9 percentage were graduates, 35.7 percentage were intermediate. The absence of investors with no formal education is a reflection of the high level of literacy in the study area.
4. The marital status of the investors is another influencing variable of investors attitude and behaviour. The study found that married investors tend to be more interested in investing avenues as they were more

worried about savings for children's education, future medical expenses and retirement benefits. The married investors are more conservative in their choice of investment avenues and showed a market preference for debt instruments, government bonds and mutual funds. In the study 86 percentage were married, 12 percentage were unmarried while 2.1 percentage were widowers.

5. To study the awareness of investment avenues among the investors, the respondents were asked to rate their awareness about investment products like bank deposits, company deposits, small saving schemes, life insurance schemes, mutual funds, real estate, corporate securities bonds, equity shares and preference shares. Majority of the sample investors expressed their awareness (know well) of investment avenues, which included equity shares (47%); preference shares (39%) and company deposits (39%). Most of the investors also displayed high level awareness of bank deposits (87%), Life insurance policies (39%) and small saving schemes (35%). It can be inferred that majority of the investors in Mangalore are quite aware of corporate investment avenues like equity and preference share, mutual funds, corporate debt securities and deposits.
6. The study found that the attitude of full-time salaried persons is significantly different from the other occupational categories of respondents, namely, retired persons and self-employed persons. The percentage of responses of attitude about various investment channels among salaried persons is significantly higher than that of persons of other occupational categories. This leads to a conclusion that the occupation of the investor is a factor influencing attitude about an investment avenue.
7. To ascertain the investment objectives influencing the investor attitude and their investment behaviour, sample investors were asked to indicate their choice for various investment objectives in the descending order of their preference. A majority that is 63 percentage indicated that "potential for financial gain" as their first objective, 49 percentage indicated that "safeguarding their retirement" as their second objective, while 45 percentage indicated "tax savings" as their third objective where as 30 percentage indicated "identifying with peer group" as their fourth objective for investments.
8. To ascertain the frequency of the investment, the sample investors are asked to indicate their investment activities in terms of time- daily, weekly, monthly, quarterly, half-yearly and yearly. It was found that 43 percentage preferred to do weekly investments, 23 percentage preferred to do investments on a monthly basis, 12 percentage preferred to trade daily, 10 percentage of sample respondents traded on a quarterly basis, 8 percentage preferred to invest every six months and 4 percentage invested on a yearly basis. The findings reflect the fact that people are more active in the share market and monitor their investments regularly.
9. It is always important to know the persons, who actually participate in the decision making process while investments are made. In this context, the sample investors were asked to identify the persons, who normally assisted them in the investment decision making. It was found that 24.9 mentioned that they took their own decision, 43.9 percentage were helped by family members, 13.9 percentage were advised by professional investment consultants while 17.3 percentage depended on their friends for their investment advice.
10. To study the investment monitoring behaviour of the sample respondents they were asked to indicate the steps they take to monitor the performance of their stocks. It was found that 41.4 percentage of them monitored their profit making investment regularly, while 25.1 percentage had a long term perspective and hence monitored their investments periodically, 22.1 percentage of the respondents said they preferred to monitor the overall performance of their portfolio rather than the performance of individual stock and 11.4 percentage of the investors said they monitor their poorly performing stocks. This clearly shows that investors derive greater satisfaction when their investments are doing well as it helps to avoid regret in the future. Similarly those who look at their gains and losses over all the investments are astute investors who are following the concept proposed by Khaneman and Tversky (1974) in their prospect theory.
11. To ascertain as to whether the investors like or dislike risk while making investments, a statement reading "I dislike risk when it comes to investing" was placed before them and their responses were collected. It was found that nearly 36 percent of the respondents agreed with proposition while only 25 percent disagreed with the statement. It indicates that investors in the study area are risk averse in their investment

decision. Further the investors in the study area were asked to place themselves on a risk rating scale starting from Very Low to very high based on their tolerance levels of investment risk. It was found the most respondents; nearly 40 percentage said they are moderate risk takers. Low risk takers preferred security over returns, while High risk takers tended to be more aggressive in their portfolio formation. There was a clear negative correlation between age and risk preference as youngsters tended to be more aggressive in their risk appetite.

12. To ascertain as to whether the investors were willing to take a calculated risk while making investments, a statement reading “I take calculated risks” was placed before them and their responses were collected. It was found that only 9.9 percentage of sample respondents strongly agreed while 36.9 per cent of them just agreed with the statement indicating that they were willing to take calculated risk while investing. Nearly 32 percentage of the sample respondents took a neutral stand while 21 percentage of the respondents disagreed with the statement.
13. To ascertain whether the investors are willing to accept greater degree of risks to earn higher returns, a statement reading, “I accept greater degree of risk to get higher return” was placed before the sample investors and their responses were recorded. It was found that nearly 57 percentage of the sample investors are willing to accept greater degree of risk provided that they are compensated with higher returns on such investment. Around 20 percentage of the sample have maintained a neutral stand. It was also seen that 23 percentage of the respondents disagreed with the statement meaning that they are not at all willing to accept higher risk for higher returns. From this we may come to a conclusion that some of the investors may be willing to accept higher risks if they feel that they are adequately compensated.
14. To ascertain whether the investors had any experience with investments that fluctuate in value, a statement reading “I have experience with investments that fluctuate in value” was administered to the respondents. It was found that only 4.9 percentage of the respondents strongly agreed while 50 percent of them just agreed with the statement. This indicated that 55 percent of the sample investors had experience with investments that are volatile. 25.7 percent of the investor was not sure of their experience with such investments. It is also observed that around 20 percentage of the respondents disagreed with the statement meaning that they had no experience with such type of investments. From this we may come to a conclusion that some of the investors are familiar with the investments that exhibit volatility in its value.
15. In order to assess the feelings of the investors when the value of their investments actually declined, a statement reading “If my investment value declined, I would be worried”, was placed before the sample respondents. It was found that 13.7 percent of the sample respondents strongly agreed, while 25.7 percentage of them just agreed with the statement. This indicated that around 39 percentage of the sample investors worry much about the decline in the value of their investments. Around 28 percent of the sample respondents are not sure of their position in such a case. It was also seen that around 33 percent of the respondents disagreed with the statement meaning that they do not worry even when their investments lose their value in the market. From these observations one may come to a conclusion that some of the investors react very much to the decline in the value of their investments.
16. To know the investors' preference to low risk investment, a statement reading “I prefer low risk investment with a known yield as opposed to an investment with more risk” was placed before the sample investors and their responses were recorded. It was found that 12.4 percentage of the investors strongly agreed with the statement, while 49.2 percentage agreed with the statement. This means that majority of the investors prefer to invest in those investments with low risk and with known yield as opposed to investments with high risk.
17. The study found a positive correlation between investor's income and investment behaviour or more precisely the propensity to take risk. It was found that people with higher income were more willing to take risks compared to those with lower income; it is due to what is called “Income Smoothing” effect. The effect states that with higher income people tend to smooth their income as they become more confident of sustainability of their income.
18. In the study the sample respondents were asked to predict the behaviour of the stock market given that the stock market had moved in a particular direction in the past three days. When they were presented with a

situation that the market has increased in the last three days the average increase predicted by the respondents was 31.2 percent whereas when they were asked to predict the movement of the market following consecutive decrease in value they answered it as 28 percent. This behaviour can be explained by what Kahneman and Tversky (1974) call as representative heuristic where people often neglect the base probabilities.

19. The study finds support for the view that investment decisions are not always a rational decision taken by an individual. Psychological factors like fear of loss, overconfidence and anchoring effect investor's ability to optimize his/her investments.

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THE EURO CRISIS: GREECE IS DEFINITELY NOT THE MAIN CULPRIT BUT RATHER A VICTIM OF THE EU “DOUBLE STANDARDS” POLICIES

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Abstract

The paper deals with some experiences as gathered from our research in the area of the European Integration within the EU in general and with the current handling of the ongoing global economic and financial crisis in particular. That in addition to various other negative impacts on the Internal market of the EU has brought with itself also a direct threat to the very existence of its common currency Euro. The paper in more details presents some of the main reasons for these negative development and impact on Euro as well as analyses the reactions and measures as taken by the EU institutions in order to save its common currency from a total collapse and/or its splitting into two “sub-currencies” as a stronger north and weaker south Euro currencies.

Some key background information on reasons why especially Euro has been so negatively effected by the ongoing global economic and financial crisis

In this respect it is important to realize that the entire process of preparation and implementation of Euro has been a long term process that has originally started as an integral part of the process of the development of the European Economic and Monetary Union (EMU). In view of this relatively complicated inception of Euro as a common EU currency it is important to take into account that the first initial steps towards future common currency have been laid down by the so-called Werner Plan yet in 1971 in order to overcome at that time threatening currency crisis that led to abolition of until that time existing a system of stable exchange rates among major world currencies. As a result, finally a ECU – European Currency Unit was introduced as a special currency unit that was not existing as a real currency but was serving as a kind of some financial and accounting and non-cash unit. However, only after 17 years in 1988 the European Council has adopted a strategy of gradual introduction of a true and real common European currency within the framework of the Economic and Monetary Union and on the basis of the so-called Delors’ Report in three relatively independent stages:

- 1) This first stage of 1 July 1990 – 31 December 1993 was marked by an abolition of any limitations on the free movement of capital within the EU. During this period on 7 February 1992 also the so-called Maastricht Treaty on the European Union has been signed that among others adopted also the famous Maastricht convergence criteria that are serving as the basic criteria for EU member states to become eligible for entering into the European common currency that at that time had not yet had its official name.
- 2) Again with some delay the second stage 1 January 1994 - 31 December 1998 has introduced some institutional provision for the future common currency viz. the EMI - European Monetary Institute. During this stage also the name of the future common currency i.e. Euro has been approved in December 1995. After another year in December 1996, the design of future Euro banknotes and coins has been approved and in June 1997

the so-called Stability and Growth Pact has been adopted as the necessary precondition for adoption of the future common currency.

However, the most important outcome of this stage has been the decision made by the Council of the EU that on the 2nd May 1998 has - although unanimously - adopted for the fate of the future Euro a rather controversial decision that altogether 11 EU member states are “meeting” the Maastricht convergence criteria and thus they are eligible for adoption of Euro since 1 January 1999. With the effect of 1 June 1998 the EMI has been replaced by the ECB – European Central Bank as the central institution being responsible for Euro as the new EU common currency.

3) The third, last and the most important stage in Euro preparations and implementation started on 1 January 1999. On that date, the mutual exchange rate system among the particular currencies has been unchangeably fixed up. What as it has been proved later was not the most favourable decision for the new common currency as it has thus fixed up also some differences in economics of the member states and thus putting some of them into somehow permanent disadvantageous position. Since that date, also the Euro has become the official “common” currency of the EU for 12 EU member states that adopted the new common currency Euro on 1 January 2002. On that date also again by a certain paradox - with the three years delay after the date when the Euro has become the official currency of the EU - also the new Euro banknotes and coins have been put into real circulation and practical utilization.

Summary of some key problems and weaknesses of the Euro preparation and implementation that made it so volatile vis-a-vis the current global crisis

In a brief summary, the main problems and weaknesses of Euro due to its above complex and long preparation and many surrounding controversies have been as follows.

The entire process of preparation and implementation of Euro as a common currency has been too long lasting for more than 30 years since inception of the Werner Plan so the momentum of the new currency has been during those years to some extent lost especially as far as the citizens of the EU are concerned with a quite natural question – if it is so complex and complicated and with so many compromises what is it all good for

In spite of such a long preparation, one of the biggest systems shortcomings of the new common currency has been the fact that due to above longevity and complexity of its inception, it has been prepared only as a special currency in the form of common banknotes and semi-common coins but without any harmonization in the fiscal and other related policies. So from the very beginning it was only a common currency in circulation but not in any of at least elementary fiscal especially taxation common policy. Due to this fact the Euro in different member states countries has very different “value” so to achieve one of its main objectives i.e. mutual comparability of prices in different countries is absolutely impossible

Another important negative aspect of the new currency has been an unclear and confusing institutional provision and responsibility for the new currency. In addition to the ECB – European Central Bank as the main regulating and control authority for Euro it is also the shared responsibility of all central banks in all Euro-zone member states what in practice means that there is a natural space for a kind of irresponsibility in taking a due care for their common currency. This inconsistency has come up and been manifested in full only since the beginning of this crises when all countries instead of their common approach to protect Euro started mainly to protect their own national interests through various national “initiatives” like e.g. a “scraping car bonus”, etc. And it has been so since the very beginning of Euro although not so much demonstrated as after the outbreak of the crisis. Otherwise it could not happen that the catastrophic situation with public finances in Greece

has been “discovered” only after more than 10 years since introduction of the Euro as a common currency and after “permanent and systematic ” monitoring of the Maastricht criteria strict observance . And this is not only the grave mistake and irresponsibility of the ECB but also all other institutions that are responsible and/or co-responsible for controlling macroeconomic performance and in particular Maastricht criteria like it is in case of the European Commission but also the Eurostat and to some extent also the European Parliament,

The Maastricht Treaty has had at least on “paper” very demanding, strict and obligatory so-called Treaty obligations i.e. criteria to be met not only by applicant countries in order they could become eligible for becoming the Euro club and/or the Euro Zone members but also by permanently by all Euro zone members. In failing to do so it has been possible to punish the particular country by adequate fines as applied towards violators of any part of the treaty or any other part of the EU legislation. But unfortunately from the very beginning the interpretation of the Maastricht criteria in practice and requirements for their permanent observation has been very controversial, full of double standards etc. What finally led to the current deep crisis of Euro not because the global crisis but mainly due its internal controversies we have just presented.

The Maastricht criteria – originally only three countries met them in full - as one of the main reasons for the current critical problems with Euro

As mentioned in the end of the previous part, one of the main deficiencies of Euro as a new common currency of the EU has - in addition to some others as described above - been not a very systematic handling and application of the so-called Maastricht convergence criteria. As the key selection criteria on eligibility or non-eligibility of the applicant country for joining the Euro Zone they were supposed to play the key role in selecting future Euro Zone countries and also in achieving a permanent stability and strength of Euro . Basically, those criteria as the Treaty duties and obligations should not allow any different interpretation and/or derogations in case of the Euro zone applicant countries.

Finally, the following specific convergence criteria (in addition to some more general criteria on macroeconomic stability, etc.) have been adopted and have become a part of the Maastricht Treaty:

- the price stability and/or inflation – not more than 1.5% above the level of three best performing EU member states
- the state budget and/or government deficit – not exceeding 3% of the GDP
- the ratio of total government debt to the GDP shall not exceed 60%
- the interest rate should not exceed by more than 2% those of three best performing countries in the above inflation for at least one year before the examination
- participation in the exchange-rate mechanism of the EMS for at least two years without any fluctuation above or below that mechanism.

As usual in the EU by a certain unwanted paradox, the biggest problems to meet these criteria had had those countries like Germany or France that were most demanding in their most tough and demanding formulation. In order to meet them, finally they had to resort to various (temporary) not-so-clear measures in order to pass through them and qualify themselves for becoming future Euro Zone members. Although it had to be clear for them that such their “successful finish” could not on a long term basis secure their non-problem participation in the Euro Zone as according to the Treaty terms all these criteria must be met on a permanent basis otherwise, the violating country will be severally punished by a high financial penalty to be paid for the entire period of non compliance.

Finally, in spite of all various measures often being on the threshold of unfairness, eleven EU member states “met” these criteria but...

The detailed analysis of their performance in the decisive period before the adoption of Euro shows that in full these criteria were met only by 3 (three!?) out of “eligible” 11 EU member states:

- France but it had also some big problems and needed some “innovative” solutions in valuation of their gold reserves in order to meet the criterion on the budget deficit but finally has not succeeded in their sustainability
- Finland
- Luxemburg.

Again by a certain paradox we may see that among those three countries meeting the Maastricht criteria in full was missing also the country considered to be a main economic engine of the EU and the proponent of the most though formulation of these criteria!

It is evident that such a composition of three only member states – moreover two of them too small for being considered even as a representative sample or prototype of any future common currency - could not represent the first group of the users of the future EU “common” currency. Hence, in interpretation of individual criteria were finally and again as usual in the EU adopted such various supporting clauses existing in the Treaty as the last resort that made them eligible in even cases that their total debt (on these criterion otherwise failed altogether 7 out of 11 “eligible” countries) exceeded the limit of 60% of the GDP by almost 100% and was hovering on the levels of 113-116 % like in case of Italy and Belgium! But could one imagine that the top representatives and thousands of well paid employees of the most important EU institutions stationed in Brussels would be paid in Belgian Franks instead in their ”own” new common currency – Euro?!

Hence, finally the selection of eligible countries was a process of various politically and otherwise motivated compromises that enabled to choose those 11 “eligible” countries that “met” Maastricht criteria or as one of “saving” clauses stated “demonstrated that any exceeding above the reference level was only exceptional and temporary and the ratio remains close to the reference value ...”.

With the difference of more than ten years since those “temporary... exceptional...close to be...” exceptions were used, we could state that most of them remain until now almost on the same high levels as when their were approved. What has changed it was the fact that some additional problems with other criteria have just appeared. Hence for some time there was the strong general tendency to soften some criteria as they are too tough, rigid and as such “breaking” any sustainable economic development in the Euro Zone member states. These tendencies have intensified especially when also France and Germany started to have serious problems with keeping their budget deficits within the required limit of 3% of the GDP. As it was already problem of two main engines of the EU it is not surprising that finally not those two “EU engines” were punished by the severe financial penalties but... the particular criterion was... somehow softened exceptionally for them but not e.g. for new applicants for Euro from the NMS – New member states?! They have to meet original Maastricht criteria in full and on permanent basis.

In order to finish this part on some different application of the Maastricht criteria – otherwise typical approach in the EU - we dare to add only that: only Greece originally was used as an example that the EU authorities concerned were very consequent in demanding the meeting of the Maastricht criteria. Thus in this only case, they clearly demonstrated that Maastricht criteria are not a rubber ones that could be somehow adjusted to any not properly performing countries.. Therefore, later on, Greece had to meet all criteria in full in order to become the 12th member of the first Euro group of states that introduced the “real” Euro on 1 January 2002, This Greece case is a difference to some other much bigger states that even until now have not managed to reduce their enormous exceeding of their total debts as it is in the case of Italy or Belgium, but...Also now during the critical situation with Euro mostly only Greece is singled out as an example of a country that has

not been respecting its obligations towards Euro. As the only country that has been carelessly manipulating with the indicators on the Maastricht criteria and with other important macroeconomic indicators while some other countries not being much better than Greece like e.g. Italy, Spain, Portugal, but also Ireland are mostly not mentioned at all or only very marginally. Although for example according to the latest available statistics Italy has a higher total debt of 115.8% of the GDP than Greece with 115.1%. It means that in ten years Italy has practically not managed to reduce its total debt at all. Although it has been accepted to the Euro zone on the basis that it has been showing a positive development in this respect?! But where has been that positive development is not clear even until now! Hence there is an immediate question where have been all those already mentioned regulatory and control institutions of the EU like the ECB, EC, EURSTAT, EP that they in 10 years have been unable to discover violators of Maastricht criteria not only in case of Greece but also all other?! But unfortunately also in the EU it is true that we all are equal but some are just more equal especially if you are big and strong enough country. These and various other criteria and “criteria” for Euro are on the other hand in some sharp contrast with the real situation in using Euro, that in addition to the EU member states has already been used instead of national currency in numerous states that are not EU members and have not met any Maastricht or other criteria as e.g. it is in case of Monaco, Andorra, San Marino, Vatican (even with a special privilege to mint its own coins?!) and also some other countries that are even not EU neighbours like Montenegro or Kosovo in order to mention just Euro “users” in Europe. All these and some other cases have of course nothing to do with any monetary or other common policy of the EU, it is just a politics and towards a tourism business oriented tolerance if we realise that the set of Vatican coins with the face value of 3.88 Euro is possible to buy in the souvenir shop for only not less than 400-500 Euro?! Quite a good business isn't it?!. However, definitely it is unfair and discriminatory towards the EU own especially new small members that have to meet without any derogations all Maastricht criteria and prove also its sustainability while its own big members did not need that and the same also those external states-users of Euro like e.g. Kosovo or Montenegro. Although in some respects they are bigger than some of the smallest Euro zone member states like Malta, Cyprus but also Slovenia.

Current situation and problems of Euro vis-a-vis the ongoing global economic and financial crisis

After such a complicated and often controversial development, a careless regulatory and control mechanism from the side of the particular EU institutions led by the ECB and EC it is no surprise that the Euro has been so negatively effected by the ongoing global economic and financial crisis.

At at the outset of the crisis there was existing quite an indifferent and critical only approach towards the Euro crisis that has been most dangerously presented in Greece. On one side especially from the side of Germany there was originally no intention to help Greece to get out from the crisis under the slogan that German workers would be not working till the age of 65 in order the Greeks could retire as before at the age of 55 with many extra benefits, perks, etc. There was forced an opinion that the EU is a market economy with the rules also for bankruptcy that should be applied not only in the case of unsuccessful companies but also of states. But soon after when it has been finally discovered or at least publically admitted that Greece is not the only member state of the Euro zone on the verge of bankruptcy and that most of so/called “toxic” loans to Greece were quite logically from big German and French banks also the general strategy of the EU towards Greece has completely changed.

The saving Greece and thus also Euro and Euro zone has become a case of the EU solidarity and mutual help as it has been enshrined in the basic Treaties. It is pity that it is applied only mostly in case when big members feel to be threatened and not also towards small new member states regarding e.g. a free movement of their citizens, CPA – Common Agricultural Policy subsidies, etc. And so forth.

Finally after many heating debates the EU leaders have come to the plan to save and help to Greece and to prevent anything similar in the future by adopting to main instruments in this respect i.e.:

- A massive loan to Greece
- A so-called “Euro wall” i.e. a large fund that in the future could be used immediately in similar cases to help to any Euro member states in case of similar crisis.

But again it would not be the EU if again also this plan would not be creating some controversies. The first is that the sources for both of them were sought not where the problems were made but under the false and often otherwise overlooked principle of “solidarity” it was sought within all members of the Euro zone and of course without any kind of direct accountability for this disastrous situation of Euro. Only in such a way could happen that e.g. for particular “Euro wall” the countries have to contribute by the following per cents of their GDP:

- | | |
|--------------------|-----------------|
| - Slovakia 6.50% | - Spain 4.81% |
| - Germany 4.78% | - Greece 5.16% |
| - Luxemburgh 2.80% | - Belgium 4.44% |
| - Italy 5.02% | - France 4.60% |

What is on these figures interesting it is several facts:

- Slovakia that is the far poorest country in the Euro zone with only the GDP per capita 21,245 USD has had to contribute by the highest percentage of the GDP although it has been in the Euro zone only a little longer than one (!) year so much damage in this respect could not be made
- Luxemburgh as the richest member with the GDP per capita 78,395 USD has allocation only 2.80%
- Even more interesting are the cases of those who on the long-term basis were violating the Maastricht criteria without any punishment so one would be expecting that at least in this case they would be allocated by a proportionally high contribution to this fund that to the large extent has to be created mainly due to their irresponsibility but... As we may see the contributions of Greece, Italy, Belgium, Spain as the main culprits in this respect but also France and Germany as the main architects of the Euro are only between 4.44 – 5.02%. By a certain paradox these limiting figures are of Belgium and Italy who for more than 10 years since inception of Euro have been violating the total debt within the Maastricht criteria by almost 100%! And of course they GDP per capita is between 29.109 in case of Italy to 35.422 USD in case of Belgium.

What is even more interesting, it is the fact there was taken no action in this respect towards the EU institutions that are paid by EU citizens/tax payers like the EC, EP, ECB, EUROSTAT etc. as they have directly been responsible for controlling member states regarding their meeting of Treaties obligations and the EU legislation requirements in full and without any derogations. If this has been the case also regarding Euro and the Maastricht criteria there would not be needed any Euro wall and loans from the Euro zone member states! Such and really a huge Fund of collected fines from the violating member states would have been completely full after the ten years of irresponsible disrespect to the Maastricht criteria. But it could not be the case of the EU being infamous for its special

interpretation of the Treaty duties, responsibilities, expected solidarity and generally applied “double standards”, etc.

As a result all above EU institutions have not been anyhow negatively effected by their irresponsible behaviour towards Euro. There have been taken no personal consequences towards e.g. the European Commission and it is still led by the same President whose first term in years 2004 – 2009 was the most important for successful implementation of Euro. And it is absolutely true that in this respect it has totally failed in protecting interests of the EU regarding its common currency what is its main Treaty obligation. The same is regarding the ECB. What consequences have been taken against its top executives that they let Euro to slide into such a deep crisis threatening the very existence of the Euro. And of course there have been so far no financial cuts to the budgets of these and all other EU institutions for their complete failure towards protecting Euro from its current crisis that is still not over and it really could happen what has been predicted by many experts that sooner or later the Euro could really demise

Conclusions

In conclusion we could state that Euro even after more than thirty years of its preparation and more than decade since its introduction as a “common” currency of the EU has not yet become for various reasons truly and fully a real common currency for all its current 27 member states and its citizens. On the other hand as a consequence also of this its internal position, Euro has not yet become an international currency that would be on par with its main competitor on international markets i.e. the US\$. It will need many more years and mainly more systematic and consequent policies and not only monetary to make Euro what it has originally been intended i.e. a common EU and internationally highly recognized currency. The current Euro crisis as we have at least partially presented it in the previous parts of this paper has definitely not contributed to the respect, prestige and confidence towards this very special “common” currency and it is really a question what will be its future development, “enlargement” and position in the world. It is more than clear that Greece is not the last country that has been so negatively effected by the current Euro crisis. There are several more EU countries as potential candidates to follow the problems of Greece. And there exist even an opinion of many experts that perhaps there will if not a total demise of Euro as a common currency then at least its split into two categories, etc.

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The New Regulatory Concerns and Regulatory Management

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Abstract

The global financial crisis of 2008 originating in the United States of America is spreading to other countries following the collapse of the mid-19th century financial giant on the 15 September of the year and other big banks also on the verge of collapse has raised concerns across the globe, especially in the United States of America ,and also started the search for some unfailing financial regulations and financial authorities or regulators , but even amidst the countries like UAE and India were noted to be of comparative calm because of their principled banking and central banks. It is mostly a failure of bank leadership, specially of central banks like the US Fed. It is unprincipled banking which is at the back of the crisis, and also ineffective central banking. The regulatory search is led to central banking and dynamic regulatory management (DRM).

Introduction

When the world was thought to be advancing well under the new market ideology of the west, of which the USA is supposed to be the main proponent- in the 21st century, it was struck in 2008 by financial crisis of the magnitude of the Great Depression of the 1930s, strating with the No.1 economy of the world of the USA spreading to the rest of the world like a wild-fire, from the devastations of the US and the rest of the world have yet to recover .For example, the rate of unemployment in the US is said to be running at the yet un-maintainable level of 10% (Business Standard, 2011), not to say of the other less ‘robust’ countries and economies. Democratic India too has yet to hit its pre-2008 near to double digit growth rate of 9 per cent plus, notwithstanding its self-acclaimed prudential financial management of the crisis and its international economic good behavior according to principles of ‘free & fair trade’, unlike some nouveau riche countries aggrandizing themselves.

What is more, it is feared whether the Great Recession, a great calamity in itself would slide into a far great calamity of Great Regression , according to some straws in the wind. “After the Great Recession, Europe has embarked on a Great Regression. Wages, Pensions, unemployment insurance, welfare benefits and collective bargaining are under attack in many areas as governments struggle to reduce debt swollen partly by the cost of rescuing banks during the global financial crisis” (Taylor, 2011). So, it is banks at the centre of the crisis, calling for not only rescue but also regulation , to see that such crises do not take place hence after. But, before the future, the present crisis is to be fought-off. Following this concern exercising G-20, IMF, IBRD, banking and academic circle too , this Note is addressed to the new financial regulatory concerns, regulations and regulatory management that appear to be eluding a consensus. It is in the nature of the crisis the regulatory remedy or remedies lie. The big crisis itself after so much experience and expertise of running the financial institutions and regulation appears to have no cause when everything appeared to be running well under the new international economic order of globalization, privatization, competitions, free and fair trade, etc. (Paul, 2008). However, the free-market ideology, which calls for a lot of self-discipline and self or voluntary regulations on the part of all its players, should not be interpreted to do anything in pursuit of profits. Accordingly, the new regulatory concerns assume importance for an academic investigate, with the objective of unraveling the nature of crisis and whether right remedies are being sought in the new regulatory searches. The exercise may start with a note of the objectives and methodology of this modest exercise.

Objectives

- i. To understand the nature of the great crisis,
- ii. To know whether the regulators were helpless against the crisis and its alleged authors or perpetrators,

- iii. To fathom the new regulatory concerns and regulatory remedies,
- iv. To outline the nature of Regulatory Management that would take care of Great Crisis and their formidable players, and
- v. To draw lessons from crisis, of policy and Regulation.

Methodology

In the first place, it is the free market ideology giving a freehand to the market players as the benefactors of mankind which is at stake and is to be examined. Does it mean regulatory helplessness? This question is addressed. Next, it is the question of banking, particularly big banks, which is said to be at the heart of the crisis, but banking is well established economic setup which is the guardian of public money which should be the last or never to stray away from the path of trusteeship. So, along with the free market ideology, the question of banking and banking standards are also gone into, in the breach of which the whole problem of the crisis appears to lie and the failure of central banking to uphold the principles of banking. Also, whether the big banks means no principles of banking to follow. Then the Great Crisis itself is examined and the efforts at warding it off and the cost of the crisis in human and materials terms.

It is also well known that there is a crisis—within the crisis, debt crisis, under which government after government are reeling under and being bailed out by the IMF and follow government movements such as that of the EU, quite reluctantly, and these and many are running budgetary and trade deficits, including India. There are regulatory concerns on this bigger score also (Krugman, 2011).

As such, regulatory concerns, arising out of the Great Crisis-2008, are very much in the air not only at the national but also international level of which a view is taken, as also of attempts at new regulatory bodies or super or unfailing regulators that would make the world safe from big or great financial or banking and debt and budgetary crisis. Not the least is the Regulatory architecture or management (RM) that is to emerge from the new regulatory concerns and regulations.

Finally, the method of the study is to see whether the new regulatory concerns remedial concerns and measures and architecture meet the basic problem of the crisis which appears to be the regulatory failure itself, self and of the regulatory authorities. Why, for example, entities like the UAE are free from the regulatory concerns' show they could have a safe sail through the crisis? The case of India is not different, where there are no regulatory concerns. It is a different thing that the Government of India, for no reason but just to assert itself unnecessarily and against a good working central bank, appears to be thirsting for a regulatory concern or two. Indian's is a case of petty political over lordism in the crisis to rule over a good working central bank. The roots of the crisis are deep and abutting that need to be taken a view. Why, again the US neighbor Canada has no regulatory concerns and appears to be a calm amidst the raging financial storm just in the neighborhood. In the light of this, the new regulatory concerns, may appear panic reactions, which, in retrospect, may seem unmissed for.

Market and Banking Ideology

There is no doubt the winds of change blowing across the continents and countries, bringing the countries together, the winds of globalization, marketization, privatization, enterprise, innovations, mobility, internet, mobile phones, international business, travel, tourism and education, free trade, consumerism, advertisement, enterprise, rising aspirations, environmental concerns, space exploration, etc. The economic dictum of this new world economy is the rule of the invisible hand or price mechanism, an all time and seemingly an ever alluring accept of Adam Smith (1723-1790), the author of the foundational classic of the science of economics as well as business *The Wealth of Nations [1776]* (Smith, 1776). Notwithstanding its critics, the ideology, by and large, continues to dominate the domain of economic policy and practices (Economist, 2001). It needs no saying that the market ideology is for high growth, greater trade and more welfare, for ushering in, in short, an era of global prosperity. It

is well known that the late Prof. C. K. Prahalad, the management doyen, had called upon the business in general and MNCs in particular to advance their footsteps towards the bottom of the economic pyramid (BOP) made up of the world's poor and produce goods and services for the poor by somewhat lowering their high profit expectations (Prahalad, 2004). Prof. Prahalad's is a great innovation in economic and business with a great humanizing effect, lending the new market ideology a human face and a concern for the welfare of humanity at large. The market theory is for unleashing enterprises and innovations. It has brought, among other things, mobiles at a cost of Rs. 500 or \$ 11 a piece within the reach of the common man in India, a country of great poverty numbers. The Crisis raises doubts concerning the free market ideology (Economic & Political Weekly, 2009) whether it is time for a counter-revolution is a different thing. There is, however, no doubt about the crisis raising regulatory concerns. One thing overlooked concerning the free market ideology by all the players is self-discipline and Umpiring, and nobody big enough to break the market code. In fact, the bigger enterprises have greater responsibility thrust on them. They are the uncrowned market leaders who set example in good business behavior for the rest. They are economic lighthouses who should strike a right path for themselves and the rest. They are business leaders. No business or profit at the cost of the public good and general welfare, which is not philosophy or ethics but fundamental market and business principle. Banking, especially, should be the embodiment of this all time principle. No tampering, hanky-panky. The foundation of banking is PUBLIC TRUST. They should set financial standards and norms of good financial behavior. There is an unbreacheable banking code. If anything, the crisis appears to teach that the bankers, especially the so-called big bankers, need to taught the banking principles. It is an unfortunate situation that even the great central bankers appear to be in need of learning the banking principles and the principles of central banking. There is no such thing as free-for-all-banking.

Banking Principles

It may seem belaboring the obvious to talk about the banking principles to the management community, but it is the breach of these age-old, trusted principles which is the heart of the big or the first big financial turmoil of the 21st century and all efforts at the national and international level are being expended to invent a financial regulatory Holy Grail (s) alin to a wild-goose chase. For, after all, all these years, especially in the greatly inventive 22nd century, the world has not been living in financial regulatory dark times. The world had lived through the far greater financial crisis of the Great Depression. It's now only Great Recession, somewhat a lesser calamity. Eternal vigilance, they say, is the price of democracy, the winds of which appear to be blowing across the seemingly democratically arid Arab World. Free market ideology and system is alien to economic democracy that needs, to be eternally guarded. But, the Guards, the bankers viz. the central bankers appear to be off-the duty-the mighty Fed, the historical and imperial BOE and the no less distinguished BOJ, which, it appears, need to learn from their lesser brethren like the Reserve bank of India (RBI) that had stood tall and firm during the Crisis. No less is the role played by central banking in the UAE, entity of about four decades. They are examples of good banking.

Whatever it may be, no sub-prime loans, at the heart of financial crisis banking calls among the banking principles-nor putting all investment eggs in one basket-In the crisis in housing (Sowell, 2009)-nor passing the buck on to the unsuspecting public around the world in the form of mortgaged back (un) securities or derivatives. "The 'creative' financing of home mortgages and the marketing of financial securities based on American mortgages around the world are part of the story of how a financial house of cards was built up and then suddenly collapsed." (Financial Express,2009).

Banks should reach out to the general public and make them partner in their business, of which the first is mobilization of deposits-the stock-in trade of banks. The need, it is needless to say is for the BOP or inclusive banking or banking inclusive of the common man saving, Deposits, as such, are the first principle of banking (The Penguin Dictionary of Economics, 1972), from which the rest of the banking principles follow-Liquidity, Security, Prudence, Economy, Reserves, Sound Investment, Due Diligence, Trusteeship, Public Confidence, Low Profile, Productivity, Credit creation, Monitoring, Mortgages, Credit Counseling, Recoveries, Deposit and Interest Rates,

Profit Margins, CEO Pay and Bonuses and Perks. The Golden Rules of Banking are liquidity, Security, Profitability and Public Trust.

Above all, the central banks should stand tall and see that their constituent banks however big and trying to be forbidding on the right lines and are not an authority and law unto themselves. The real regulatory measure in the given circumstances would be to create a Regulator of Central Bank, say, Fed Regulator or Regulatory Authority, a ridiculous proposition. The mandate of central banking is banking governance beyond all hum-drum politics and politicking. Central Banks are begin banking rulers and overlords with carrot-and-Stick. The Fed should have heard quite in advance the tolling of the bells of the impending crisis.

Here is what the great economist the late Prof. Samuelson has to say about the Fed-Federal Reserve System, the US Central Bank, generally acknowledges to the first of the Central banks of the developed world, where decisions have world-wide repercussions. The Fed is said to be interested in the interest of the American public and always acts in their favor (Samuelson, (1980). But it appears to have failed in the present crisis daily costing huge to the US public.

“In 1913, Congress created a Federal Reserve Act, signed by President Wilson. The reform sprang from the panic of 1907, with the alarming epidemic of bank failures. After half a dozen years agitation and discussion by both parties, the Federal Reserve System was formed-in face of strong banker opposition” (p.275) So any banking reforms and regulations are not easy.

The Fed is a public agency, its role has expanded over the years (MacDonald & Koch; 2006), but its primary focus has remained the same, and the Fed is directly responsible to Congress, and whenever any conflict arises between its making a profit and the public interest. It acts according to the public interest without question. It's in fact, one of the most eminent public institutions of the US. Although the President appoints the Board of Governors and considers its allegiance is primarily to congress and not to the executive branch.

This is not intended to be an easy on Banking and Central banking, but on the big financial or banking crisis of 2008 and the regulatory concerns raised by it and the search on for new regulations and regulatory bodies, which even if necessary are not going to be an easy sailing in the light of the seemingly 'sovereign' Big Banks and their Rightist or ultra Rightist political pals. The battle for any regulations or regulatory bodies is most likely to be lost, at the very thought stage. It is not the intention to paint a dark or darker picture of the troubled situation, but to bring home human and leadership failure(s). There is no lack of 'weapons' of bank and credit regulation-both major and minor. There is the minor but powerful weapon of "Moral suasion" to make the banks see reason and the writing on the wall, from indulging in any unbanking practices. This does not appear to have been used by any during or after the present crisis. It is the weapon of last resort, a powerful weapon which puts the guilty and the culprit at the bar of public opinion and makes the things known to the banking and the general public and all stakeholders. As it is, the bank CEO's appear to be in low public estimation. The general consensus is that the crisis is owing to the bankers 'greed' and unbanking practices. Both CEO royalism doesn't seem to impress the general public.

The Big Crisis

Among the results of the Crisis is the output of large 'crisis literature, which is not to be at an end for quite some time to come. "The economic recession that the world stumbled into seems to have caused larger damage to the forests than banks. .. the "recession literature" itself.. is already packed to rafters" (Jagannath, 2011). There may be a larger picture involved in the crisis, as the crisis may be depicted as the crisis of capitalism. There are for ever capitalism bashers, but the system instead of collapsing or exhibiting any signs of collapse even getting back to its feet. The over-riding factor or the factor of the factors in all the exercise regarding the crisis is sub-prime or bad or un-maintainable or ineligible loans quite overwhelmingly to the single sector of housing from

the start of the 21st century in the United States of America and elsewhere. This breaches the banking rule of not putting all eggs in one basket, so theoretically and practically quite an untenable banking proposition for any good length of time. It's a case of infirm or bad credit management. Sub-Prime loans are not at all in the banking lexicon. Do the banks need to be told this basic principles of banking in India, the RBI- Reserve Bank of India-cautious the banks to be wary of real estate loans. Then, during the Crisis, the RBI has had the good fortune of a good leaders or Governors, D. Subba Rao and his predecessor Y.V. Reddy. Dr. Reddy was taken to be a crisis averting central banker by no less than an authority than Prof. Stiglitz, an Economics Nobel Laureate. Then the crisis boils down to the crisis in central banking leadership. It is Prof Krugman's constant thesis and refrain that the crisis is entirely the work of the big US bankers. He has very strong words for them, such as looters. His almost seemingly single-point programme of banking reform and regulation is banker's compensation (Krugman, 2009). Prof. Krugman too is an Economics Laureate and a people's economist whose opinions cannot be brushed aside as partisan or ideological. The Fed and its leadership are not spared. In his view, the Fed is awakening from its slumber and thinks that the bankers compensations too falls within its regulatory purview as a measure of preventing reckless banking. For, 'royal' pay and perks, bonuses, house furnishings, paid holidays, private jets, etc., also, it needs, no elaboration, do not fall within the principles of sound banking, The US public appears to be palpably furious about the banking royalty. The fury is directed against the presidency and Fed for not disciplining the big businesses.

From the first (Semmler, Bernard,2009) to the latest (Bartirromo, 2011) stories of the crisis point to the deliberate breaking of the banking principles as the proximate cause of the crisis, starting with the lack of saving drive to excessive leveraging, non-prime or subprime loans, heavy housing loans, heavy risk taking, complex securities, the outsourcing of risk, fat pay packs and large bonuses, poor CRM deception, cut throat competition and bad leadership worse are the accusations of fraud against the big Businesses of the United States of America, the banking of which should set a model not of democratic banking, the United States of America standing for the cause of democracy world over and which is the bond of affinity between the US and India There is reported to be a big public furor and wrath against the banking bigs of America from their own people which should be an enough cause for deep introspection and self reform and regulations, beyond any government regulatory concerns, reforms and measures. The public appears to be equally or palpable against, the great Fed and its celebrity leadership. The great Greenspan, the ex-Fed, head appears to be no more a national icon, and the current head Ben Bernanke, an academic, just scraped through the senate for his second term. The role of the fellow bankers in the collapse of the 19th century origin Lehman 15th September 2008, heralding the financial crisis of nearly a century is claimed to be no less than that of the Richard Fuld, Lehman CEO, rated No.1 among the worst American CEOs. The crisis sounds a great human drama disappointment with the charismatic President Obama seems to be no less, with his putting of health reforms as No.1 program of his Administration amidst the big crisis. For, while the importance of a public health program cannot either be discounted or ruled out, the crisis should have been addressed first. That is, first things first. The president, it seems was vetoed down in the Massachusetts senate election in Jan 2010 wherein democratic stronghold, the democratic candidate, a lady, had to give - in to the Republican one, spurring the president to financial regulatory concerns and reforms after nearly 1 ½ years of crisis, during which time massive bailouts were being handed over to the 'too big to fail' (too big to reform and regulate too?) banks by the Fed and the Treasury, denting a big deficit hole in the budget to be called a bailout budget, bailouts 1.25 tr. and deficit 1.35 tr. (Financial Express, 2010). The crisis is compounded by the budgetary and trade deficits.

The US macroeconomic fundamentals are indicative of policy shifts that occurred just after the turn of the century toward fiscal and monetary excess. "Twin deficits" have characterized the US economy after 2001. The current account deficit reflects the imbalance between US national savings and investment, which takes into account both government and private saving and investment balance.

The twin deficits as well as banking lapses, by and large, point to leadership failure for which there cannot be any regulatory remedy, leaving the lapses of political or presidential leadership aside for the time being, before, during as well after the crisis lapse of central banking leadership is most telling, especially in the light of the well

known Davos or WEF consensus for strong, proactive central banks or more appropriately central bankers. Hence, the lament of D. Subbarao, Governor, Reserve Bank of India over the loss of creditability of central banks during the crisis (Subbarao, 2010). Hence any number of regulatory concerns arising out of the crisis (Reddy, 2011), from capital base to the quality of credit, quite understandably, but all falling to the lot of any central banks. Any financial regulations are sure to be met with stiff bankers's opposition as opposed to their freedom of enterprise. The crisis-born Reforms or Regulations, after a lot of deliberations and compromises also fall short of popular expectations, as, for example, leaving the crucial issue of banker's pay to the share holders (Financial Express 2010). Hence what appears to be called for is central bank Dynamic Regulatory Management, the IMF, also failing to throw any light in the troubled situation (Economic & Political Weekly, 2011). The consequences of which are expected to be lost for quite some time.

Dynamic Regulatory Management

So, the ball of crisis management and crisis prevention is thrown into the court of the central bank. It cannot abdicate its natural banking authority and responsibility to any other body. It is the public representative. Big banks should be model banks, as the SBI-State Bank of India, the biggest of all Indian banks and other nationalized and private and foreign banks of India, because the Reserve Bank of India is forever monitoring the situation.

Economic and business situation is ever changing, even keel through this changing situation by an appropriate and dynamic, democratic and progressive regulatory management that is promotive of growth with equity. There should not be duplication of banking regulators or authorities. The principles of management are as much applicable to central banking as to business bodies. However public welfare replaces profit motive.

Conclusion

The Global financial Crisis of 2008, signaled by the fall of Lehman Brothers on 15 September of the year 2008, has many lessons to impart to the politicians, policy makers and bankers and central bankers, to the last, mainly. The crisis, called Great Recession, falls within the domain of central banking. It is the result of breaking all banking principles, with unbridled competition and a seemingly insatiable thirst for profits and fat pay, bonus and perks that do not fall within the ambit of democratic banking. The crisis has raised regulatory concerns and search for unfailing banking regulations and regulatory authorities. The search leads to good old central banking and a dynamic regulatory management (DRM) by it.

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Is the Proposed Direct Tax Code a Boon or a Burst to FII's in India

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Abstract

Foreign Institutional Investor (FIIs) plays a dominant role in flourishing of the Indian Capital Market. For the first 25 days of October 2010 FII's have invested \$6.11 billion in Indian capital market and the net invested reached a record of \$24.48 billion in the whole year of 2010, which is the magic figure of above Rs.1-trillion mark (\$22 billion) by overcoming the 2007 peak of \$17 billion. This is due to the Government's assurance to continue with the liberalization of foreign investment policy. In this juncture the Government of India is planning to replace its 50 years old Income Tax Act with Direct Tax Code (DTC) which will to be implemented by 2012. The DTC has proposed to tax the income of FIIs from the sale and purchase of securities as capital gains. This paper explains the existing status of taxation of FIIs in Indian capital market and the effects of proposed DTC on the important issues of investments like taxation, capital gains, country of residence, and General anti-avoidance rule (GAAP), etc.,.

Introduction

India is one of the most accepted destinations for overseas portfolio investors to park their fund in the Asian region for 2010. It may be an indicator of increasing confidence in the Indian growth story, when the rest of the world is struggling to fight the recession. According to analysts, the upward revision of economic growth from 5.8 per cent to 6.1 per cent, better-than-expected performance of companies in the quarter ended-June 30,2010 and the trade policy with an ambitious target of US\$ 200 billion exports for 2010-11 have all revived the confidence of FIIs investing in India.

Government of India is planning to replace its 50 years old Income Tax Act with Direct Tax Code (DTC) which will to be implemented by 2012. The DTC has proposed to tax the income of FIIs from the sale and purchase of securities as capital gains. DTC released in August 2009 had threatened to bring all foreign investors under the tax net by overruling bilateral tax treaties signed with other countries.

About FIIs – its role of in Indian economy

Foreign institutional investors have gained a significant role in Indian capital markets. Availability of foreign capital depends on many firm specific factors other than economic development of the country. In this age of transnational capitalism, significant amounts of capital are flowing from developed world to emerging economies. Positive fundamentals combined with fast growing markets have made India an attractive destination for foreign institutional investors (FIIs). Portfolio investments brought in by FIIs have been the most dynamic source of capital to emerging markets in 1990s. At the same time there is an unease over the volatility in foreign institutional investment flows and its impact on the stock market and the Indian economy.

Growth in FII investments in Indian capital Market

TABLE 1: TRENDS IN FII INVESTMENT FROM 1992-93 TO 2009-10

Year	Gross Purchases (a) (Rs.Crore)	Gross Sales (b) (Rs.Crore)	Net Investment (a-b)	% Increase
1992-93	17	4	13	
1993-94	5593	466	5127	39338.46154
1994-95	7631	2835	4796	-6.456017164
1995-96	9694	2752	6942	44.74562135
1996-97	15554	6979	8575	23.52348027
1997-98	18695	12737	5958	-30.51895044
1998-99	16115	17699	-1584	-126.5861027
1999-00	56850	46734	10122	739.0151515
2000-01	74051	64116	9935	-1.847460976
2001-02	49920	41165	8755	-11.87720181
2002-03	47061	44373	2688	-69.29754426
2003-04	144858	99094	45764	1602.529762
2004-05	216953	171072	45881	0.25565947
2005-06	346978	305512	41466	-9.622719644
2006-07	520508	489667	30841	-25.62340231

Source: www.equitymaster.com

Apart from its impact on the market, their holdings will influence firm performance. For instance, when foreign institutional investors reduced their holdings in Dr. Reddy's Lab by 7% to less than 18%, the company's share dropped from a high of around US\$30 to the current level of below US\$15. This 50% drop is apparently because of concerns about shrinking profit margins and financial performance. These instances made analysts to generally claim that foreign portfolio investment has a short term investment horizon. Growth is the only inclination for their investment. Their strategy is –'Why take risk when you are not in profit-exit'. According to the industry experts, hedge funds played a very active role in Indian stock market since 2003 by entering both Indian cash and derivative market. The upward trend in the domestic market is due to hedge funds and regular long-term FIIs. Thus the foreign portfolio investments are found to be very volatile in nature.

Despite these observations, countries and firms are interested in attracting foreign capital because it helps to create liquidity for both the firms stock and the stock market in general. This leads to lower cost of capital for the firm and allows firm to compete more effectively in the global market place. This directly benefits the economy and the country. Availability of foreign capital depends on many firm specific factors other than economic development of the country.

Literature Review on FIIs impact

As the Indian equity market is growing, the trend and future prospects in foreign institutional investments has become a topic of great concern. A recent research survey by Japan Bank for international operation (JBIC), shows that in the next 3 years, India will be the third most favored investment destination for Japanese investors. A Smith Barney (a CITI group Division) study says estimated market value of foreign institutional investment in the top 200 companies in India (including ADRs and GRDs) at current market prices is US\$43 billion. This is 18% of the market capitalization of BSE 200.

It is established in literature that block shareholders influence the firm performance (Cho & Padmanabhan, 2001). Governance of listed companies plays an important role in foreign intuitional investment decisions. Further

more management of businesses run by family groups plays a distinctive role. When governments become block shareholder their objective will be quite different from those of private investors.

Douma, Pallathiatta and Kabir (2006) investigated the impact of foreign institutional investment on the performance of emerging market firms and found that there is positive effect of foreign ownership on firm performance. They also found impact of foreign investment on the business group affiliation of firms. Aggarwal, Klapper and Wysocki (2005) observed that foreign investors preferred the companies with better corporate governance. Investor protection is poor in case of firms with controlling shareholders who have ability to expropriate assets. The block shareholders affect the value of the firm and influence the private benefits they receive from the firm. Companies with such shareholders will find it expensive to raise external funds. Yin-Hua and Woidtke (2005) found that when company boards are dominated by members who are affiliated to the controlling family, investor protection will be relatively weak and it is difficult to determine the degree of separation of management from ownership. They also observed that firm value is negatively related to board affiliation in family controlled firms. Li (2005) observed that in case of poor corporate governance the foreign investors choose foreign direct investment (FDI) rather than indirect portfolio investment. It is generally believed that FDI could be better protected by private means.

Dahlquist et al. (2003) analyzed foreign ownership and firm characteristics for the Swedish market. They found that foreigners have greater presence in large firms, firms paying low dividends and in firms with large cash holdings. They explained that firm size is driven by liquidity. They measured international presence by foreign listings and export sales. They reiterated that foreigners tend to underweight the firms with a dominant owner. Covrig et al. (2007) concluded that foreign fund managers have less information about the domestic stocks than the domestic fund managers. They found that ownership by foreign funds is related to size of foreign sales, index memberships and stocks with foreign listing.

Li and Jeong-Bon (2004) found that foreign investors tend to avoid stocks with high cross corporate holdings. They suggested that FII are likely to be efficient processors of public information and are attracted to Japanese firms with low information asymmetry. Morin (2000) explored the influence of French model of shareholding and management on FII. They commented that France has undergone rapid change from a financial network economy to a financial market economy. The new pattern has broken the traditional system of cross holding and facilitated the arrival of FII who bring with them new techniques and demands efficient corporate management. What could be firm level factors that influence foreign capital from an economic standpoint is the question yet to be answered. Outside investors will lower the price they pay if they fear consumption of private benefits of control family. Choe, Kho, Stulz (2005) found that US (United States) investors do indeed hold fewer shares in firms with ownership structures that are more conducive to expropriation by controlling insiders. In companies where insiders are dominating information access and availability to the shareholders will be limited. With less information, foreign investors face an adverse selection problem. So they under invest in such stocks.

Leuz, Nanda and Wysocki (2003) further asserted that the information problems cause foreigners to hold fewer assets in firms. Firm level characteristics can be expected to contribute to the information asymmetry problems. Concentrated family control makes it more likely that information is communicated via private channels. Informative insiders have incentives to hide the benefits from outside investors by providing opaque financial statements and managing earnings. Haw, Hu, Hwang and Wu, (2004) also found that firm level factors cause information asymmetry problems to FII. Their paper found evidence that US investment is lower in firms where managers do not have effective control. Foreign investment in firms that appear to engage in more earnings management is weak in countries with poor information framework.

There is a growing literature on the determinants of global investment flows and allocations. Most of these studies have analyzed global and country level factors that influence investment allocations. This paper investigated empirically the different specific variables like taxation, capital gains and GAAP which influence the investment decision of foreign investors.

About DTC

The draft Direct Taxes Code (DTC) along with a Discussion Paper was released on 12 August 2009 for public comments to simplify the direct tax legislation in India. Subsequently, comments were solicited from the public and examined by the Government. A Revised Discussion Paper was issued on 15 June 2010 to respond to the major concerns and comments of stakeholders. On 30 August 2010, the DTC Bill 2010 was presented in the lower house of the Indian Parliament. Presently, the Income-tax Act, 1961 (the Act) governs the taxation of income earned in or from or with India. The Direct Tax Code, 2010 is proposed to replace the Income-tax Act, 1961. It is proposed to come into force from the financial year beginning 1 April, 2012.

The revised paper of the DTC has retained the clause directing foreign institutional investors to classify income from investments as capital gains and pay tax on it. “The majority of FIIs are reporting their income from such investments as capital gains. However, some of them are characterizing such income as business income and consequently claim total exemption from taxation in the absence of a Permanent Establishment in India. It is, therefore, the revised discussion paper state that the income arising on purchase and sale of securities by an FII shall be deemed to be income chargeable under the head capital gains.

This would simplify the system of taxation, bring certainty, eliminate litigation and is easy to administer, the paper said. The capital gains arising to foreign institutional investors will not be subjected to TDS and they will be required to pay tax by way of advance tax on such gains. But the draft code has created confusion among FIIs in the following aspects and some of them are:

Impact of DTC on FII’s– Taxation

While the draft DTC released in August 2009 had threatened to bring all foreign investors under the tax net by overruling bilateral tax treaties signed with other countries, the Discussion Paper recognizes that this is not feasible. Clarifications have also been issued on a number of ambiguous aspects such as determining if income was capital gains or business income, test of residence, and so on.

DTAA (Double taxation avoidance agreements)

The initial draft had proposed that neither the tax code nor double taxation avoidance agreements (DTAAs) shall have preferential status if litigation arose. It had further provided that the one that is later in point of time shall prevail. This had led to fears that bilateral treaties could be overruled and large number of FIIs which were not paying any tax in India, as they were purported to be paying tax in their country of incorporation, could now be brought into the tax net.

This proposal was not feasible since no country could unilaterally negate a treaty that was entered into by two countries bilaterally. The Discussion Paper therefore proposes that in case of litigation, the law that is more beneficial to the taxpayer — between domestic law and DTAA — shall prevail.

India has bilateral tax treaties for double taxation avoidance with more than 60 countries and a significant chunk of the FII funds flowing into the stock market are estimated to be routed through tax havens, such as Mauritius, that are covered by the DTAA.

FII’s covered by DTAA

According to the Discussion Paper, foreign investors utilizing the double taxation avoidance rule to avoid paying capital gains tax in India can now continue to enjoy this benefit. They would neither have to pay short-term nor long-term capital gains tax under the revised proposal as the tax rate on capital gains in countries of their incorporation is almost zero.

However, the tax authorities have the power to invoke GAAR (general anti-avoidance rule) where they think that the DTAA provisions are being misused. In such instances, the Discussion Paper states that domestic laws will prevail over DTAA and the FII can be made to pay taxes it was avoiding.

Since SEBI is already attempting to plug the inflow of money from unwanted sources into the Indian stock market, through various measures such as asking for greater compliance with disclosure norms in participatory notes and banning FIIs with multi-layered opaque structures, it would not be surprising if the tax authorities also follow suit and invoke GAAR where the source of funds is not apparent.

FIIs not covered by DTAA

Foreign investors not covered by any DTAA will face higher capital gains tax outgo if the proposals in the revised DTC are implemented. They are now only paying short-term capital gains tax at the rate of 15 per cent and no long-term capital gains tax.

According to the changes proposed, short-term capital gain will be added to the income of the taxpayer and taxed accordingly.

Capital gains on assets held for more than one year from the end of the financial year in which the investment is made, will now be added to the income and taxed albeit after deducting a specified percentage of the capital gains that will vary according to the taxpayer's tax slab.

This can have the negative effect of removing the incentive to hold stocks for longer periods, maybe resulting in greater churn in FII portfolios. Some external investors who are contemplating booking profit on investments held over many years might now rush to do so prior to implementation of the DTC on April 1, 2011. This factor could contribute to volatility in the first quarter of next year.

Business income or capital gain

The Code has now clarified that income that FIIs make from buying or selling shares will be treated as capital gains and not business income.

While majority of foreign investors prefer to pay short-term capital gains tax at 15 per cent, there are some who claim that it is business income and avoid paying tax in the absence of a permanent establishment in India. This has led to long-drawn litigations with tax authorities for proving the place of residence. Taxing all FIIs' income from stocks has simplified the issue.

The exchequer is not losing any money by asking all FIIs to declare their income as capital gains, as short-term capital gains is anyway taxed as part of income. Thus FIIs who are predominantly trading in cash or derivatives will anyway pay tax at a higher rate. The need to distinguish between trading and investment gains of FIIs is no more relevant.

Test of Residence

The revised DTC has also made the determination of the residence of a company that is incorporated outside India easier. It proposes that a company will now be considered resident in India for taxation purpose if its board of directors or executive directors make or approve decisions in India. This means that irrespective of where the executive board meets or the number of times they meet, the place out of which they function would now be considered the country of residence.

Controlled foreign company (CFC) rules:

As indicated in the revised discussion draft, CFC rules have been incorporated to provide for the taxation of income attributable to a CFC to be taxed in the hands of the resident. A foreign company would be considered as a CFC which

- ❖ For the purposes of tax is a resident of a country or territory with a lower rate of tax
- ❖ The shares of the company are not traded on any stock exchange
- ❖ One or more persons individually or collectively exercise control over the company
- ❖ It is not engaged in any active trade or business
- ❖ The specified incomes exceed INR 2.5 million.

Rules pertaining to the computation of the income attributable to the CFC which would be required to be added to the income of the resident have been provided.

General anti-avoidance rule (GAAR)

In addition to clarifying on test of residence, the modified GAAR lays down that income-tax officers can determine the tax consequence to assesses by disregarding the arrangement (such as DTAA) where the transaction lacks “commercial substance or is carried on in a manner not normally employed for bona fide business purpose.”

This means that tax authorities can now invoke GAAR with respect to the shell companies formed for routing money from tax havens into Indian equities and make them pay capital gains tax as per Indian laws. Such companies would have to prove that they had commercial substance. It might not be possible for such offshore companies to take refuge under the tax treaties as the revised Code lays down that domestic law will take precedence over bi-lateral tax treaties when GAAR is invoked.

Conclusion

The stock market is booming. The discriminating observer will know that this is attributable to heavy influx of funds into the stock market by foreign institutional investors (FIIs). They find the Indian market attractive on many counts, one being the liberal tax regime in operation. It has always been a matter of controversy whether stock market gains should be taxed as capital gains or business profits. Tax law makes a distinction between investment asset and business asset. Gains on investment assets are taxed as capital assets. The government should keep in view of the role played by FII's in Indian economy and compare the tax laws applicable in different other competitive countries before imposing any tax on the FIIs.

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Portfolio optimization using PCA

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Abstract

In these times of high volatility and market uncertainty, statistical factor models are becoming increasingly popular as useful tools for asset managers. Principal component analysis is a statistical tool with numerous applications to market risk analysis. In this paper, we apply method for portfolio optimization and risk measurement of the portfolio. PCA is derived from an eigenvector analysis of a very large returns covariance matrix. The aim of the paper is to show how it is possible to decompose total risk of the fictitious portfolio using PCA factors and how to construct optimal portfolios.

Key words

Principal components analysis, risk factors, portfolios, statistical factor models

Introduction

In this paper we are interested in modeling the returns on portfolios. The important role in portfolio selection has the study covariance structure of a vector return series. We use statistical factor models that may be applied to assess portfolio risks. These statistical factor models for portfolios are based on factors that have no economic or financial interpretation. A principal component representation for the percentage return on each asset in the investor's universe is derived from an eigenvector analysis of a very large covariance matrix, based on the returns on all the assets in the portfolio. Each principal component represents the percentage return on a statistical risk factor and, by choosing the number of principal components in the representation for each asset returns, the investor can adjust the asset's specific risk. Then optimal portfolios are constructed by adjusting the weights to match the systematic risk, systematic return and specific risk characteristics desired by the investor¹. PCA has a huge number of financial applications, in particular to term structures of interest rates, forwards, futures or volatility. This paper was motivated by case studies presented in Alexander (2008). In the section Method we provide a review of PCA and we introduce statistical factor model for stock returns. In section Result is presented Wolfram Mathematica case study based on 20 stocks in the DAX index (Deutscher Aktien Index). Section Discussion summarizes and presents some conclusions.

Method

Principal Component Representation

Consider a set of n log returns $R_{j,t}$ on stock j at time t , for $j=1, \dots, n$ and $t=1, \dots, T$. These time series data are summarized in a $T \times n$ matrix X and V let be the covariance matrix (or correlation matrix) of X . If X denotes the daily log returns of n assets, then PCA can be used to study the source of variations of these n asset returns.

The principal components of V are the columns of the $T \times n$ matrix P defined by

$$P = XW, \tag{1}$$

where W is the $n \times n$ orthogonal matrix of eigenvectors of V . Thus the original system of correlated returns X has been transformed into a system of orthogonal returns P , i.e. the system of principal components. We can turn (1) around into a representation of the original variables in terms of the principal components. Since W is orthogonal, $W^{-1} = W^T$ and so

$$X = PW^T \tag{2}$$

A major aim of PCA is to use only a reduced set of principal components to represent the original variables X . For this purpose W is ordered so that the first column of W is the eigenvector corresponding to the largest eigenvalue of V , the second column of W is the eigenvector corresponding to the second eigenvalue of V , and so on.

The m -th principal component is the m -th column of P , i.e. the column that is derived from the m -th column of W . When we order the columns of W , as above then the sum of squares of the elements in the m -th principal component is the m -th largest eigenvalue of V , denoted λ_m . The total variation in X is the sum of the eigenvalues of V , $\lambda_1 + \dots + \lambda_n$, and the proportion of this total variation that is explained by the m -th principal component is

$$\frac{\lambda_m}{\lambda_1 + \dots + \lambda_n} \quad (3)$$

So between them the first k principal components of the returns capture a proportion

$$\frac{\lambda_1 + \dots + \lambda_k}{\lambda_1 + \dots + \lambda_n} \quad (4)$$

of the total variation in the system.

Now we can choose k as follows. Either:

- adjust k to capture a certain fixed proportion of the variation, such as 90% or 95%; or
- set the number of principal components, such as $k=3$ or $k=5$, and then find how much of the variation is being captured by these components.

When the first k columns of P are used as the columns of a $T \times k$ matrix P^* we adjust (2) into an approximation of the original returns, in terms of the first k principal components only:

$$X \approx P^* W^* r \quad (5)$$

where W^* is the $n \times k$ matrix whose k columns are given by the first k eigenvectors. This approximation can be made as accurate as we please by increasing k .

The principal component approximation (5) is a very powerful statistical tool that works best on a highly collinear system, where n is very large and $k \ll n$. This is because there are only a few important sources of information in the data, which are common to all the variables, and the PCA allows one to extract just these key sources of variation from the data^{ii,iii}.

Statistical Factor analysis

One of the main problems of the portfolio allocation is high dimensionality. For serially correlated data, the number of parameters of a parametric model often increases dramatically when the order of the model or the dimension of the time series is increased. Additionally, multivariate data often exhibit similar patterns indicating the existence of common structure hidden in the data. Statistical factor analysis is one of those simplifying methods available in the literature^{iv}. The aim of statistical factor analysis is to identify, from the observed data, a few factors that can account for most of the variations in the covariance or correlation matrix of the data. Traditional statistical factor analysis assumes that the data have no serial correlations. This assumption is often violated by financial data taken with frequency less than or equal to a week. However, the assumption appears to be reasonable for asset returns with lower frequencies (e.g., monthly returns of stocks or market indexes).

Statistical factor analysis based on the orthogonal factor model is the model:

$$R_{j,t} = \alpha_j + \sum_{i=1}^k \beta_{i,j} P_{i,t} + \varepsilon_{j,t} \quad (6)$$

and the estimated model provides the return on each stock that is explained by the factor model as

$$\hat{R}_{j,t} = \hat{\alpha}_j + \sum_{i=1}^k \hat{\beta}_{i,j} P_{i,t} \quad (7)$$

The principal components are based on a covariance or correlation matrix, so they have zero mean and $E(P_i)=0$. Thus the expected return given by the factor model is

$$E(\hat{R}_{i,j}) = \hat{\alpha}_j \quad (8)$$

Taking variances and covariance of (7) gives the systematic covariance matrix of stock returns, i.e. the covariance that is captured by the model, with elements

$$est.V(R_{j,t}) = \sum_{i=1}^k \hat{\beta}_{i,j}^2 V(P_{i,t}) \quad (9)$$

$$est.Cov(R_{j,t}, R_{m,t}) = \sum_{i=1}^k \hat{\beta}_{i,j} \hat{\beta}_{i,m} V(P_{i,t}). \quad (10)$$

That is, using matrix notation

$$est.V(X) = B^T \Omega B, \quad (11)$$

where $B = (\hat{\beta}_{i,j})$ is the $k \times n$ matrix of estimated factor betas and Ω is the covariance matrix of the principal components. Since the principal components are orthogonal, the covariance between any two principal components is 0 and so their covariance matrix Ω is a diagonal matrix. And, since the sum of the squares of the elements in the m -th principal component is λ_m , the m -th largest eigenvalue of V , the covariance matrix of the principal components is very straightforward to calculate.

The asset manager can form portfolios with weights $w = (w_1, \dots, w_n)^T$ using these factor models and explore stock risk and returns characteristics, as captured by the statistical factor model. This helps the manager to match the objectives of their investors, e.g. to find portfolios that are expected to return a given target with the minimum possible risk and that may also be subject to allocation constraints. The portfolio alpha and betas are just the weighted sums of the stock alphas and betas, i.e.

$$\hat{\alpha} = \sum_{j=1}^n w_j \hat{\alpha}_j \quad \text{and} \quad \hat{\beta} = \sum_{j=1}^n w_j \hat{\beta}_{i,j} \quad \text{for } i=1, \dots, k \quad (12)$$

The systematic variance of the portfolio is

$$\sum_{i=1}^k \hat{\beta}_i^2 V(P_i) = \hat{\beta}^T \Omega \hat{\beta}, \quad \text{where } \hat{\beta} = (\hat{\beta}_1, \dots, \hat{\beta}_k)^T. \quad (13)$$

Subtracting this from the total variance of the portfolio, $w^T V w$, we derive the specific risk that results from using the factor model, i.e.

$$specific\ risk = (w^T V w - \hat{\beta}^T \Omega \hat{\beta})^{\frac{1}{2}}, \quad (14)$$

when measured as a standard deviation. This can be converted to an annual volatility using the square-root-of time rule with annualizing factor determined by the frequency of the stock returns.

Results

The aim of this paper is show how can be used statistical principal component factor analysis for optimization and risk measurement to the returns covariance matrix of all the assets in the investor's universe. For purpose of this paper we used daily data on the selected 20 DAX stocks form 1 January 2003 to 30 December 2010. The data has been transformed into log returns. We build a PCA factor model and we use this model to analyze the total, systematic and specific risks of an existing portfolio. The data were downloaded using procedure FinancialData of the Wolfram Mathematica software and the names and symbols for each stock are shown in TABLE 1.

<i>Symbol Name</i> <i>Prime Standard industry group</i>	ADS Adidas <i>clothing and footwear</i>	BEI Beiersdorf <i>personal products</i>	BMW BMW <i>automobile manufacturers</i>	CBK Commerzbank <i>credit banks</i>	DAI Daimler <i>automobile manufacturers</i>
<i>Symbol Name</i> <i>Prime Standard industry group</i>	DBK Deutsche Bank <i>credit banks</i>	FME Fresenius Medical Care <i>health care</i>	FRE Fresenius <i>health care</i>	HEI HeidelbergCement <i>building materials</i>	HEN3 Henkel <i>personal products</i>
<i>Symbol Name</i> <i>Prime Standard industry group</i>	LHA Deutsche Lufthansa <i>airlines</i>	LIN Linde <i>industrial gases</i>	MAN MAN <i>diversified industrials</i>	MEO Metro <i>multiline retail</i>	MRK Merck <i>pharmaceuticals</i>
<i>Symbol Name</i> <i>Prime Standard industry group</i>	MUV2 Munich Re <i>re-insurance</i>	RWE RWE <i>multi-utilities</i>	SAP SAP <i>software</i>	TKA ThyssenKrupp <i>diversified industrials</i>	VOW3 Volkswagen Group <i>automobile manufacturers</i>

TABLE 1 TICKER SYMBOLS FOR DAX STOCKS

FIGURE 1 illustrates the evolution of these stocks from 1 January 2003 to 30 December 2010. The annual expected returns, volatilities and coefficient of variation are shown in TABLE 2. As it is shown, FRE stock produces maximum expected return and CBK produces minimum expected return. ADS is the most risk stock and RWE is the least risk stock.

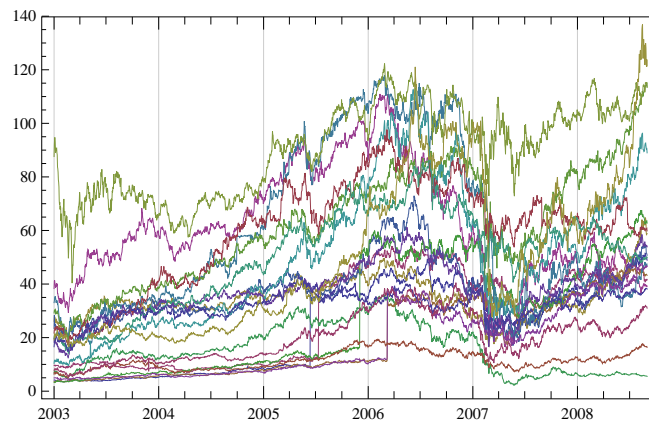


FIGURE 1: DAILY CLOSE PRICES OF THE 20 STOCKS DAX (2003–2010)

<i>Stock</i>	<i>ADS</i>	<i>BEI</i>	<i>BMW</i>	<i>CBK</i>	<i>DAI</i>	<i>DBK</i>	<i>FME</i>	<i>FRE</i>	<i>HEI</i>	<i>HEN3</i>
<i>Exp. return</i>	29.83%	17.61%	9.82%	-2.40%	9.35%	0.25%	30.27%	35.51%	4.23%	27.12%
<i>Volatility</i>	55.67%	45.35%	33.21%	48.98%	37.21%	41.66%	44.48%	48.86%	43.49%	46.55%
<i>Coef. of variation</i>	53.59%	38.83%	29.58%	-4.90%	25.12%	0.59%	68.06%	72.69%	9.72%	58.26%
<i>Stock</i>	<i>LHA</i>	<i>LIN</i>	<i>MAN</i>	<i>MEO</i>	<i>MRK</i>	<i>MUV2</i>	<i>RWE</i>	<i>SAP</i>	<i>TKA</i>	<i>VOW3</i>
<i>Exp. return</i>	11.50%	16.41%	25.94%	13.06%	12.25%	3.12%	11.25%	10.05%	16.70%	22.33%
<i>Volatility</i>	32.80%	29.52%	44.43%	33.40%	30.18%	31.03%	27.57%	29.06%	45.59%	40.54%
<i>Coef. of variation</i>	35.07%	55.58%	58.38%	39.11%	40.60%	10.07%	40.79%	34.60%	36.63%	55.09%

TABLE 2 EXPECTED RETURNS, VOLATILITIES AND COEFFICIENT OF VARIATION OF THE DAX STOCKS

We performed a PCA on the equally weighted correlation matrix of the daily returns of these stocks. The principal components were calculated by using (1). The eigenvalues and (normalized) eigenvectors of this correlation matrix are shown in appendix. The proportion of variation explained by each principal component is given by (3). The cumulative variation explained by principal components is shown (TABLE 3), and we see that a principal component representation (5) with five components would explain 66% of the variation of the whole system over the period. As usual the first principal component explains the most variation (33.9%) and the first eigenvector is fairly constant, except for its weight on Commerzbank (CBK). This stock was much more volatile than the others during the data period: its volatility was over 48% and this stock produced negative expected return.

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
0.339	0.443	0.529	0.600	0.660	0.706	0.748	0.787	0.818	0.849
P11	P12	P13	P14	P15	P16	P17	P18	P19	P20
0.871	0.890	0.908	0.924	0.939	0.953	0.967	0.980	0.991	1.000

TABLE 3 CUMULATIVE VARIATION EXPLAINED BY THE PRINCIPAL COMPONENTS

For purpose of this paper we use only first five principal components in the factor model. This allows us to explain only about 66% of the total variation. We estimate a linear regression of each of the stocks' returns on the principal component factors, using ordinary least squares, to obtain each stock's alpha and factor betas. The estimated coefficients, t -statistics and R^2 of the regression are reported in TABLE 4. The first component is always the most significant variable in these regressions, since it captures a common trend in the stock's returns. This is usually but not always followed by the second component. The regression R^2 ranges from 17.2% for Merck (MRK) to 99.4% for Adidas (ADS), Beiersdorf (BEI) and Fresenius (FRE). Using more components in the model would increase the explanatory power of these regressions.

Now we consider the following portfolios of DAX stocks:

1. An arbitrary funded portfolio with long or short positions in any of the 20 stocks (see TABLE 5);
2. A portfolio with equal weights in each of the 20 DAX stocks.

The amount that we consider is 200 EUR.

Stock	ADS(R ²)	0.994	BEI(R ²)	0.994	BMW(R ²)	0.597	CBK(R ²)	0.602	DAI(R ²)	0.696	DBK(R ²)	0.718	FME(R ²)	0.886
	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.
1	0.000	1.526	0.000	-0.389	0.000	0.005	-0.001	-1.438	0.000	-0.481	-0.001	-1.766	0.000	0.230
PC1	-0.203	-224.319	-0.113	-147.947	-0.241	-54.392	-0.353	-54.464	-0.292	-67.860	-0.332	-71.462	-0.111	-35.037
PC2	0.109	66.873	-0.006	-4.706	0.051	6.404	0.098	8.391	0.061	7.833	0.085	10.078	-0.691	-121.118
PC3	0.964	535.825	-0.007	-4.477	-0.055	-6.215	-0.082	-6.325	-0.056	-6.516	-0.041	-4.384	0.040	6.320
PC4	-0.020	-10.295	-0.182	-109.332	0.036	3.728	0.049	3.472	0.021	2.193	0.038	3.735	0.038	5.532
PC5	0.028	13.107	-0.970	-534.978	0.005	0.434	0.093	5.992	0.006	0.599	0.033	3.023	0.013	1.697

Stock	FRE(R ²)	0.994	HEI(R ²)	0.298	HEN3(R ²)	0.899	LHA(R ²)	0.552	LIN(R ²)	0.440	MAN(R ²)	0.557	MEO(R ²)	0.430
	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.
1	0.000	0.339	0.000	-0.184	0.000	-0.426	0.000	0.300	0.000	0.949	0.001	1.398	0.000	0.221
PC1	-0.108	-141.998	-0.216	-28.230	-0.183	-58.933	-0.229	-49.613	-0.186	-40.124	-0.309	-49.732	-0.208	-39.346
PC2	-0.115	-83.707	0.086	6.188	-0.671	-119.771	0.052	6.243	0.009	1.025	0.074	6.617	0.024	2.515
PC3	-0.040	-26.642	-0.085	-5.559	0.051	8.332	-0.049	-5.365	-0.020	-2.164	-0.093	-7.509	0.003	0.329
PC4	-0.957	-576.334	0.028	1.664	0.160	23.634	0.035	3.483	0.028	2.733	0.048	3.525	0.003	0.287
PC5	0.200	110.054	0.049	2.704	0.001	0.134	0.006	0.524	-0.003	-0.311	0.043	2.916	-0.021	-1.686

Stock	MRK(R ²)	0.172	MUV2(R ²)	0.468	RWE(R ²)	0.395	SAP(R ²)	0.387	TKA(R ²)	0.387	VOW3(R ²)	0.275
	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.	Estimate	t-Stat.
1	0.000	0.485	0.000	-0.851	0.000	0.168	0.000	0.127	0.000	0.127	0.001	1.464
PC1	-0.114	-19.749	-0.201	-42.284	-0.164	-36.531	-0.172	-36.000	-0.172	-36.000	-0.188	-25.972
PC2	0.011	1.021	0.027	3.156	0.006	0.736	0.013	1.455	0.013	1.455	0.039	3.011
PC3	-0.026	-2.292	-0.035	-3.706	-0.002	-0.277	-0.015	-1.586	-0.015	-1.586	-0.126	-8.711
PC4	-0.070	-5.562	-0.003	-0.302	-0.028	-2.819	-0.001	-0.064	-0.001	-0.064	0.065	4.112
PC5	-0.005	-0.400	0.005	0.421	-0.019	-1.757	0.001	0.096	0.001	0.096	0.042	2.452

TABLE 4 PCA FACTOR MODELS FOR DAX STOCKS

	<i>ADS</i>	<i>BEI</i>	<i>BMW</i>	<i>CBK</i>	<i>DAI</i>	<i>DBK</i>	<i>FME</i>	<i>FRE</i>	<i>HEI</i>	<i>HEN3</i>
<i>Amount (EUR)</i>	30	25	50	0	0	-25	0	50	0	0
<i>Weight</i>	0.15	0.125	0.25	0	0	-0.125	0	0.25	0	0
	<i>LHA</i>	<i>LIN</i>	<i>MAN</i>	<i>MEO</i>	<i>MRK</i>	<i>MUV2</i>	<i>RWE</i>	<i>SAP</i>	<i>TKA</i>	<i>VOW3</i>
<i>Amount (EUR)</i>	0	-25	30	0	0	0	0	0	20	45
<i>Weight</i>	0	-0.125	0.15	0	0	0	0	0	0.1	0.225

TABLE 5 WEIGHTS AND AMOUNTS FOR INVESTMENT OF THE ARBITRARY PORTFOLIO

In both case, we found portfolio's net beta with respect to each of the five principal components, in percentage and in euro terms. We also calculated the total risk, systematic risk and specific risk of the portfolio on 1 January 2011 (see TABLE 6).

<i>Portfolio Sensitivities (arbitrary weighted)</i>	<i>Percentage</i>	<i>EUR</i>	<i>Portfolio Sensitivities (equally weighted)</i>	<i>Percentage</i>	<i>EUR</i>
<i>Alpha</i>	0.03%	0.06301	<i>Alpha</i>	0.00%	0.00628
<i>Beta1</i>	-18.62%	-37.23940	<i>Beta1</i>	-21.13%	-42.26840
<i>Beta2</i>	1.45%	2.89598	<i>Beta2</i>	-3.37%	-6.74190
<i>Beta3</i>	7.43%	14.86560	<i>Beta3</i>	1.07%	2.14434
<i>Beta4</i>	-23.70%	-47.39320	<i>Beta4</i>	-3.29%	-6.58506
<i>Beta5</i>	5.09%	10.17404	<i>Beta5</i>	-2.34%	-4.68034
<i>Systematic Variance</i>	0.000213	0.04261	<i>Systematic Variance</i>	0.000200	0.03995
<i>Systematic Risk</i>	23.08%	46.15540	<i>Systematic Risk</i>	22.35%	44.69260
<i>Total Variance</i>	0.0002788	0.05577	<i>Total Variance</i>	0.000201	0.04020
<i>Total Risk</i>	26.40%	52.80560	<i>Total Risk</i>	22.40%	44.79300
<i>Residual Variance</i>	0.0001	0.01316	<i>Residual Variance</i>	0.0000	0.00000
<i>Specific Risk</i>	12.83%	25.65400	<i>Specific Risk</i>	1.50%	2.99720

TABLE 6 PORTFOLIOS BETAS FOR THE PRINCIPAL COMPONENT FACTORS, AND SYSTEMATIC, TOTAL AND SPECIFIC RISK

For arbitrary portfolio, the total risk is 26.40% (total amount in risk is 52.80 EUR), the systematic risk is 23.08% (or 46.15 EUR) and the specific risk is 12.83% (or 25.65 EUR). For equally weighted portfolio, portfolio betas are just the average of the stock betas. The systematic risk of this portfolio is approximately equal to the total risk and the specific risk is 1.5%. The equally weighted portfolio is the market portfolio corresponding to a PCA factor model based on stock's return.

Discussion

In this paper principal component factor model has been provided for portfolio optimization and risk measurement. PCA was applied to the returns covariance matrix of all the assets in our portfolios. Principal component factor models are much easier to estimate than fundamental factor models because there is no possibility for multicollinearity between the explanatory variables. Principal component factor models are uncorrelated by construction. Statistical factor models are becoming increasingly popular as useful tools for asset managers.

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Appendix

<i>Eigenvalues</i>																			
0.0044	0.0013	0.0011	0.0009	0.0008	0.0006	0.0005	0.0005	0.0004	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001
<i>Proportion of variation explained</i>																			
0.3393	0.1038	0.0857	0.0713	0.0598	0.0467	0.0415	0.0386	0.0314	0.0308	0.0222	0.0189	0.0185	0.0158	0.0148	0.0139	0.0138	0.0132	0.0110	0.0092
<i>Eigenvectors</i>																			
-0.203	0.109	0.964	-0.020	-0.030	0.081	0.038	0.020	-0.026	0.065	0.034	0.004	0.008	-0.018	0.004	-0.017	0.013	0.005	0.008	0.001
-0.113	-0.006	-0.005	-0.182	0.970	0.019	-0.023	0.046	-0.066	0.067	0.009	-0.006	0.005	0.004	-0.011	-0.007	-0.004	0.014	0.007	0.002
-0.241	0.051	-0.055	0.036	-0.004	0.033	0.128	0.037	0.097	-0.154	-0.143	-0.328	0.468	-0.079	-0.008	-0.062	0.255	-0.081	0.168	-0.653
-0.353	0.098	-0.082	0.049	-0.092	-0.477	-0.324	0.364	-0.248	0.406	0.111	-0.067	-0.094	0.087	-0.086	-0.064	0.328	-0.032	-0.064	0.003
-0.292	0.061	-0.056	0.021	-0.006	0.020	0.138	0.014	0.123	-0.198	-0.202	-0.265	0.379	-0.019	-0.045	-0.008	0.203	-0.063	-0.187	0.704
-0.332	0.085	-0.041	0.038	-0.033	-0.241	-0.104	0.131	0.067	0.017	-0.110	-0.074	0.174	0.011	0.129	0.291	-0.786	0.047	0.136	-0.006
-0.111	-0.691	0.040	0.038	-0.013	-0.001	0.009	0.045	-0.020	0.077	0.121	0.128	0.075	-0.222	0.199	0.326	0.169	-0.258	0.395	0.124
-0.108	-0.115	-0.040	-0.957	-0.200	0.036	0.023	0.012	-0.049	0.034	-0.071	-0.021	-0.006	0.025	-0.039	-0.045	-0.032	0.017	-0.020	-0.022
-0.216	0.086	-0.085	0.028	-0.048	0.676	-0.681	0.070	-0.004	-0.053	0.022	0.024	0.004	-0.022	0.045	0.060	0.028	0.016	0.009	0.005
-0.183	-0.671	0.051	0.160	-0.001	0.030	-0.058	-0.021	-0.025	-0.046	-0.107	-0.152	-0.052	0.188	-0.183	-0.328	-0.181	0.259	-0.392	-0.115
-0.229	0.052	-0.049	0.035	-0.006	-0.028	0.030	0.020	-0.134	-0.201	-0.081	0.327	-0.111	-0.415	-0.109	-0.438	-0.184	-0.577	-0.107	-0.033
-0.186	0.009	-0.020	0.028	0.003	0.036	0.042	-0.103	0.192	-0.094	0.012	0.062	-0.161	0.700	-0.287	-0.126	-0.009	-0.308	0.434	0.056
-0.309	0.074	-0.093	0.048	-0.044	0.098	0.248	-0.239	-0.717	-0.300	0.274	-0.056	-0.102	0.084	0.076	0.126	0.003	0.178	0.064	0.002
-0.208	0.024	0.003	0.003	0.021	-0.118	-0.025	-0.055	0.239	-0.266	-0.321	-0.300	-0.694	-0.247	0.058	0.154	0.144	0.117	0.112	-0.029
-0.114	0.011	-0.026	-0.070	0.006	-0.096	-0.046	-0.060	0.400	-0.162	0.825	-0.214	-0.027	-0.155	-0.009	-0.149	-0.063	0.028	-0.044	0.022
-0.201	0.027	-0.035	-0.003	-0.005	-0.125	-0.012	0.019	0.166	-0.143	-0.076	0.484	0.095	0.041	0.445	-0.391	0.126	0.467	0.235	0.049
-0.164	0.006	-0.002	-0.028	0.019	-0.066	0.033	-0.083	0.176	-0.132	0.034	0.242	-0.050	0.321	0.413	0.347	0.132	-0.285	-0.567	-0.185
-0.172	0.013	-0.015	-0.001	-0.001	-0.082	0.004	-0.051	0.141	-0.145	0.021	0.473	0.101	-0.153	-0.652	0.376	0.108	0.269	-0.077	-0.075
-0.306	0.066	-0.114	0.055	-0.027	0.124	0.131	-0.642	0.137	0.631	-0.044	0.009	-0.025	-0.132	0.023	-0.047	-0.011	0.017	-0.024	-0.007
-0.188	0.039	-0.126	0.065	-0.041	0.413	0.542	0.585	0.130	0.241	0.085	0.064	-0.191	-0.006	0.002	0.022	-0.045	0.081	-0.051	-0.020

Eigenvectors and eigenvalues of the correlation matrix

ⁱ Alexander, C. (2008). Market Risk Analysis, Volume II., John Wiley&Sons, Ltd., p.47

ⁱⁱ Alexander, C. (2008). Market Risk Analysis, Volume I., John Wiley&Sons, Ltd., p.65-66

ⁱⁱⁱ Alexander, C. (2008). Market Risk Analysis, Volume II., John Wiley&Sons, Ltd., p.48-50

^{iv} Ruey S.Tsay (2010). Analysis of Financial Time Series. Third edition, John Wiley&Sons, Ltd.,p.426-428

Family Finances

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Abstract

The existence of a state directly depends on many factors which include its budget. The more “healthy” the budget, the better the state functions. We can use this rule about family as well, where the quality of budget belongs among the most important factors of its satisfaction and existence. Financial products which make up a part of the family budget must maximally support regular and stable growth of financial resources in the family and optimize expenses. Through a balanced financial portfolio more than 10% of family financial resources can be saved and assets may be created which will bring long-term and regular profit.

The aim of the article is to define the system of creating the financial portfolio of an individual client and suggest the theoretical ground for the composition of products in the portfolio. Universal principles for financial portfolios can be widely used and will be especially used by financial advisors who will thus have a specific framework for projecting the client’s portfolio.

Introduction

The financial and economic crisis was caused by a few factors among which also belongs an excess indebtedness of the population. Citizens whose installments exceeded their abilities stopped repaying their loans and suddenly the truth about global indebtedness appeared in the markets, which was covered by banks because of legal measures and better rating. The mortgage bubble burst very quickly and it was almost fatal for the world economy.

As we can see, one of the main factors of the break out of the global crisis was unhealthy family budgets. Thus one possible solution for creating a stable economy is to teach people what a healthy family budget should look like and motivate them to implement such a budget.

This article talks about the basis of a family financial portfolio which is inevitable for the non-problematic functioning of a family. The portfolio of products of a client directly influences his financial situation and in some cases it is financial products which will decide if the individual or family will have sufficient financial resources to cover their needs.

1. Principles of creating a financial portfolio

A financial plan is a system according to which a client manages his financial resources. This system is like a directive whose aim is to guide the client to maximize his finances. The main characteristic of every directive is being clear and understood by the user.

“Capital house” (CD) (e.g. Fig. 1) is an aid for the client to better understand the system of creating a financial plan. Through visualization of portfolio we can help the client to identify with products and to know exactly the purpose of each product and thus to understand the steps in creating a financial portfolio.

The capital house is of even greater importance for financial advisors and mediators than for a client. CH is a simple illustration for the advisor of the steps of offering financial products, of financial priorities of a portfolio and the most important; using a logical example of building a house he can explain the system of creating a financial plan.

According to the capital house, the construction of a financial plan is like building a house in which we have to start with building the foundation. The red pointer shows the sequence of the construction and at the same time shows the sequence in creating a financial plan. At first, the foundation needs to be built, which has to be strong to keep the weight of the whole house and at the same time resist inevitable weather difficulties. The same is true about a financial plan. At first we have to secure an income for the client, so that he has financial resources at all times and then we can build the rest of the portfolio.

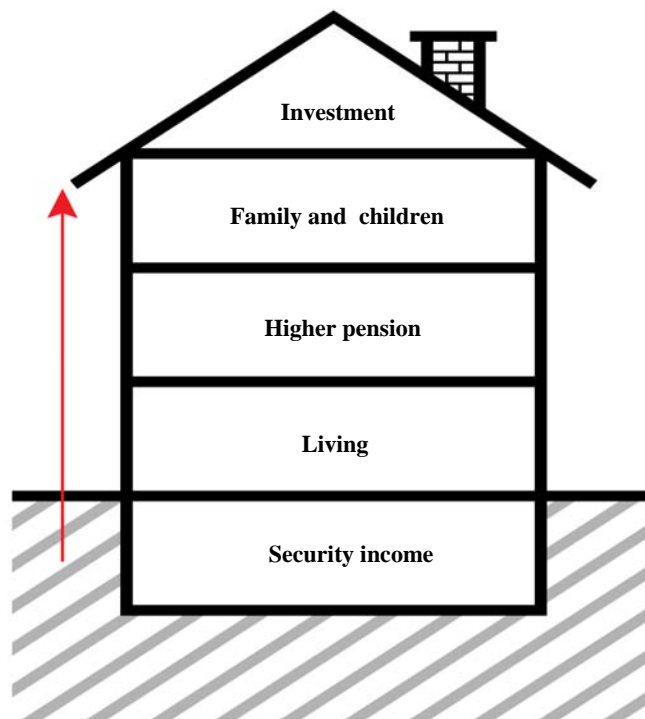


FIG. 1: CAPITAL HOUSE

2. Securing income

Every financial portfolio must have a stable foundation which will provide the client with financial security. **Financial security means such a state of family budget that income is secure in every situation in life.** (for example when the client is ill for a long time or loses his job). Even though it is not possible to foresee all possible situations which could jeopardize income, the financial portfolio must aim at maximizing the security.

The most common cases when there is a risk that the client will lose a part or even the whole of his income are:

- Permanent effect of injury
- Severe disease
- Disablement
- Loss of employment
- Death

All of these risks must be minimized by products in the category securing income. In all of these situations, the stability of a client is imperiled and it is of greatest importance to counteract all risks and then do the next steps in building the portfolio. It is most common to use insurance to cover these risks but there are other methods which are more effective in certain cases.

In Slovakia it is becoming more and more relevant to secure income through life insurance. Unlike Germany where the ratio of life versus non-life insurance (expressed by the sum of premiums) 46 to 54, in Slovakia

the ration is 37 to 63. That is why it is most probable that the insurance sector will expand in the field of life insurance or in the boundaries of securing income. The key determinant of the growth of insurance demand is the growth of the average pension of the population, which is another proof of the rise of overall premiums in life insurance.

2.1. Securing income in the case of permanent effects of injury (PEI)

According to many insurance experts this is the most dangerous risk not only for the health of a client but also for his purse. The main reason is the permanency of the risk, when the client will never again be able to work fully if his body has been permanently damaged, and thus it is clear that his income will be permanently low.

To illustrate this, an example of a truck driver will be used. The truck driver has had an accident and his spine has been permanently damaged. The specialist physician determined that he will never again be able to walk and he started receiving a disability pension. His expenses (mortgage, food, cell phone bills, etc...) are set for his income before the accident. After the accident his income dramatically decreased yet expenses remained almost the same (he has to continue paying his mortgage) or they have even gone up (medicines, therapies). If he had not created a financial reserve or did not have a life insurance, this man would have got into existential problems which may in certain cases have ended up in loss of housing.

A solution for such a situation is to create a sufficient financial reserve to cover times without an income. In this case the time period could be a few decades. If the driver needed to draw from his reserve 500 Euros during 20 years, he would need a reserve of 120,000 Euros. It is almost impossible for an average family to save a sum of money like this. That is why it is a better solution in such a case to have insurance which will cover the client with an annuity.

This form of coverage is the most common solution for permanent effect of injury. It is important that in case of PEI the client receives the same financial sum every month, which will compensate his lost income. In the above case it means that the driver should receive a sum every month which he stated is optimal when he signed the insurance policy.

Example No. 1:

The driver stated that he needs to spend 800 Euros a month for his personal everyday expenses. The height of coverage is set according to the following formula

$$HC * i / 12 = R_{im}$$

HC – height of coverage

i – interest rate

R_{im} – monthly annuity with the given interest rate

If a reportable event takes place, the insurance company will pay a client a HC, which will receive an annual yield when deposited in a bank account with the interest (i). When the annual yield is divided by 12 (the number of month in a year), the result is the monthly annuity.

To count the height of coverage, we will use the following formula:

$$HC = R_{im} / (i / 12)$$

If our client demanded an annuity of 800 Euros a month and the interest rate is 4%, using this information in the formula, the result is 242424.24 euro. This sum represents the height of coverage in the insurance policy which the client is signing to be covered from PEI.

This means that when a client invests 242424.24 Euros with a 4% interest rate, he will be receiving an annuity of 800 Euros a month.

It may seem that the sum from almost 250,000 Euros is too high, but in our above described case it is optimal. On the other hand, one can be covered for a high coverage for a monthly premium of 35.75 Euros.

Financial mediators or advisors can also invest financial resources for a higher interest rate than 4%. If we used example No.1, and raise the interest rate to 5%, the height of coverage would yield a profit of 195,121 Euros. In this case the premium should not exceed 25 Euros a month. When investing financial resources it is necessary to consider a risk which is usually greater than 4% with a yield of 5%.

A problem appears when there is PEI which represents less than 80% of damage to the body. In reality this means for instance such a case when a client damages his arm and he permanently becomes unable to move it, the insurance company will only indemnify him with a certain percentage from the agreed height of coverage. If the insurance company pays 30%, this is not enough for coverage by annuity and the client has to work. If his work demands usage of arms (for example if he worked in a factory manually), he would have to be retrained and find a new job. Financial resources obtained from the insurance policy should be used for getting over the time period between the two positions and for treatment.

This kind of security is the highest priority when creating a family financial plan (FFP), where the main reason is higher everyday expenses than with individuals. As children grow, the expenses of a family are greater which needs to be taken into account when setting the HC in the case of permanent effects of injury.

Many times we think: "This could not happen to me", however according to statistics, 1 out of 7 employed persons will suffer from effects of injury and will be unable to work for 5 and more years. This statistic is the evidence of the seriousness of the given risk.

2.2. Securing income in the case of severe disease

In this risk we talk about serious illnesses, which need a longer time for treatment. This includes: cancer, heart attack, stroke, blindness, etc. With these diseases quick and effective treatment is the most important which either saves the life of a patient or will prolong his life.

Financial resources, which the client will receive when such an illness is diagnosed, will firstly be used for financing his treatment. The client himself sets the height of coverage of the risk of severe diseases (critical diseases), even though the sum should not be lower than 5,000 Euros.

Severe illnesses can considerably impact the family budget in case the person who suffers from a severe disease is the main income holder of the family. This is a common example when a family is self-employed or one of the members is in a respectable position in society or politics.

"Additional insurance of severe diseases is linked to diagnosing one of the selected most severe civilization illnesses such as:

- heart attack,
- surgery on aorta and bypass of coronary arteries,
- cancer, sudden vascular episode, kidney failure, organ transplants,
- loss of functional coordination of one or more limbs after becoming paralyzed,
- blindness,
- sclerosis multiplex, Parkinson's disease, Alzheimer's disease,
- infection by HIV virus during transfusion."

2.3. Securing income in case of disablement

Disablement of an employee is such a state when the employee is not temporarily able to work from reasons which are regulated by the Labor code.

The reasons are the following:

- disease
- injury (no matter if the injury happened at work or not),
- possibly commanded quarantine measures.

This inability to work which will be stated by a specialist doctor, can be called work disablement of an employee. The proof of a temporary work disablement is a form written out by a doctor.

It is clear from the Slovak law that an employee receives a maximum of 55% of daily basic salary during his work disablement, unless collective contract states otherwise. The task of financial insurance is to compensate the employee for the remaining 45% of his income and thus prevent his budget being disturbed. In other countries this ratio might be different but the principle of insurance is the same.

It becomes problematic with clients whose income and expenses are on the same level. In their cases a small decrease of income will be critical for the family budget which is why they need to create a financial reserve or have insurance against work disablement.

2.4. Loss of employment

Loss of employment is a common reason for family budget to be in “the red” and the family is forced to take a loan or even heads for bankruptcy. Financial and economic crisis has shown how tragic the consequences can be in situations when both members of family loss their jobs.

In case of loss of employment, insurance is only effective if the contract was void by the employer. The insurance company will not settle a claim if an employee breaks off the contract for any reason. In such cases it is necessary to create a financial reserve in the amount of three months salary to minimize the risk. Of course if the region in question is such that there are less work opportunities the reserves need to be more than three monthly salaries.

2.5. Securing income in case of death

The financial budget of a family is imperiled not only by an illness or injury of a family member but also by death. The difference between the risk of illness and risk of death is that a parent who brought money into the family budget can never again bring these resources because he has died and thus the income of a family is permanently disturbed.

If we want to minimize the risk of death we will adhere to the same principles as in minimizing risks of permanent effects of injury (chapter 1.2.1). It is most important to cover the time period until children have grown and will be able to take care of themselves.

The cases when a family loses both parents and children are left without any income is a major problem. So that they do not remain dependent only on government support it is important to insure both parents for a sum, which will not only cover their basic life needs, but also studies, sport activities, etc....

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ICAAP – Challenges and Opportunities for Slovak Commercial Banks

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Abstract

Internal Capital Assessment Process (ICAAP) is a concept introduced by Basel II regulation. The key reason for its introduction was to overcome the shortcomings of Basel I by forcing financial institutions to develop a comprehensive tailor-made risk management system as a component of Pillar 2. However, the idea of regulators also was to implement ICAAP as a consistent component of the bank's internal managerial processes (both at strategic and short-term levels). This paper focuses on identification of the level of implementation of ICAAP, challenges and opportunities of this process at main Slovak banks. Our key findings are based on analysis of results of a survey which we ran in cooperation with the Slovak Banking Association among a majority of Slovak banks (respondents represent 86% of banking sector assets). We found out that although all Slovak banks have already started with ICAAP implementation, its level is not adequate. Key drivers for ICAAP implementation are risk management and regulation but not changes of the management of the bank. ICAAP is also not part of an integrated performance measurement system at banks. The highly conservative approach of the Slovak banks towards economic capital calculation for risks identified under Pillar 2 contributes positively to banking sector stability, but it is questionable how much it has contributed to shareholders' value creation. The final conclusion is that there are more challenges and less use of opportunities by Slovak banks at the present stage of ICAAP implementation in their managerial processes.

Introduction

The bank risk management systems, and financial institutions regulation, have been identified as the key issues of the last global financial crisis. However, John Hamptonⁱ stated that “Many business people pay lip service to Sarbanes-Oxley, Basel II, and ERM. In their hearts, they believe the processes, required by all three, were designed by bureaucrats, professors, or regulators, who do not really understand risk”. In our opinion, in spite of fact that the last financial crisis discovered serious weaknesses of Basel 2, one of the positive sides of this regulation is that in addition to its intent to motivate banks to apply more sophisticated approaches for capital requirements calculation in Pillar 1, regulators also “legally” forced financial institutions to develop and introduce a comprehensive risk management system (or enterprise risk management system) through ICAAP (Internal Capital Adequacy Assessment Process) implementation as a Pillar 2 component. This system, if is fully developed and implemented, creates a reasonable framework for assessment, evaluation, and mitigation of the bank risk position commonly expressed through economic capital requirements during a crisis period, too. Pillar 2ⁱⁱ puts pressure on commercial banks to develop a tailor-made risk management system (if they already don't have it in place) following key principles formulated by Basel 2 documents and relevant EU Directives.

However, developing a tailor-made risk management and ICAAP systems in a way that would satisfy both regulator's requirements and banks' internal managerial needs is a long-term process during which a lot of open issues should be resolved. In their issued documents, regulators only defined the principles and broad framework that banks should apply in the ICAAP process implementation. Each bank should decide independently its own internal capital assessment process and use it not only to satisfy regulator's requirements, but also as part of its operative, and strategic management processes. The ICAAP should be embedded in the institution's business and organizational processes; it is not to be regarded as an add-on that permits the bank management and supervisory bodies to “tick a box” and think that they completed the tasks of the regulator – approach that the Basel I regulation allowed. There are few books whose authors focus on looking at ICAAP from the bank management point of view as whole. Andrea Resti is one of these authors. In the Introduction to the book Pillar II in the New Basel Accordⁱⁱⁱ, he formulated encouraging, practical thoughts on this topic. As Michael B. Cordy wrote^{iv} in the Preface to this book – Andrea Resti invites bank management to embrace Pillar II as an opportunity to make strategic investments in the risk management processes and tools that can deliver value to shareholders, rather than as an exercise in regulatory

compliance. In accordance with Resti's opinion appeared in the Introduction, Pillar II is seen as a unique opportunity to narrow the gap between two different definitions of capital (regulatory, and economic), mitigating the "managerial squint" of bankers, having to keep under control two different targets at the same time: the capital constraint imposed by regulators, and the risk-taking capacity shareholders provide to the bank (and that managers are expected to reward). In addition to his first implication of the ICAAP (shareholders approach), he formulated two additional characteristics of ICAAP towards bank management as whole, as follows: 1.. ICAAP is not to be just a technical, methodological issue to be addressed mostly by the risk management and planning department. The owner of such a process should be the bank's top management. In accordance with his opinion ICAAP would build the backbone of a modern value-based performance measurement system and 2. Pillar II and ICAAP would trigger some processes and tools which are not strictly part of the tasks imposed by Basel regulators. One, of such processes, are the capital allocation policies. Resti claims: "Through capital allocation, economic capital estimates become more useful because, when the bank's total capital is distributed across all risk taking businesses and units it is easier to check whether each of them adequately rewards shareholders' capital".^v To look at Resti's opinions on ICAAP from the value-based management point of view, we can say that ICAAP is one of its key components for the bank.

How involved are the Slovak banks in ICAAP implementation? What are the key challenges and opportunities that Slovak banks in this process have to cope with? Has Pillar 2/ICAAP already changed banks (particularly from the bank whole management point of view) in Slovakia? To answer these questions and to get a more complete picture of the status of ICAAP implementation in Slovakia, we have done a research with the support of the Slovak Banking Association involving key banks in Slovakia. The research is the first of its kind among Slovak banks. The results can serve to the Slovak Banking Association to identify key weaknesses in researched field and promote actions to mitigate them with shared resources.

ICAAP – Legal and Theoretical Review

The internal capital adequacy assessment process as a key component of the second pillar of the Basel 2 has its roots in A New Capital Adequacy Framework, released in June 2004 (Basel Committee on Banking Regulation). The key role of the Pillar 2 processes is to enhance the link between an institution's risk profile, risk management processes, risk mitigation systems, and its capital management. Key principles and guidelines on second pillar contained in A New Capital Adequacy Framework had been transferred to the EU Directive (Directive 2006/48/EC). In this Directive (CRD) the following five key components can be identified^{vi}: 1. Supervisory Review Process (SRP)^{vii}. The purpose of the SRP is to ensure that banks have sufficient capital to support all material risks to which they are exposed. SRP achieves this through ongoing supervisory monitoring of banks. 2. Internal Governance^{viii} aims at ensuring that an institution's management body is explicitly and transparently responsible for its business strategy, organization, and internal control. It is mainly related to setting the institution's business objectives and its appetite for risk, how the business of the institution is organized, how responsibilities and authority are allocated, how reporting lines are set up, etc. 3. Internal Capital Adequacy Assessment Process (ICAAP)^{ix} is a process within the internal governance framework that ensures that the management body: a/ adequately identifies, measures, aggregates and monitors the institution's risks, b/ holds adequate internal capital in relation to the institution's risk profile, c/ uses sound risk management systems and develops them further. 4. Supervisory Review and Evaluation Processes (SREP)^x. An essential element of the SREP (and of the Risk Assessment System) is the ability to assess qualitatively each type of risk and its management, within the overall context of the institution's internal governance. 5. Risk Assessment Process (RAS). RAS is the supervisor's tool for organizing the use of supervisory resources, and performing and managing the supervisory risk assessment.

The recent financial crisis also discovered Pillar 2 shortcomings. In March 2009, the Basel Committee promptly reacted and issued the document "Range of practices and issues in economic capital frameworks"^{xi} that contains ten recommendations to improve the economic capital process. In addition, in May 2009, the next document focusing on the very important ICAAP issue "stress testing" was issued: Principles of sound stress testing practices and supervision.^{xii} Finally, in December 2010 two principal Basel III documents have been issued:

Basel III: A global regulatory framework for more resilient banks and banking systems^{xiii}.

Basel III: International framework for liquidity risk measurement, standards and monitoring.^{xiv}

Documents issued by Basel Committee are the basis for changes in key CRDs: Proposals for a Directive of the European Parliament and of the Council amending Directives 2006/48/EC and 2006/49/EC, 2008, 2009, 2010.

During the implementation process of Basel 2 the Committee of European Banking Supervisors played a very important role and issued many guidelines that contributed to a better understanding of complex Pillar 2 issues.^{xv}

The Slovak national regulator – National Bank of Slovakia – implemented CRDs at the full extent into its legal acts and norms, too^{xvi}.

There are already many books on the market that deal with the particular Pillar II or ICAAP topics either specialized on economic capital modeling or, a part of the book dealing with risk management in the financial institutions.^{xvii} However, the literature dealing with specific topics of ICAAP implementation in the management of financial institutions is still rare.

Empirical Research

The Faculty of Management of the Comenius University in Bratislava initiated a survey and prepared a questionnaire on the status of ICAAP implementation in Slovak banks. The survey was undertaken by the Slovak Banking Association. It is the first survey which was run on this topic in Slovakia. In this survey 22 respondents, members of the Committee for Regulation in Slovak Banking Association, were selected. All fully licensed banks and the most significant branches of foreign banks operating in Slovakia^{xviii} were represented. In total 14 institutions participated in the survey, representing 86% of total assets of the banking sector in Slovakia.

A structured pre-coded questionnaire (web-site application) was used. Expert survey had been organized in the last quarter of 2010.

There were forty five questions covering the following topics from bank and ICAAP areas:

- Basic information about the responding company (1 question)

- Basic information about the respondent (1 question)

- Basic information about the ICAAP framework, and governance overview (11 questions)

- ICAAP framework overview (29 questions)**

 - Risk identification, quantification, and aggregation (5 questions)

 - Available financial resources (3 questions)

 - Stress testing (5 questions)

 - Use test (integration of ICAAP with related functions and processes, risk performance parameters used, etc.) (12 questions)

 - Disclosure and reporting (4 questions)

- Documentation (1 question)

- Training and awareness (2 questions)

The results have been analyzed both on the aggregated bank level and rank by size: small (5 banks), medium (5 banks) and large (4 banks)^{xix}.

A majority of respondents (43%) were ICAAP specialist, followed by risk managers (29%), financial management/accounting (14%), and others (14%).

Analysis of the Survey Results and the Key Findings

The survey results are analyzed and its key finding is presented with reference to blocks of questionnaire.

Basic information about ICAAP framework and governance overview

In this part of the survey we learn about the main reasons for ICAAP implementation, the current status of implementation, governance structure, staffing, costs spent on ICAAP and interactions with regulators (SRP) and their current and expected impact on the banks.

Almost eighty percent of respondents use ICAAP for risk management purposes. No respondents declared that ICAAP implementation afforded a competitive advantage or business benefit to them. The second most stated reason was regulatory requirements and the third overall management of the bank.

No banks has declared not to have ICAAP implemented, although 50% are still on borderline and not being fully in line with use test principles^{xx}. 79% of the respondents perceived their ICAAP implementation to depend on the parent company (partly or fully). These results are then reflected and explain the amount of investment that Slovak banks

spent on ICAAP implementation. Banks spent a maximum of € 100.000, but the majority of the respondents stated it was between € 10 to 50 thousand. It is clear that in accordance with the shareholder structure (98% of the Slovak banks are owned by foreign investors) the transfer of know-how and methodology from the parent company to its subsidiary takes place.

Regarding the governance point of view ICAAP is considered to be a shared responsibility, as more than 57% of the banks have a committee for providing inputs and assistance in ICAAP implementation, evaluation and periodic revision. **Coordination is usually the responsibility of Chief Risk Officer of the bank.**

As for **staffing**, a maximum of two FTEs are allocated directly to ICAAP activities, while more than 31% of the banks do not directly allocate any resource. Furthermore, only 53% of banks did allocate other resources to the process (controlling, planning, strategy, etc.).

Regarding interactions with regulation and regulators, differences in amount of needed capital identified within ICAAP in comparison to amount identified within Pillar II (SRP) by regulators, were considered by more than 58% as of little, or no significance.. However, 42% of respondents identified them as significant.

Upcoming changes in regulation (known as Basel III), are expected by a majority to have only a partial impact on the framework. Current relationships between regulators (home-host) and their impact on the framework, is perceived neutral by almost 55%, and positive by 33%.

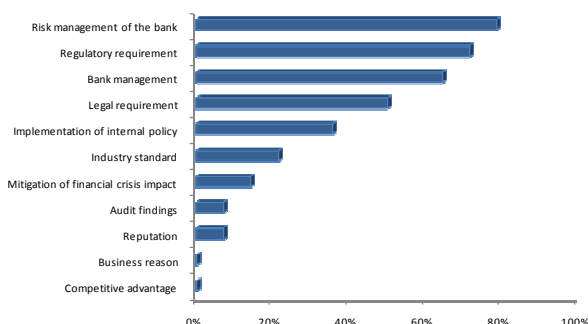
ICAAP framework overview

In this part of survey we collected and analyzed data on key ICAAP processes, economic capital, available financial resources, stress test, use test, disclosure and reporting, documentation.

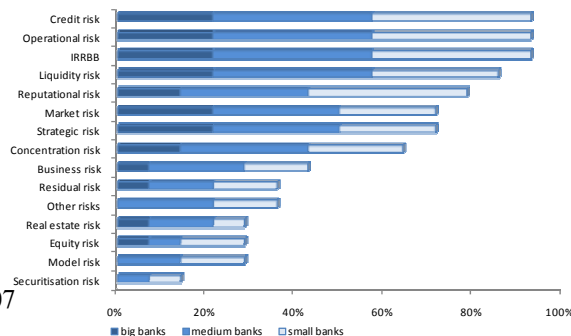
Risk^{xxi} identification, quantification and aggregation

Regarding risk types: Almost all banks consider risks managed under Pillar I (e.g. credit, market and operational risk) within Pillar II as well. Other risks of significance are interest rate risk of banking book, liquidity risk, reputational and strategic risk. More than 64% of all banks separately evaluate

What were the main reasons of ICAAP implementation in your company?

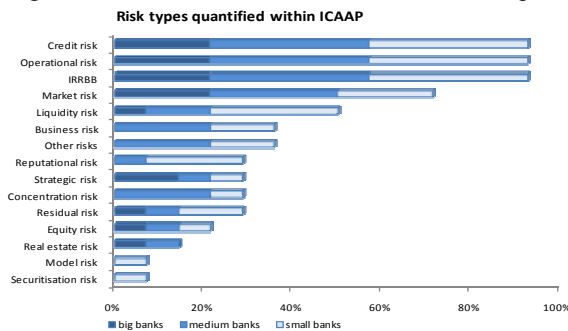


Risk types evaluated within ICAAP



concentration risk with credit risk. Other, less significant risks evaluated under ICAAP, are real estate, equity, model and business risk.

Within risk quantification (economic capital calculation), which in most cases is carried out with quarterly or even monthly frequency (38%), more than 92% of respondents stated that credit, operational and interest rate risk of banking book are considered, while almost 72% quantifies market, and 50% of banks liquidity risk. Business, strategic and reputation risk are quantified by 36% and 29% respectively. Real estate, model and securitization risk comprise the smallest share.



A majority of banks (77%) do not consider the diversification effect within the risk aggregation (total economic capital calculation). This indicates that banks follow more a conservative approach in risk quantification, by using only a simple sum-up of different capital requirements calculated for each risk type, considered within ICAAP framework.

Available Financial Resources (AFR)^{xxii}

Progress in ICAAP implementation is evident also by the fact that a majority of banks (85%) consider, within Pillar II framework, resources which are different from regulatory capital within Pillar I, while in 81%, reconciliation of both resources is implemented.

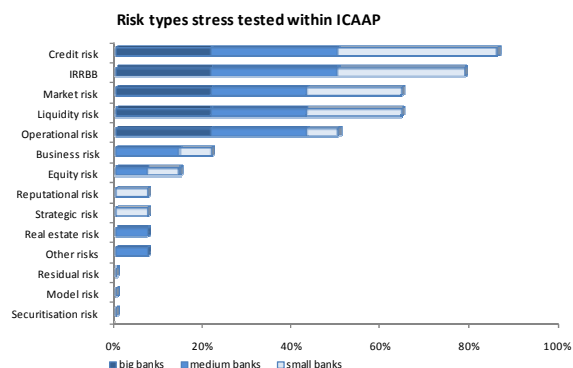
The conservative approach of the Slovak banks, under Pillar II, is visible also through the AFR calculation e.g. resources management, where hybrid capital is considered by small number of banks, and a similar conservative approach is expected in the future.

Stress testing

All banks carry out stress testing of internal and external factors. Among the most significant risks considered within the stress testing framework is the interest rate risk of banking book, market risk, liquidity, and operational risk. Less frequent is stress testing of equity, business, strategic and reputational risk. **The frequency is relatively high, ranging from quarterly to monthly.**

Stress testing of Available Financial Resources is less frequent (31%).

Only 69% of the banks uses the results of stress testing in ICAAP. This supports the already mentioned observation in the first block that **implementation of ICAAP is still under way.** It's also evident that banks put more emphasis on stress testing key risks rather than the resources they have to cover them.



Use test

Results of the use test reveal that the process of ICAAP implementation, and its usage, is just partial, rather formal, and more oriented toward risk management, as such, than on management of the bank

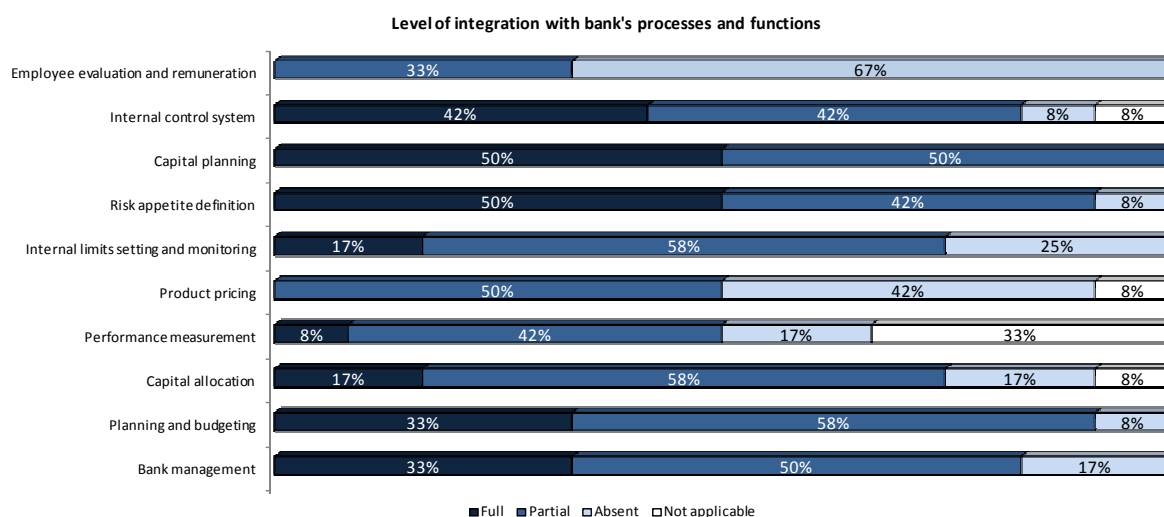
As for integrating ICAAP with various process and functions of the bank, results of the survey indicate that **it is not fully integrated with strategic management, since almost 70% of the respondents claim partial or**

total absence of integration. Similar results could be seen in the integration with the planning and budgeting process, e.g. operative and short term management.

The integration with capital allocation is even rarer, where more than 80% banks stated that the integration is partial or non-existent, while allocation is predominantly done on segments, followed by less frequent allocation on products and single transactions.

An even worse situation is when the ICAAP and integrated performance measurement is considered, since only 1 bank stated a full link between ICAAP and the related performance measurement **processes.** The most common performance indicators used are RAROC, RORAC, and EVA, followed by less the frequent indicators such as RORAA or RAROA.

The integration with product pricing is similar, where only 46% of the banks have partial integration. The rest have no the integration at all.



More than 84% do not have full integration of ICAAP with internal limits setting and monitoring.

As for the integration of ICAAP with a **risk appetite definition, 46% of the banks claim full integration,** while the rest perceive partial or no integration. Similar results can be seen in integration **with the capital planning and internal control system (almost 50% full integration).**

More than **69% of the banks do not use ICAAP in employee evaluation and remuneration.**

Disclosure and reporting, Documentation, Training and awareness

Recipients of internal ICAAP reports are usually the top and middle managers (86%), other positions (junior management, non-managers, specialists) are rarely included.

Within Pillar III^{xxiii} banks tend to disclose qualitative information (92%) to the market more often, while quantitative information is less present (33%), and as well the same fraction of banks intend to disclose quantitative information in the future.

Majority of banks (77%) disclose information about ICAAP in their annual report. The rest do not, but plan to do it.

Almost all banks have formalized their ICAAP process in their internal procedures – documentation (92%). This is also a regulatory requirement. **Almost 50% of banks do no trainings and/or workshops for their employees. Those that do so include top and middle management.** The topics covered are the results obtained during risk assessment exercises, methodology overview and identification of weak points that should be addressed by process improvements.

Conclusion

The Internal Capital Adequacy Assessment Process (ICAAP), if implemented in line with the original regulator's intentions, belongs to the most challenging areas in current banking practice. In our research we desired to get answers to the following questions:

How have the Slovak banks come in ICAAP implementation? What are the key challenges and opportunities that Slovak banks in this process have to cope with? Has Pillar 2/ICAAP already changed banks (particularly from the whole bank management point of view) in Slovakia?

Based on a survey in which 14 banks representing 86% of the total assets of the Slovak banking sector participated, we can make the following conclusions from which answers to our questions can be derived:

a/ All Slovak banks have already started with ICAAP implementation. The level of implementation can be considered as inadequate, although ICAAP as such represents a unique system adding visible value to the risk management of each institution. In this process, Slovak banks are very much dependent on their parent companies – which are foreign banks – both as far as investment costs, and know-how sharing, are considered.

b/ The key drivers for ICAAP implementation are risk management and regulation; and not changing the management of the bank as whole – either general or strategic management. In spite of the fact that ICAAP is primarily considered as a system influencing risk management, there still are challenging areas that deserve particular attentions such as limit setting, monitoring, and risk appetite definition.

c/ The results further confirmed that the level of implementation is rather formal, and ICAAP is not a significant part of the risk-based decision making process in any of the following areas: planning and budgeting, capital allocation, capital planning. The most severe situation is in applying ICAAP as an integrate part of performance measurement (only one bank claimed full integration). A very similar situation is also in the product pricing area and in employee evaluation and remuneration.

d/ Based on the previous findings we can conclude that Slovak banks haven't seen Pillar II/ ICAAP as a significant opportunity to make strategic investment in the risk-management process and use tools that can deliver value to shareholders. Rather it is seen as an exercise in regulatory compliance. The conservative approach of the Slovak banks to economic capital calculation (lower level of diversification and aggregation of capital, stress testing frequency etc.) is definitely positive for the banking system stability, but should be further studied from the evaluated perspective of value-based management. The conservative approach is also apparent in the banks' considerable effort to quantify economic capital for risk types which are difficult to quantify – such as liquidity risk, even reputational risk etc. Another dimension of the conservative approach can be the willingness to share/disclose quantitative and qualitative information to the market. Banks are not willing to share quantitative information, only qualitative.

e/ Prevailing regulatory requirements approach to ICAAP implementation contributes positively to banking system stability. It controls minimum capital requirements as stated by regulator within SRP for the banks in accordance with their risk profile and forces them to adjust their risk profile to their level of available financial resources.

Our findings show that there are still more challenges and underused opportunities particularly from the shareholders' value-based management perspective. However, further research needs to be done to draw conclusion what is best for shareholders; very conservative banks and a stable system, or an aggressive approach to ICAAP.

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ⁱ Hampton, J. John: Fundamentals of Enterprise Risk Management. How top companies Assess Risk, Manage Exposures and Seize Opportunities. AMACOM 2009, p.240.

ⁱⁱ Minimum Capital Requirements from Basel I were expanded by Basel II to include the Supervisory Review Process (Pillar 2) and the Market Discipline (Pillar 3). Pillar 2 - regulates: a/ implementation of processes for assessment of capital adequacy; b/strategies for maintaining capital levels; c/ establishment of suitable risk management systems ; d/ evaluation process by supervisory authorities; e/necessary supervisory measures (on basis of evaluation process).

ⁱⁱⁱ Pillar II in the New Basel Accord. The Challenge of Economic Capital. Edited by Andrea Resti. Incisive Media 2008. Introduction, xxxv.

^{iv} Pillar II in the New Basel Accord. The Challenge of Economic Capital. Edited by Andrea Resti. Incisive Media 2008, Preface xxxi.

^v Pillar II in the New Basel Accord. The Challenge of Economic Capital. Edited by Andrea Resti. Incisive Media 2008. Introduction, xxxv.

^{vi} More details on regulatory framework see in: Pillar II in the New Basel Accord. The Challenge of Economic Capital. Edited by Andrea Resti. Risk Books 2008

^{vii} The principles which are applied in SRP are mainly codified in Article 123, 124, 136 and annex XI of the CRD

^{viii} Internal Governance is codified in Article 22 & Annex V of the CRD.

^{ix} The ICAAP is codified in Article 123 of the CRD.

^x The SREP is codified in Article 124 x Annex XI of the CRD.

^{xi} See more: <http://www.bis.org/publ/bcbs152.htm>

^{xii} See more: <http://www.bis.org/publ/bcbs155.htm>

^{xiii} See more: <http://www.bis.org/publ/bcbs189.htm>

^{xiv} See more: <http://www.bis.org/publ/bcbs188.htm>

^{xv} See more:

CEBS: Guidelines on the Application of the Supervisory Review Process under Pillar 2, January 2006

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^{xvii} Andrea Resti: Pillar II in the New Basel Accord – The Challenge of Economic Capital, Risk Books, a Division of Incisive Financial Publishing Ltd, 2008

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^{xviii} Fourteen fully licensed banks operate in Slovakia. Additionally, 15 branches of foreign banks operate on common license. The Slovak banking sector is almost 98% owned by foreign capital. This sector is highly concentrated (more than 55% of assets are owned by the 3 largest banks). They are highly competitive, well capitalized, liquid and has very favorable liquidity ratio measured by loans/deposits (88%). Their core business

activities are focused mainly in commercial banking and specialize in financing housing construction. Local banks operate mainly in Slovakia. They have operated under Basel 2 regulation since January 1, 2008.

Table 1: Key Parameters of the Top 6 Banks and Sector as of September 30, 2010

Bank	Assets	Loans	Deposits	ROA	ROE	Equity	Major shareholder
Slovenská sporiteľňa, a. s.	10 869	5 668	7 798	1,19%	16,55%	853	EGB Ceps Holding GmbH
Všeobecná úverová banka, a. s.	10 316	5 667	6 856	1,26%	13,10%	986	Intesa Sanpaolo Holding S.A.
Tatra banka, a. s.	8 488	5 367	6 622	0,93%	10,67%	761	Raiffeisen International Bank-Holding AG
Československá obchodná banka, a. s.	5 327	2 924	3 174	0,59%	5,42%	603	KBC Bank N.V.
UniCredit Bank Slovakia, a. s.	3 748	2 649	2 560	0,43%	3,59%	419	UniCredit Bank Austria AG
Dexia banka Slovensko a. s.	2 857	1 831	1 769	-0,04%	-1,29%	83	Dexia Kommunalkredit Bank AG
Sector total	56 844	32 973	37 616	0,95%	10,00%	5196	-
Share of top 6 banks on total sector	73,19%	73,11%	76,51%	-	-	71,29%	-

* Numbers in mln EUR

^{xix} For the purpose of this questionnaire, small banks are considered as companies with total volume of revenues €0 – 50mio, medium banks €50 – 200mio, large banks €200 mio and more.

^{xx} Use test (internal use) represents the actual usage of bank's risk management and measurement systems for internal purposes. In the Methodological Instruction of the Financial market Supervision Section of the National Bank of Slovakia No. 1/2007 on the Internal Capital Adequacy Assessment Process for Banks it is stated that: The ICAAP should be an integral part of a bank's culture, the bank's overall risk management process, and everyday business, organizational, and decision-making processes at the bank.

^{xxi} Methodological Instruction of the Financial market Supervision Section of the National Bank of Slovakia No. 1/2007 on the Internal Capital Adequacy Assessment Process for Banks states: The classification of risk used by the bank should correspond to the bank's size, nature, scale and complexity of activities and should be used consistently in all the bank's business, activities, processes and systems. The bank should be able to identify risks and to include them in the ICAAP according at minimum to this risk classification: a/ pillar one risks (credit, market and operational), including main differences in the approach of calculating capital requirements under the first pillar and the treatment of these risks in the ICAAP b/ risks not fully captured under pillar one (in particular residual risk and securitization risk, underestimation of credit risk in using the standardized approach, underestimation of operational risk in using the basic indicator approach and the standardized approach) c/ pillar two risks, all material risks to which the bank might be exposed, particularly interest rate risk in the banking book, concentration risk, liquidity risk, reputation risk and strategic risk d/ risk resulting from external factors, in particular from the economic and business environment that were not included in the preceding categories.

^{xxii} Available Financial Resources shall mean the capital elements that the bank feels it can use to cover Internal Capital. Internal capital is defined as total capital need for coverage of risks, the bank is exposed to at execution of its activity. It is expressed as the summary of aggregated economic capital adjusted by diversification effect and capital cushion. Capital cushion might be used to cover risks as cyclicity, model risk etc.

^{xxiii} According to CEBS: Revised Guidelines on Supervisory Disclosure, supervisory disclosure is defined as a comprehensive policy of transparency. Its aim is to make information related to prudential supervision available in a timely manner to all interested parties, including credit institutions, investment firms, other market participants, other supervisors, and consumers. The framework for supervisory disclosure is meant only to provide information. It is not meant to limit in any way the ability of individual national supervisors to act in a flexible, timely and independent manner, when required.

Relationship between Asian stock Markets: A co-integration Approach

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Abstract

Today world financial markets have become more closely interdependent over the time. This paper examined the interdependency and long term relationship among 5 Asian financial markets. The result indicates investor can become his investment portfolio between these financial markets because risk can be diversified in these financial markets. Granger causality test result indicates SSE, HSE and BSE have interdependency on KSE but CSE has not interdependency on KSE. KSE has not interdependency on SSE and BSE but KSE has interdependency on HSE and CSE. Cointegration result indicates KSE has long term relationship between BSE, HSE, CSE, and SSE.

KEYWORDS: Granger causality, Co-integration, Asian markets, Integration

1. Introduction

Globalizations in capital markets decrease the limitation of international cross listing. It enhances the capital flow between the economies and easier ownership and trading in securities around the world. The present world market has become to be more strongly correlated and jointly dependent ultimately. The linkage information and correlation between the markets are significant for decision making about the investment and risk management, fund managers and policy makers. The occurrence of low correlation among the different national stock markets has been used usually to defend the international diversification of portfolio. Another foundation for investor to think about the global investment is return improvement.

Securities are announced by the countries with increase growth rates are projected to high rate of return. A number of studies (Copeland and Copeland 1998, Janakiraman and Lamba 1998, Jeong 1999) detail significant correlation among international stock market are known leadership role of the United States (US) equity market on the other market. Login at all (1995) create covariance of returns by markets is more visible throughout down periods.

This suggests the striking activities in one market could have strong impact on markets of different size, structure and geographical location across the world. In 1997, the balanced of the Thai baht led to the financial shrink in Thailand, and started a wave of contamination effects, scattering quickly to its neighboring countries in the East Asian region. Stock markets in the area declined strictly and then partially rebounded. This type of event affect the portfolio allocation and risk evaluation based on historical prediction of relevant returns and variance-covariance matrix. Speedy economic development in some East Asian economies before the Asian currency crisis in 1997 brought enhance grouping to countries in the South-east Asian section and Strengthened its. The report of the World Bank in (1993) declared that from 1965 to 1990 the eight high performing Asian economies, namely Japan Hong Kong, South Korea, Taiwan, Singapore, Malaysia, Thailand and Indonesia had established more than twice as fast as rest of East Asia, usually three time as fast as Latin America and south Africa and twenty five time earlier sub-Saharan Africa position in the world economy.

The south Asian region is the fourth trading region in the world. It has market volume of 568 million people and combine gross domestic product of US\$ 1073 billion. 2 Asian was recognized in 1967 to promote the economic, social, cultural, collaboration and to defend economic and political constancy in the region. The agreement was established in 1992 related to Asian free trade area expected to increase Asian volatile edge in the global market for remove the intra-regional trade barrier to promote the better economic integration among member of economies.

For increase the direct investment in this region. A study established the out put growth responds

Extensively unexpected changes in the domestic and foreign market return (Hassapis and Kalyvitis, 2002). It would be important for the financial institution and policy makers to recognize how shocks are transmitted across markets. Stock markets are initiated to react differently to good and bad news and a harmful shock to one country could have a negative impact to other nearby countries such as the 1997 financial crisis. Using weekly and monthly data from January 1988 to February 1999, Manning (2002) establish convergence of the South-East Asian equity markets from 1992 to mid-1997 and divergence occurring during the financial crisis. It would be valuable to observe if there are signs of improved correlation between stock markets in the area after the financial crisis by means of more fresh data sampled at different frequency. This is mainly significant as estimates of correlation coefficients be apt to increase and may be biased rising during the crisis when markets are more volatile.

This study examined the Asian stock market relationship between five stock exchanges. Reason for selecting these stock exchanges that investor can access easily due to geographical area.

2. Methodology

In this paper five Asian stock exchanges namely Karachi stock exchange (KSE), Bombay stock exchange (BSE), Shanghai stock exchange (SSE), Hong Kong stock exchange (HSE), and Colombo stock exchange (CSE) are selected for checking the linkage between stock market. For this purpose ten years data is collected from different websites. This data is used for analysis with the help of EViews 6.0. Three different time series analyses are used to test the linkage between Asian stock market. The first method examines the direction of granger causality between return of two countries, the second method applies a simple statistical test for market index trend, while the third method applies unit root test, co integration and error correction to the market index series.

Granger Causality Test:

The Granger (1969) approached to the question of whether x causes y is to see how greatly of the current y can be explained by past values of y and to see whether adding lagged values of x can get better the details. The y is supposed to be Granger-caused by x if x helps in the forecast of y , or consistently if the coefficients on the lagged x 's are statistically significant. Note that the two-way causation is frequently the cases; x Granger causes y and y Granger causes x .

$$y_t = \sum_{i=1}^p \alpha_i \cdot y_{t-i} + \sum_{j=1}^q \beta_j \cdot x_{t-j} + u_t \quad \text{-----(1)}$$

$$y_t = \sum_{i=1}^p \alpha_i \cdot y_{t-i} + \sum_{j=1}^q \beta_j \cdot x_{t-j} + \bar{u}_t \quad \text{-----(2)}$$

Where u_t is white noise, p is the order of the lag for y , and q is the order of the lag for x . The null hypothesis that x does not Granger cause y is that for $j=1,2,\dots$ is that for $i=1,2,\dots,p$. q . Likewise, the null hypothesis that y does not Granger cause x

Cointegration Test:

Empirically, testing for convergence and ordinary trends in a co integration framework requires the individual market index series to be integrated of order one. The following augmented Dickey-Fuller (1981) (ADF) test is functional to conclude the order of integration for market indices in the ASEAN-5 countries

$$\Delta p_{i,t} = a_{0i} + a_{1i}t + \beta_i p_{i,t-1} + \sum_{j=1}^n \delta_{ji} \Delta p_{i,t-j} + \varepsilon_{i,t} \quad \text{-----(4)}$$

where $\Delta p_{i,t}$ approximates the rate of return on stock market, t is the deterministic trend, n is the order of the autoregressive process, and $\Delta p_{i,t-j}$ is included to contain (possible) serial correlation in the errors. The rank of the co integrating matrix in a multivariate framework can be estimated using the following VAR representation (Johansen, 1991):

$$\Delta Pt = \Gamma L \Delta Pt + \Pi Pt - k + \mu + \varepsilon t \quad \text{-----(5)}$$

where Pt is a $n \times 1$ vector of the logarithms of total market indices for n ASEAN-5 countries, Π represents the long-run relationships of the co integrating vectors, $\Gamma(L)$ is a polynomial of order $k - 1$ to capture the short-run dynamics of the system, and εt are independent Gaussian errors with zero mean and covariance matrix Ω . The reduced rank ($0 \leq \text{rank}(\Pi) = r < n$) of the long-run impact matrix is formulated as follows:

$$\Pi = \alpha\beta' \quad (6)$$

Where β is the $n \times r$ matrix of co integrating vectors and α is the $n \times r$ matrix of correction coefficients. Applying the Johansen maximum likelihood estimation method, convergence in multivariate market indices, as defined in equation (6), would require $r = n - 1$ co integrating vectors for n ASEAN-5 countries of the form $[1, -1]$ (i.e. one common long-run trend for the individual market index series in Pt). The Johansen procedure permits hypothesis testing of the co integrating associations and their modification coefficients, using the likelihood ratio test which follows a chi squared distribution. This method is essential to conclude whether the r co integrating vectors are of the form $[1, -1]$, which requires a unit restriction applied on all the coefficients of the r co integrating vectors.

3. Empirical Results:

This paper is consisting of time series tests on monthly return of the stock market indices. Five Asian stock exchanges data is collected of different websites and yahoo finance from 1st January 2001 to 4 April 2011. All estimation result are derived from EViews 6.0 software.

Summary of Statistics:

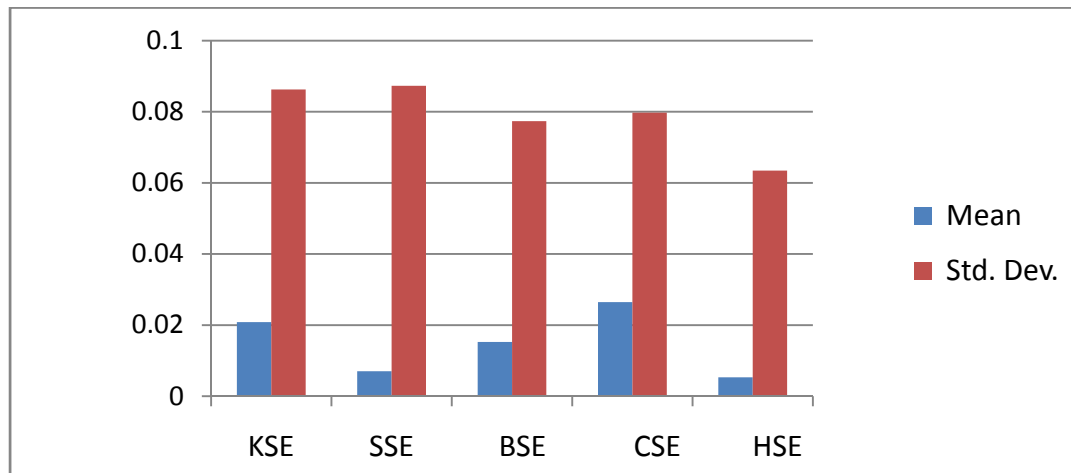
TABLE 1

	KSE	SSE	BSE	CSE	HSE
Mean	0.020845	0.007003	0.015267	0.026457	0.00529
Std. Dev.	0.086289	0.087287	0.077371	0.079732	0.063461
Jarque-Bera	46.67003	3.808281	7.694466	3.576919	11.34749
Skewness	-0.49919	-0.22478	-0.23788	0.364499	-0.41623
Kurtosis	5.847735	3.735505	4.129167	3.408041	4.233347

Table#1 shows the summary of statistics KSE and SSE standard deviation is greater than other three stock exchanges. It means KSE and SSE is high risk as compared to other three stock exchanges and HSE standard deviation is low as compared to other four stock exchanges. It means HSE is lower risk as compared to other four stock exchanges. KSE mean return is high as compared to four stock exchanges and SSE standard deviation is high as compared to the KSE but return of the SSE is low as compared to KSE. It means investor can make portfolio in which five stock exchange and diversification can be possible in these stock exchanges..

Comparison Of Asian Stock Exchanges

GRAPH 1



Graph#1 gives the information about means and standard deviation between five Asian stock exchanges in which SSE has high risk with low return. KSE has low risk as compared to the SSE but has high return as compared to the SSE. CSE has high risk as compared to BSE but has high return as compared to the risk. HSE has high risk with low return.

Granger Causality Test

Testing the direction of Granger causality between return of five Asian stock markets.

TABLE 2

Pair wise Granger Causality Tests		
Null Hypothesis:	F-Statistic	Prob.
SSE does not Granger Cause KSE 0.001	7.32316	
KSE does not Granger Cause SSE 0.8265	0.19083	
Null Hypothesis:	F-Statistic	Prob.
HSE does not Granger Cause KSE 0.0059	5.37166	
KSE does not Granger Cause HSE 0.0078	5.06049	
Null Hypothesis:	F-Statistic	Prob.
BSE does not Granger Cause KSE 0.1749	4.10219	0.019
KSE does Cause BSE not Granger	1.77008	
Null Hypothesis:	F-Statistic	Prob.
CSE does not Granger Cause KSE 0.1257	2.11164	
KSE does not Granger Cause CSE 0.0046	5.64954	

Note=Denote at 5% significant level

Table#2 shows the Granger causality test result between the five stock exchanges. There is SSE, HSE and BSE has Granger causality on KSE but CSE has not Granger causality on KSE. It means SSE, HSE and BSE has interdependency on KSE but CSE has not interdependency on KSE. KSE has not Granger causality between SSE and BSE but has Granger Causality between HSE and CSE. It means KSE has not interdependency on SSE and BSE but KSE has interdependency on HSE and CSE.

6. Co integration:

Before testing the co integration it is compulsory to establish the order of integration for each market index series. ADF test are performed to test the presence of unit root logarithms of total market indices of five Asian countries. Detail results are not reported to save space. The ADF test statistics do not reject the null hypothesis. It is applied of all five stock exchanges data then result indicates each is not stationary. Upon taking first differences of the series which indicate stationary of the transformed series, the ADF tests indicate all series are integrated of order one.

TABLE 3

KSE, HSE	Eigen value	Trace Statistic	Critical Value(0.05)	Prob.**
None *	0.204418	44.1891	15.49471	0
At most 1 *	0.135672	17.20472	3.841466	0
Unrestricted Cointegration Rank Test (Maximum Eigen value)				
None *	0.204418	26.98438	14.2646	0.0003
At most 1 *	0.135672	17.20472	3.841466	0
KSE, SSE				
None *	0.160477	30.91508	15.49471	0.0001
At most 1 *	0.083387	10.27429	3.841466	0.0013
Unrestricted Cointegration Rank Test (Maximum Eigen value)				
None *	0.160477	20.64079	14.2646	0.0043
At most 1 *	0.083387	10.27429	3.841466	0.0013
KSE ,BSE				
None *	0.198977	45.93231	15.49471	0
At most 1 *	0.154131	19.75217	3.841466	0
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
None *	0.198977	26.18014	14.2646	0.0004
At most 1 *	0.154131	19.75217	3.841466	0
KSE CSE				
None *	0.189586	42.17398	15.49471	0
At most 1 *	0.136875	17.36914	3.841466	0
Unrestricted Cointegration Rank Test (Maximum Eigen value)				
None *	0.189586	24.80484	14.2646	0.0008
At most 1 *	0.136875	17.36914	3.841466	0

Table#3 shows the Johnson cointegration test between KSE and other four Asian stock exchanges. KSE is co integrated with HSE because Trace statistics is greater than Critical Value and Max-Eigen value is greater than critical values. It indicates KSE Has Long term co integrated with HSE. KSE has cointegrated with SSE the result shows the trace statistics is greater than critical value and Max-Eigen values is greater than critical values it indicates KSE has long term co integrated with SSE. KSE has co integrating with BSE and CSE because the trace values is grater than the critical value and Max-Eigen value is grater than critical values. It means KSE has long term co integrating with BSE and CSE. After taking the cointegration then Vector error correction model is applied

co integrated stock exchanges. Detail results are not reported to save space. The result shows long term relationship at equilibrium point.

4. Conclusion

This paper indicates the vibrant interdependence and long term relationship between Five Asian stock markets. The summary of statistics indicates KSE and SSE risk is high as compared to the other stock exchanges but HSE risk is low as compared to other four stock exchanges. KSE mean return is high as compare to SSE but risk is high. In which five stock exchanges diversification is possible it means investor can make investment portfolio between five stock exchanges. Granger causality result indicates SSE, HSE and BSE have interdependency on KSE but CSE has not interdependency on KSE. KSE has not interdependency on SSE and BSE but KSE has interdependency on HSE and CSE. Co integration result shows KSE has long term relationship between BSE, HSE, CSE, and SSE.

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Section 6

International Marketing & Supply Chain Management

An Empirical Study on the Relationship between Total quality management, ISO9000 and Performance

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Abstract: Records the research on the relationship between TQM, ISO 9000 and business performance improvement. The research is based on a survey conducted in China Mainland which finds that the TQM criteria such as quality leadership, human resource development, quality information, etc. contribute to the improvement of customer satisfaction and business performance. However, none of these TQM criteria can guarantee enhanced performance. It is these criteria as a whole that contribute collectively to the improvement of performance. The study also finds that ISO 9000 are partially related to the implementation of TQM and the improvement of business performance. The recommendation is that ISO 9000 should be incorporated with the philosophy and methods of TQM.

Keywords: TQM; ISO 9000; Performance improvement

Introduction

It is reported that TQM started in Japan in the 1970s, spread to the USA in the 1980s, and was expected to spread to Europe in the 1990s (Munro-Faure and Malcolm, 1992). ISO certification, on the contrary, started in Europe and was spread to North America, Japan, and the rest of the world. Total quality management (TQM) and ISO 9000 standards have become the two main streams of quality management. The two methods and their impacts on business performance have attracted the interests of researchers all over the world. In the past ten years, research on quality management increased dramatically (Filippini, 1997)^[1]. However, there are still many questions about quality management, left unanswered - for example, the impact of quality management on performance and the relationship between TQM and other theories/methods such as ISO 9000 (Filippini, 1997). A recent literature review (Terziovski et al, 1997)^[2] reveals a major gap in research focusing on the relationships among TQM, ISO 9000 certification, and performance. This research aims to empirically investigate such relationships. It is based on an empirical survey in Norway. The research questions include:(1)Does a TQM program contribute to the improvement of business performance?(2)Does the ISO 9000 certification program contribute to the improvement of business performance?(3)Does ISO 9000 influence the implementation of a TQM program?

This article is structured as follows. The first section provides an introduction. In the second section, relevant literature will be reviewed and hypotheses reflecting the research questions will be formulated. In the third section, the research design and empirical data will be introduced. In the fourth section data analysis will be reported. The last section contains the main conclusions and implications for research and practice.

Literature Review and Hypothesis

TQM

TQM provides a generic concept for continuous improvement in quality and other performances. Researchers agree that TQM is a philosophy that stresses a systematic, integrated, and consistent perspective involving everyone and everything. However, the definitions of TQM vary a lot. Quality awards models provide a general framework for quality management. The questionnaire in this study was designed mainly after the US Malcolm Baldrige quality award model (Hart and Bogan, 1992). The criteria include: quality leadership;humanresourcedevelopment;qualitystrategy;informationresources;qualityassurance in process and product; people satisfaction; customer satisfaction; social and environmental impact; and the results (i.e. performance).

Although TQM has been widely regarded as a tool for improving quality and other performances such as profit and market share, the success rate is not high. For example, a survey of 500 companies found out that less than 1/3 of the respondents have achieved something and about 2/3 of the TQM programs have ground to a halt (Ahire et al., 1995)^[3]. To understand the success of TQM, many studies have been conducted to investigate the impact of TQM on performance. However, more research looks at the relationship between, for example, quality and productivity (Huff et al., 1996)^[4]. In this article, the impact of TQM implementation on the overall performance of an organization will be investigated. A hypothesis regarding the relationship between TQM and business performance is formulated as follows:

H1. TQM has a positive impact on the improvement of business performance.

ISO 9000 certification

ISO 9000 refers to a series of standards for quality management systems. Its core module, ISO 9001, provides quality systems for design, development, production, installation and services. It is a comprehensive model of quality systems. A global survey (Ho, 1997) in 80 countries reveals that the number of ISO 9000 certificates in 1996 (160,000) more than doubled the number in 1994 (70,517).

However, ISO 9000 standards seem to be controversial. On the one hand, it is argued that the quality management system based on ISO 9000 standards is a necessary foundation for other quality methods under TQM (Taylor, 1995)^[5]. Mo and Chan (1997)^[6] claim that a number of variables in ISO 9000 standards are somewhat related to TQM. Ho (1997) says that ISO 9000 certainly belongs to the TQM process. Many people believe that, in the future, ISO 9000 will be necessary to stay in business.

On the other hand, other researchers strongly criticize ISO 9000. Reedy (1994)^[7] claimed that ISO 9000 is not focused on the control of product quality. The quality assurance rules established in ISO 9000 have been used in the USA for more than 25 years with little, if any, improvement in quality and safety. Reedy (1994) even believes that ISO 9000 does not help at all if not properly implemented. Avery (1995) reported that many industry people think that ISO 9000 is not the ticket to quality or competitiveness that its supporters claim. Taylor (1995) found that very few companies view ISO 9000 registration as part of the TQM plan. ISO certification started in Europe. However, European firms are not sure whether these programs are helping them to infuse quality into their organizations.

To clarify the controversial comments on ISO 9000, the following two hypotheses are formulated and will be tested:

H2. ISO 9000 certification has a positive impact on the improvement of business performance.

H3. ISO certification has a positive impact on the implementation of TQM.

In summary, the research recorded in this article aims to investigate the relationship between TQM, ISO 9000, and business performance. The variables and their hypothesized relationships are illustrated in a conceptual framework as shown in Figure 1.

Research Design and Empirical Data

Survey design

This study is based on a survey. The first version of the questionnaire was designed by researchers from Toledo University (Rao et al., 1997)^[8]. The questionnaire covers the nine criteria mentioned in the literature review section. Corresponding to the nine criteria, there are nine groups of questions for measurement. Each group contains ten to 17 questions. All the variables in these criteria are measured on a scale of 1 to 5. An additional choice is provided for situations that are not relevant. The numbers represent the strength or degree of participants' assessment, agreement, perception or opinion, as the case may be, to the question item. For example, if a question asks to what extent the managers participated in TQM training, "5" represents very much while "1" represents not at all. Background information on the company such as size, ISO certification, and years of practicing quality management is also covered by the questionnaire.

This survey was conducted in Beijing, Shanghai, Guangzhou, Wuhan, Chengdu and Shenzhen. Questionnaires

were sent out to 900 companies. All the informants are quality managers in these companies and 363 replies were returned. The return rate is about 40%. In this research, only the 316 private companies are used. The 316 sampled companies include manufacturing companies (57%), service companies (27 %), and other types of organizations such as research institutes and foundations (16 %). The company sizes range from fewer than 150 employees (51 %), 150-500 (31%) and more than 500 (18 %).

Validity test

The research uses multiple-item measurements. Each criterion in the questionnaire covers ten to 17 individual questions (or items). Do those questions belong to a criterion as theoretically proposed? This issue refers to construct validity in research methodology. Factor analysis has been widely used to test the construct validity of multiple-item measurement of a concept (or construct) (O'Leary-Kelly and Vokurka, 1998)^[9].

Factor analysis groups variables (i.e. single questions) into factors based on their common correlation. Those variables that are correlated with each other will be grouped together. Such a group of variables is called a factor. The grouping is based on the rotated loading coefficients. The rule of thumb goes as follows (de Vaus, 1993). If its rotated loading coefficient is more than 0.30, then a variable will be included in the corresponding factor. As the sample size of this study is 180, with a 95 per cent confidence level and an effect size of 0.3, the statistical power of this sample is larger than 0.95 (Cohen, 1988,) which is high enough to identify any inherent statistical relationships.

If a variable's loading coefficients for all the factors are more than 0.3, then the variable will be grouped according to the largest coefficient. Those variables in a factor will increase or decrease simultaneously. Instead of looking at all the individual variables, data analysis will look at the factor.

Performances include customer satisfaction, people satisfaction, business performance, and impact on society and environment due to a quality management program and Baldrige quality award model. In the questionnaire, there are 13 individual questions that are related to performance. Factor analysis groups these 13 questions into four factors (see also Table I):

- Factor I (F71): product quality and customer satisfaction. This factor covers reduction of defects, rework, and warranty cost and customer complaints.
- Factor II (F72): productivity and profitability. This factor covers cost reduction, productivity increase, the shortening of through-put time, and profitability increase.
- Factor III (F73): market position and competitiveness. This factor covers the increases of market share, competitive position, and the capability of staying in its business.

The last factor contains employee satisfaction and environment protection. However, common sense can't tell us that the two variables do not have much relation with each other. The correlation between them must be a pure coincidence. Therefore they are separated. As a result, the following two factors are identified and named:

Table I. Factor analysis of performance

Performance variable s	Factor I	Factor II	Factor III	Factor IV
V7B: rework levels reduced	0.82	0.25	0.17	0.14
V7A: scrap levels reduced	0.80	0.19	0.21	0.24
V7C: warranty costs reduced	0.69	0.33	0.30	-0.01
V7D: customer complaints reduced	0.69	0.26	0.34	0.05
V7K: costs reduced	0.37	0.77	0.09	0.10
V7I: manufacturing time reduced	0.13	0.75	0.27	0.22
V7J: profits increased	0.33	0.73	0.32	0.13
V7H: productivity increased	0.27	0.71	0.33	0.22
V7F: market share increased	0.22	0.31	0.81	0.11
V7E: competitive position enhanced	0.27	0.14	0.79	0.17
V7G: keep your company in business	0.30	0.32	0.77	0.13
V7N: improve environment protection	0.07	0.18	0.17	0.90
V7M: employee satisfaction improved	0.37	0.42	0.16	0.54
Eigenvalues	6.80	1.10	1.00	0.80
Variance explained	2.95	2.88	2.49	1.36
% of total variance explained	22.69	22.15	19.15	10.49

- Factor IV (F74): employee satisfaction.
- Factor V (F75): environment protection. This factor represents a company's ability to preserve global resources, and reduction of waste and pollution.

Five performance factors are thus identified. Second-level factor analysis groups these five factors into a new factor that is named as the performance index, represented by PI. The index is an average of all the five result criteria. The performance index is a comprehensive measure of the result increase due to the TQM program that a company implemented. The analysis of performance will be based on both the identified five criteria and the performance index.

In a similar way, the eight criteria of TQM enablers 'are tested by factor analysis. The loading coefficients for each test are omitted due to page limitation. The first three criteria are tested to be valid and all questions in the three criteria are included. However, the other five criteria cover one concept more than theoretically proposed. For example, the training of employees and other development activities are theoretically grouped into one criterion named human resource development. Factor analysis separates training in statistical methods from the rest of the development activities, so two criteria are identified. For another example, the quality assurance of products and processes is also separated according to factor analysis. The 14 criteria identified are listed in Table II. The analysis will be based on these 14 criteria.

Data Analysis

In this section, the relationship between TQM, ISO 9000 certification, and the improvement of business performance will be investigated by testing corresponding hypotheses.

Table II. The empirical TQM criteria of the sampled companies

Code	Criteria identified according to factor analysis
F1	Quality leadership
F2	Quality information
F3	Strategic planning of quality
F41	Human resource development
F42	Training in statistical methods
F51	Quality assurance of process
F52	Quality assurance of product
F61	Co-operation with suppliers
F62	Suppliers' direct involvement
F81	Consideration of customers' satisfaction
F82	Benchmarking
F83	Close co-operation with customers
F91	Consideration of employees' satisfaction and wellbeing
F92	Consideration of social and environmental impact

TQM and business performance (H1)

In this section, the contribution of the 14 enablers to the result increase will be examined. Correlation analysis shows that all the 14 enablers are significantly correlated with the performance index (PI) as shown in Table III. This means that these enablers do contribute to the results. However, the degrees of correlation vary quite a lot, ranging from a maximum of 0.59 to a minimum of 0.35. According to the degree of correlation, the top five enablers are quality leadership, strategic management of quality, human resource development, close co-operation with customers, and consideration of customers' satisfaction. However, companies pay less attention to leadership (ranked No. 5), quality strategy (ranked No. 7) and human resource development (ranked No. 11). Consideration of employees' satisfaction and wellbeing and quality assurance of process ranked very high (No. 1 and No. 2) according to the average of the enablers. This means that companies pay a lot of attention to the two issues. However, their contribution to the increase of the result is not so much as that of other enablers like leadership and human resource development.

Although correlated, none of these enablers are strongly correlated with the performance index. The correlation coefficients range from 0.35 to 0.59. The square correlation ranges from 12 per cent to 0.35 per cent. Such correlation coefficients can only be interpreted as slightly or substantially correlated, not strongly related. According to Miller (1991), strong correlation should be more than 0.6. That means that each of the enablers can only explain a smaller part of the result increases. If one of the enablers increases, the result may not necessarily increase. However, multi-regression analysis reveals that correlation between the performance index and these 14 enablers is strongly correlated ($R = 0.91$, $R^2=0.82$). That means these that enablers contribute to the result collectively, instead of individually. This finding supports the argument that a TQM program must be complete in terms of the content, the extent (i.e. fully implemented), and perhaps also the area (i.e. company-wide).

ISO 9000 certification and business performance (H2)

The ANOVA analysis reveals that there are differences in performance between those companies with and without ISO 9000 certification, as shown in Table IV. Some aspects of performance, including reducing product defect, rework cost, warranty cost, and customer complaints, are significantly different between companies with and without ISO certification. However, there is little difference in market position and competitiveness. Furthermore, there is no significant difference in employee satisfaction and environmental protection.

ISO 9000 certification and TOM implementation (H3)

This study found that ISO 9000 certification is related to some TMQ enablers, as illustrated in Table V. In those companies with ISO 9000 certification, the availability of quality information, quality assurance of product, quality of processes, and co-operation with customers are significantly higher than those companies without ISO

9000 certification.

However, ISO 9000 certification does not have much relation with strategic plans regarding quality, employee participation and human resource development. This is consistent with what Juran and Gryna (1988) pointed out in the 1980s. They said that ISO 9000 failed to include some essentials for achieving world-class quality, such as:

- quality goals in the business plan;
- quality improvement at a revolutionary rate;
- training in managing for quality; and
- Participation by the workforce.

Discussion and Implications

The findings of this study and a discussion of these findings are summarized hereafter.

The components of TOM

Fourteen TQM criteria/enablers are identified according to the Norwegian empirical data. The criteria are not exactly the same as those proposed in the US Baldrige and European quality award models. The US Baldrige model is evaluated and modified every two years (Bemowski, 1996). Although the 1997 version still covers seven categories, the seven categories are broken down into 20 examination items, down from 24 in 1996 and 33 in 1990. The European quality model was also modified in 1997 (European Foundation for Quality Management, 1996; 1997). For one thing, private companies and public companies are separated in the 1997 manual. The Australian quality award model treats small businesses separately from larger ones (Australian Quality Council, 1996). Even after their modifications, the models in different countries - for example, Japan, USA, Canada and Europe - are not exactly the same (Laszlo, 1996)^[10]. Conti (1997)^[11] believes that the model for evaluating quality management in a company should not be the same. The quality award model of a country or region should be geared to a business model that integrates the quality concept and organizational concepts and managerial practices. Laszlo (1996) claimed that the application of TQM tends to vary with location. Examples of successes in TQM cannot be copied and strictly followed as recipes. The quality award model, especially those designed for several countries and regions can only be used as a guide rather than a model for copying.

TQM and performance

It was found that all the TQM enablers contribute to an increase in customer satisfaction and business performance. Human resource development, quality strategy, and quality leadership are predominant in terms of contribution. However, none of the enablers can guarantee improved performance. It is these enablers as a whole that collectively contribute to the results. If a company only implements one or a few of the enablers, its performance is unlikely to be improved. That is why a quality program is called "total" quality management. The key to TQM is its holistic approach to the organization. Companies must implement TQM to its full extent in order to obtain its full benefits. The study also finds that human resources and the strategic management of quality are significantly correlated with an improvement of performance. However, the averages of these two criteria are lower in many companies. This implies that companies should pay attention not only to visible methods, but also to the development of human resources and strategic issues.

ISO 9000 certification, TOM and performance

This study also finds that, in the sampled companies, companies with ISO 9000 certification perform better in the reduction of bad products and customer complaints, profitability, and productivity. However, it has little influence on market position and competitiveness, and no influence on employee satisfaction and environmental protection. The standards are not related to some TQM criteria. In addition, a causal relationship is still not clear. The ISO 9000 standards may directly contribute to performance. They may also indirectly contribute to performance by improving other TQM enablers. It is difficult to judge the direction of impact. However, ISO 9000 certification does not have significant impact on the strategic management of quality and human resources development. These two criteria are significantly correlated to performance improvement.

A danger for ISO 9000 certification is that a company may regard ISO 9000 certification as a substitute for

TQM and does not continue the journey after being registered to ISO 9000. Even though some companies do plan to implement TQM, the program is not viewed as the continuation of ISO 9000 registration. How to combine ISO 9000 and TQM and bridge the gap between them will be an important issue in the future.

It all depends on how a company would like to use ISO 9000 standards. If it is only for the purpose of getting a certificate and an advertisement, the documents and procedures will destroy the normal business process and will not contribute to the improvement of performance. In this case, the ISO 9000 certificate is unlikely to contribute. The implication is that a company must integrate ISO 9000 procedures with the philosophy, human resource development, and strategic management in TQM. ISO 9000 is not a substitute for TQM. Companies should not just satisfy the certification of ISO 9000.

The final conclusion is that TQM and ISO 9000 standards must be completely and systematically implemented and integrated. How can an organization know that its quality program is complete? Self-assessment (Conti, 1997) according to a quality model provides a systematic and comprehensive evaluation of the TQM program. However, self-assessment is still not widely practiced. Training, seminars, books, etc. are needed to disseminate the benefits and knowledge of self-assessment. Self-assessment according to a survey will be the future research of this study.

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Table III. Correlation (R) between TQM and performance index (PI)

Information about the 14 empirical criteria			
Code	Criteria	Rank by average	R with PI (sorted)
F1	Quality leadership	3.53 (5)	0.59
F3	Strategic planning of quality	3.46 (7)	0.57
F41	Human resource development	3.08 (11)	0.57
F83	Close co-operation with customers	3.57 (4)	0.55
F81	Consideration of customers' satisfaction	3.86 (3)	0.54
F2	Quality information	3.22 (9)	0.53
F52	Quality assurance of product	3.51 (6)	0.52
F82	Benchmarking	2.86 (12)	0.51
F91	Consideration of employees' satisfaction and wellbeing	4.06 (1)	0.49
F61	Co-operation with suppliers	2.56 (13)	0.48
F62	Suppliers' direct involvement	3.37 (8)	0.42
F92	Consideration of social and environmental impact	3.16 (10)	0.41
F51	Quality assurance of process	3.90 (2)	0.38
F42	Training in statistical methods	2.53 (14)	0.35

Table IV. The ANOVA test between ISO 9000 certification and performance improvement

Code	Performance	ISO	Non-ISO	F-value	P
F71	Product quality and customer complaint reduction	3.4	3.1	11	0.001
F72	Business performance (cost, productivity and profit)	3.2	2.9	14	0.001
F73	Market position and competitiveness	3.4	3.2	4	0.04
F74	Employee satisfaction	3.1	3.1	0.45	0.50
F75	Environment protection	2.9	2.8	0.28	0.60

Table V. Differences in TQM between companies with and without ISO 9000

Code	Enablers	ISO	Non-ISO	F-value	P
EI	Enabler-index	3.21	2.93	23.37	0.000
F2	Quality information	3.42	2.92	34.83	0.000
F52	Quality assurance of product	3.72	3.31	28.80	0.000
F51	Quality assurance of process	4.09	3.70	26.82	0.000
F83	Close co-operation with customers	3.68	3.41	12.69	0.000
F61	Co-operation with suppliers	3.46	3.25	8.34	0.004
F1	Quality leadership	3.62	3.40	7.52	0.006
F91	Consideration of employees' satisfaction and wellbeing	3.22	3.02	6.58	0.007
F92	Consideration of social and environmental impact	4.15	3.92	7.45	0.011
F82	Benchmarking	2.95	2.71	5.15	0.024
F3	Strategic planning of quality	3.52	3.36	3.66	0.057
F42	Training in statistical methods	2.58	2.43	2.25	0.130
F62	Suppliers' direct involvement	2.61	2.46	2.17	0.140
F41	Human resource development	3.11	3.00	1.99	0.160
F81	Consideration of customers' satisfaction	3.88	3.81	0.80	0.370

A Sourcing Model from a Cost Heterogeneous Supply Base

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Abstract

In this paper we analyze a scenario where a buyer procures capacity from one or more suppliers in the presence of demand uncertainty. The buyer does not have perfect information of suppliers' unit production cost. The supplier, of course, has knowledge of its own cost function but like the buyer does not have information on other suppliers' unit cost. Under this scenario we explicitly derive suppliers' capacity reservation price, which is a function of their capacity, amount of capacity reserved by the buyer and other parameters. The buyer's decisions are how much capacity to reserve and from how many suppliers. We develop closed-form solutions under a special case when the buyer's demand is deterministic.

Keywords: supplier selection, capacity reservation, electronic procurement, demand uncertainty

Introduction

Rapid globalization of markets aided by advances in the Internet and electronic markets has in recent times thrown new opportunities for Supply Chain Management (SCM). Several studies predicted that electronic markets will play a significant role in redefining buyer – supplier relationships (Elmaghraby, 2000). A variety of Business-to-Business (B2B) market places are available today and organizations could put a combination of these to use through an E-procurement plan (Mahadevan, 2000). E-procurement offers several new advantages to industrial buyers. Many of them stem from the ability to reach a wider set of suppliers than before. For instance, a registered user of Alibaba.com gains access to several thousand trade leads in 27 industry categories and 900 product categories posted by potential buyers and suppliers.

The flip side to the increased globalization of the supply chain is the new set of challenges that firms face today. Consider the following trends in SCM. A recent study by The Economist Intelligence Unit based on a worldwide survey of 1,656 executives belonging to the auto component sector suggested that there will be a big shift in the manufacture of auto components to countries like India and China (EIU, 2006). The Swedish car manufacturer Volvo reported that the casting and forging components sourced from India are 50% cheaper than those sourced from Europe (EIU, 2006). One sees a similar trend even in other sectors such as Aerospace and Defence. Anselmo (2005) suggested that a major shift in spending by aerospace manufacturers is likely in the next three years towards countries such as India, China and Eastern Europe.

We analyze a typical situation involving suppliers who differ from one another with respect to the cost of capacity to be procured and identify useful strategies for the buyers to minimize their procurement cost. Our work is at the intersection of supplier selection and capacity allocation using supply contracts. While supply contracting literature addresses various contracting mechanisms employed between a chosen set of suppliers and a buyer, we extend this work by studying the effect of cost heterogeneous mix of the supply base typical of today's global markets.

A few studies in the recent past have studied SCM problems pertaining to a cost heterogeneous supply base. Li and Debo (2009a) analyze optimum strategies for contracting with a high cost and a low cost supplier and concluded that in periods of demand uncertainty the high cost supplier is more favored. In another paper (Li and Debo, 2009b), the authors model a situation involving multiple suppliers whose cost information is private and explores the value of commitment through long term contracts with suppliers. They use a competitive bidding process to elicit suppliers' cost. A supplier selection scenario in which the buyer does not know the competing suppliers' cost and a queuing model to minimize its procurement and operating cost is analyzed in Cachon and Zhang (2006). The suppliers are assumed to have a similar capacity but vary in their costs. They model a situation in which the buyer will sample the participating suppliers' cost from a uniform distribution $[b_l, b_h]$. In this paper we make a similar set of assumptions about suppliers' capacities and costs.

Elmaghraby (2000) reviews the trends in the sourcing literature and identifies a central issue of multiple sourcing: the number of vendors to be selected. In a multiple-supplier, single-buyer setting, the presence of multiple

suppliers will permit the buyer to setup a competitive mechanism such as a bidding process for capacity allocation among the selected suppliers. An excellent review of the supply chain contract literature appears in Cachon (2003). We refer the readers to the respective papers for details.

Our study differs from the earlier studies on the issue of capacity reservation price. Earlier studies in capacity contracts often assumed the capacity reservation price to be exogenous. We however, explicitly model this situation and derive price capacity curves for suppliers. Although suppliers have an option to sell capacity in both the spot market and through pre-negotiated contract with buyers, they face different sets of costs (Grey et al. 2002). Consequently, suppliers will deploy alternative strategies for pricing their capacity in these markets. We believe that business environment aspects such as search cost differentials and risks associated with selling capacity in the open market would influence suppliers' pricing strategies and capacity allocation through contractual agreement with the buyers. We therefore derive an expression for pricing of supplier's capacity.

The rest of the paper is organized as follows: We begin by motivating the research problem in section 2 with a review of pertinent literature. In section 3 we characterize the cost heterogeneity of the supply base and describe the problem. We also present the context and the decision issues for the buyer and the supplier. In section 5 we analyze the cost heterogeneity of supply base and derive solution procedures and useful policy framework. We finally conclude the paper by discussing key managerial implications of the study in section 6.

Model

Consider an item or a component that a buyer would like to procure for which there are n pre-qualified suppliers available to supply as per specifications. The buyer's demand is a stochastic variable D , sampled from a distribution $F(x)$. The decision to reserve capacity is made at the beginning of the season when it has information only of demand distribution. Similar to Cachon and Zhang (2006), the suppliers who can provide the required item have a finite capacity denoted by μ . However, there could be significant variations in the unit cost of the capacity offered by suppliers. The supplier's manufacturing cost is private information and not known to the buyer or to other suppliers. However, the buyer knows that the suppliers' unit cost are sampled from a distribution $U(v_l, v_h)$. Cost differentials occur primarily as a result of variations in input factor cost. Shifting of major manufacturing activities to China, software development activities to India and textile manufacturing to China, Latin and Central America and South Asia are attributed to cost structure differentials.

The salient features of the supplier selection process are as follows: The buyer pre-qualifies the number of suppliers (denoted by $n > 1$) to participate in a competitive bidding process, through a RFQ, along with bidding rules and other terms of fulfillment. A preliminary qualification for the supplier to be enlisted for participating in the auction is that the supplier's capacity is at least as large as the capacity sought to be reserved through the contract. The assumption is necessary to avoid infeasibility of the solution in the event the number of suppliers selected for award of contract is just one. Similar assumptions have been made in Bernstein and Vericourt (2008). The buyer will also *a priori* announce the number of suppliers, m ($1 \leq m \leq n-1$), that will be selected before the start of the bidding process.

The buyer utilizes a *pay-to-delay* contract to reserve capacity from a set of suppliers. Let us denote the capacity procured through contract by Ω . All m suppliers, finally selected, will get an equal allocation of the capacity at the price of the first rejected supplier. Therefore, the capacity awarded to each supplier is Ω/m . Equal allocation has been adopted by earlier researchers. (See for example, the review paper by Elmaghraby, 2000 and Seshadri, 2005 for details).

The buyer obtains quotes from the participating suppliers in the form of a price-capacity curve and uses it as the basis for allocating the order among the suppliers so as to minimize the total expected cost of the items procured. The spot market is not capacity constrained in the near term. After observing the demand the buyer will procure additional capacity from the open market in case her demand exceeds the total capacity reserved with the suppliers.

The enlisted suppliers, on the other hand, will also sell the remaining capacity (the unsuccessful suppliers will sell the entire capacity) in the spot market. In our model we assume that demand for suppliers' capacity is uncertain and is independent and identically distributed. Therefore the suppliers may not be able sell his entire capacity in the spot market. We also assume the contract between the buyer and the suppliers will not have any impact on average unit price in the spot market which is denoted by P_o .

The Suppliers' Problem

We first derive the price a supplier is likely to quote in the competitive bidding process for obtaining a contract. Using this information, we further determine the price for awarding the contract.

Consider the i^{th} supplier who has the option of selling his capacity to a specific buyer through a contract and also through the spot market. While attempting to sell his capacity in the spot market, the supplier finds that the demand is stochastic. We denote the demand for supplier's capacity in the spot market by a random variable \mathbf{X} . The demand distribution for supplier's capacity, in the spot market, is assumed to be independently and identically distributed. The random nature of demand imposes a financial burden on suppliers because of the risk of unsold capacity.

We assume that the supplier will sell his capacity in the spot market at an average unit price of P_o . The supplier's production cost is linear in number of units produced and is given by $v_i x$, where v_i , ($v_i > 0$) is the unit production cost and x is number of units produced. Since the supplier is likely to face uncertain demand in the spot market he will consider selling some capacity to the buyer through a contract at a lower price, as long as his total expected profit is at least as large as the case when he sells his entire capacity in the spot market. Based on these considerations, we derive the price – capacity curve for a supplier who would like to sell his capacity to the buyer through contract.

The expected profit for the i th supplier offers if he offers his entire capacity in the spot market is given by

$$P_o E\{\min(X_i, \mu)\} - v_i (E\{\min(X_i, \mu)\}) \quad (1)$$

The first term in the above expression is the expected revenue earned and the second term is the expected production cost. The E in the equation is the expectation operator.

Suppose the supplier offers ω (where $\omega \leq \mu$) units of capacity to the buyer through a capacity reservation contract. He will have to sell $\mu - \omega$ units of capacity in the spot market. His expected profit, if he wins the contract, will then be:

$$P_i(\omega)\omega + P_o E\{\min(X_i, \mu - \omega)\} - v_i (\omega + E\{\min(X_i, \mu - \omega)\}) \quad (2)$$

In (2), $P_i(\omega)$ is the price supplier i quotes to the buyer, which is a function of units of capacity, the buyer procures from this supplier through a capacity reservation contract. The second term in equation (2) is the expected revenue the supplier earns from the spot market and last term is the expected production cost. The supplier will commit ω units of capacity provided (2) is at least as large as (1). Therefore the price-capacity curve is given by:

$$P_i(\omega) = \frac{(P_o - v_i)\{E(\min(X_i, \mu)) - E(\min(X_i, \mu - \omega))\}}{\omega} + v_i \quad (3)$$

We now assume that the demand for capacity in the spot market for the suppliers is uniformly distributed $(0, b)$, $b > 0$. For such a demand distribution it can be shown that the price quoted by the i^{th} supplier when $\mu \leq b$ as:

$$P_i(\omega) = P_o - \left(\frac{P_o - v_i}{2b} \right) (2\mu - \omega) \quad (4)$$

It is evident that the price quoted by the supplier is always less than the average spot market price. Furthermore, this price decreases as the supplier's capacity increases. This fact is valid for any probability distribution of demand for supplier's capacity in the spot market. The reason why price decreases with supplier's capacity is due to the fact that with an increase in ω the risk of unsold capacity is reduced. This is because for an increase in ω the supplier has to sell less capacity in the open market and there is a higher probability of success of selling the entire remaining capacity. Essentially, for a higher expected capacity utilization the supplier would charge a higher reservation price to the buyer.

In general, contractual agreements with buyers provide numerous benefits arising out of stable capacity and production planning. These translate into better up-stream planning and material and cost control. However, the proposed model indicates motivations for the suppliers to participate in the contract. The supplier's capacity utilization increases when she commits ω units of capacity to the buyer. The expected capacity utilization is denoted by ρ .

When the supplier commits ω units of capacity to the buyer her expected capacity utilization is given by

$$\rho = \frac{\omega + E[\min(X, \mu - \omega)]}{\mu} = 1 - \frac{(\mu - \omega)^2}{2b\mu}.$$

The algebraic details are omitted as it follows from simple algebra. If the supplier sells her capacity only in the spot market then her expected utilization is given by $1 - \mu/2b$. The supplier's capacity utilization will increase if he sells part of his capacity to the buyer through a capacity reservation contract.

The Buyer's Problem

The total procurement cost optimization problem for the buyer is given by:

$$\begin{aligned} \text{Min } C(\Omega, m) &= \Omega E\left(P_{[m+1]}\left(\frac{\Omega}{m}\right)\right) + P_o E \max(0, D - \Omega) \\ &\text{subject to} \\ \Omega - m\mu &\leq 0 \\ m &\leq n - 1 \\ \Omega, m &\geq 0 \end{aligned} \tag{5}$$

In equation set (5), $E\left(P_{[m+1]}\left(\frac{\Omega}{m}\right)\right)$ is the expected unit capacity reservation price of the first rejected supplier. This will be the unit price that the buyer will pay to the m selected suppliers to reserve capacity. Using the price curve of the suppliers as derived earlier, we develop an expression for capacity reservation price of $(m+1)^{th}$ supplier before we proceed with our analysis of the buyer's problem. The constraint ensures that the reservation quantity (Ω/m) from each selected supplier does not exceed its capacity (μ) .

Let us now consider the multiple suppliers setting. Once the buyer makes an appropriate choice of Ω , she will allocate this equally among the m selected suppliers. However, in order to determine the price at which the buyer reserves the capacity, she needs to know the price of the first rejected supplier.

Typically, in many situations the buyer may not know exactly the suppliers' unit cost. In our paper, we assume that the buyer knows the value of all parameters (in equation 4) except each supplier's unit production cost. We proceed to determine the expected price of the first rejected supplier.

Let $P_{[1]}(\frac{\Omega}{m}) \leq P_{[2]}(\frac{\Omega}{m}) \leq \dots \leq P_{[m+1]}(\frac{\Omega}{m}) \dots \leq P_{[n]}(\frac{\Omega}{m})$ denote the order statistics of the unit capacity reservation price

(bids) received and $P_{[m+1]}(\frac{\Omega}{m})$ is the lowest bid amongst the rejected suppliers. Similarly, let

$v_{[1]} \leq v_{[2]} \leq \dots \leq v_{[m]} \leq \dots \leq v_{[n-1]} \leq v_{[n]}$ denote the order statistics of suppliers' costs.

From (4), it is clear that. $E\left(P_{[m+1]}(\frac{\Omega}{m})\right) = P_o - \frac{1}{2b}\left(2\mu - \frac{\Omega}{m}\right)\left(P_o - E(v_{[m+1]})\right)$

From the buyer's perspective the v_i 's are uniformly distributed between v_h and v_l , one can get closed form expression for the expected value of the order statistics. Using the order statistics for v , we obtain,

$E(v_{[m+1]}) = v_l + \frac{m+1}{n+1}(v_h - v_l)$. Substituting it in the above equation and simplifying we get an expression for

expected unit price to be paid for reserving the capacity of the selected suppliers

$$E\left(P_{[m+1]}(\frac{\Omega}{m})\right) = P_o - \frac{1}{2b}\left(2\mu - \frac{\Omega}{m}\right)\left(P_o - v_l - \frac{m+1}{n+1}(v_h - v_l)\right). \quad (6)$$

Therefore, equation (6) gives the unit expected price at which the buyer will award the contract to the first m lowest cost suppliers. Substituting (6) into the buyer's objective function in (5), we can re-write the cost equation, for the buyer, as

$$C(\Omega, m) = \Omega \left[P_o - \frac{1}{2b}\left(2\mu - \frac{\Omega}{m}\right)\left(P_o - v_l - \frac{m+1}{n+1}(v_h - v_l)\right) \right] + P_o E \max(0, D - \Omega) \quad (7)$$

Model Analysis

We now analyze the case for the stochastic demand. We assume that D , the buyer's demand, is a random variable representation by a distribution $F(x)$. The buyer would like to minimize the cost of procurement given the stochastic nature of the demand and the existence of n qualified suppliers to choose from. The buyer's problem boils down to an optimal choice of Ω and m . We consider two cases of this problem and derive expressions and insights into the problem. We assume that the buyer's demand distribution is continuous and differentiable in its domain.

Proposition 1: The optimum number of suppliers, m^* , and the quantity reserved, Ω^* , is given by

$$m^* = \min \left(\sqrt{\frac{\Omega^*}{2\mu} \left(\frac{(P_o - v_l)(n+1)}{(v_h - v_l)} - 1 \right)}, n-1 \right)$$

and

$$F(\Omega^*) = \frac{\left(P_o - v_l - (m^* + 1) \frac{v_h - v_l}{n+1} \right) \left(\mu - \frac{\Omega^*}{m^*} \right)}{bP_o} \quad (8)$$

In the above equation $F(.)$ is the distribution of the buyer's demand. For a general demand distribution it is not possible to get an explicit solution for Ω^* but it is possible to obtain the solution for m^* and Ω^* numerically. However, explicit solution can be derived when D is uniformly distributed.

Corollary 1: If the buyer's demand D is deterministic and is given by Ω (that is $\Pr(D = \Omega) = 1$) then the optimum number of suppliers, m^* , is given by

$$m^* = \sqrt{\frac{\Omega}{2\mu} \left(\frac{(P_o - v_l)(n+1)}{(v_h - v_l)} - 1 \right)}. \quad (9)$$

In Corollary 1, the buyer's mean demand forecast is relatively accurate and is given by Ω . In this model the buyer does not have to procure from the spot market and instead gets her entire requirement from the reservation contract with the suppliers. The size of the supply base increases with $\sqrt{\Omega}$ which makes the contract relatively stable in the sense that small variation in demand forecast will not change the size of the supply base.

Through numerical analysis we have found that as demand uncertainty increases, the buyer will reduce the supply base. Moreover, the quantity allocated per supplier will also reduce. The optimal reserve capacity is less than the buyer's mean demand. An intuitive explanation to this follows from the fact that the buyer has to take-or-pay for the reserved capacity (take-or-pay contracts are discussed in Cachon 2003 and references therein). In other words if the buyer reserves "excess" capacity with the suppliers then that is lost if demand realization is low. With an increase in demand uncertainty the buyer becomes conservative and reserves less capacity and would prefer to source most of his requirement from the spot market. On the other hand, when the demand variability tends towards zero the optimal number of suppliers that will be selected is given by equation (9), which is to be expected.

Conclusions

This paper addresses the capacity reservation issue in detail and analyses alternative strategies that a buying firm would like to adopt. Suppliers participating in such contracts are likely to quote higher price at higher levels of utilisation and will have several motivational elements to participate in the contract. The optimal number of suppliers to contract capacity remains robust to changes in model parameters. However, variability of demand distribution has significant effect on the optimal capacity to contract.

Future work on extending the model includes analysing for other probability distributions for demand and suppliers' capacities. The assumption of a uniform distribution for spot market demand and suppliers' capacity has, on the one hand enabled greater analytical treatment of the model, and on the other hand makes the problem less general. However, we utilise this trade-off to develop greater understanding of the problem and derive some managerial insights.

Furthermore, modelling transaction costs related to the pre-selection process and dealing with multiple suppliers in a post-selection setting will sharpen the insights. In this paper we have not modelled the transaction costs of dealing with the m suppliers. For a coordination cost function of the form Cm^α , where $\alpha > 1$ and C is a positive parameter, the cost structure will continue to be convex. Therefore, the structural properties of our model will not change, although one can expect the value of m to be lower than what our model has currently estimated. However, modelling transaction costs related to the pre-selection process and dealing with multiple suppliers in a post-selection setting in a more general form will sharpen the insights. Another interesting question to study is the structure of the contract and the policy framework in cases where cost and capacity are correlated.

Note: We omit the proof and algebraic details for all propositions in this paper for the sake of brevity. The proofs are available with the authors.

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A Conceptual Model of the Marketing Practices in Small and Medium Information and Communication Technology (ICT) Companies

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Abstract

Effective strategic marketing practices play a crucial role in the success of both large and small firms. In spite of their recognised importance to firms, a review of Small and Medium Enterprise (SME) literature and high technology marketing literature revealed a gap in understanding the marketing practices of small and medium high technology firms. In the high technology sector, small and medium Information and Communication Technology (ICT) companies are increasingly expanding their role in the information intensive global economy. The impact of marketing practices on the performance of such companies receives little research attention, even though it is recognised that marketing practices contribute significantly to firm performance. This research explores the marketing practices that are adopted by small and medium ICT firms, and proposes a conceptual model of the strategic marketing practices adopted by these firms and their influence on firm performance.

1.0 Introduction

Small and medium enterprises (SMEs) constitute a substantial part of many economies of the world and they play a pivotal role in the economic development of individual countries (Kuratko et al., 2001; Graham, 1999; Knight, 2000; Hill, 2001; Siu, 2000, 2001). SMEs exert a strong influence in many economies as a major source of employment (Chuong Sum et al, 2004; Ayyagari, et al., 2007) and exports (Lages and Montgomery, 2004). Particularly, SMEs play a major role in the technological progress of many countries as they account for high proportions of innovations in products and services (Chuong Sum et al., 2004; Beaver and Prince 2002; Storey, 1994; Kuratko et al., 2001).

Because of their impact on the economy and their contribution to the society, much importance is given to all those studies that contribute to the success of SMEs. A review of SME literature shows that marketing is increasingly recognised as the key to small business growth and therefore, there is a growing research interest in the marketing practices of SMEs (Gilmore et al., 2001; Blankson and Stokes, 2002; Hill, 2001; Siu, 2000; Siu et al., 2004; Morrison et al., 2003; Lee et al., 2001). Most of these studies have indicated the role of marketing to be critical in the sustainability of the small and medium firms. It is posited that small business failures can result from lack of marketing and poor marketing practices, including planning and implementation (Hogarth-Scot et al., 1996; Zatzalo and Gray, 2000; McCartan-Quinn and Carson 2003). Effective marketing plans in a small business are found to enable the firm to become more responsive and adaptable to the market place (Brooksbank, 1999) and it provides a framework for business objectives, decisions and actions (Pelham and Wilson, 1995). Also studies done by Brooksbank and Taylor (2002) in New Zealand, indicate that in small firms, strategic marketing practices are associated with high performance.

Despite the increased recognition that marketing is crucial for the growth and sustainability of small firms, it remains under researched in SMEs. The researchers in small business marketing concede that the marketing theory development in SMEs is limited and insufficient (Davies and Klassen, 1991 cited by Siu and Kirby, 1998; Lee et al., 1999; Hill and Wright, 2001; Sengupta and Chattopadhyay, 2006; Simpson et al., 2006). It is evident that there is insufficient knowledge about marketing in small business and an appropriate small business marketing theory,

specifically related to the understanding and knowledge of strategic marketing, is absent (McPherson, 2007; Sengupta and Chattopadhyay, 2006; Lee, Lim and Tan, 1999).

The revolution of Information and communication (ICT) sector with the liberalization of trade restrictions and globalization has resulted in an increase in the number of high technology firms all over the globe (Galbraith, Rodriguez and Denoble, 2008). Locke (2004) contends that the two forms of technology- communication technology and information technology, converged creating a new type of technology known as ICT. The communication technology consists of the hardware equipment, organisational structures and social values by which individuals collect, process and exchange information with other individuals. Information technology refers to computer and electronic-based technology, generally encompassing the development, installation and implementation of computer systems and applications. Thus ICT facilitates the exchange of information on a many-to-many basis specifically through computer and electronics based communication systems. These firms are viewed as a source of flexibility and innovation, and are identified as significant components of economic strategies for job and wealth creation. Keogh and Evans (1999) contend that these new technology based firms are viewed as having a very important role to play in the economy, as they potentially grow into major employers and go beyond their local region into international markets. They also make a major contribution to industrial innovation and technological change (Akgun, Lynn and Byrne, 2004).

ICT is classified as a high technology product as it exhibits characteristics similar to those of high technology products. Like high technology products, ICT products are also characterised by a high degree of market, technological and competitive uncertainty (Mohr 2000, Kaynak and Hartley, 2005). Their markets are also characterised by a continuous shortening of product and market cycles (Benkenstein and Bloch, 1994), high research and development expenses and rapid obsolescence of products. Hence all those studies that helps to understand the marketing environment of high technology firms are referred in this research.

The importance of marketing in bringing high technology to the market is well documented by various researchers (Berry and Taggart, 1998; Boussouara and Deakins, 1999; Uslay et al., 2004; Traynor and Traynor, 2004; Meldrum, 1995; Davies and Brush, 1997). It is argued that, high technology firms find it increasingly difficult to maintain competitive advantage through technological superiority alone (Traynor and Traynor, 2004). This is because the technological competence like innovation and agility contributes to only short term competitiveness (Kaynak and Hartley, 2005). As the firm progresses in size, competitiveness and sophistication of technology, more sophisticated marketing strategy is critical along with the technological superiority (Traynor and Traynor, 2004; Weinstein, 1994). As a consequence of the technology oriented-culture, firms struggle to match their capabilities with customer needs. This calls for the need for a greater marketing oriented culture in high technology firms, as marketing is identified as the single dominant interface between the firm and the customers (Uslay et al., 2004; Boussouara and Deakins, 1999).

Research done on the marketing of high technology products asserts that it differs significantly from the marketing of other low technology products (Gardner et al., 2000; Mohr, 2000, 2005; Meldrum, 1995; Yadav, Swami and Pal., 2006, John et al., 1999). Despite the differences in the marketing practices and the importance of marketing to the success of ICT firms, very little detailed study has been undertaken into the strategic marketing practices of these firms (Berry and Taggart, 1998; Hills and Sarin, 2003). The gap in literature for the general theory development related to the marketing for high technology firms is also been identified by Uslay, Malhotra and Citrin (2004). In their study they note that there is a need for both conceptual and empirical research regarding the marketing of high technology products.

The above discussion on the background of the study brings out two strands of literature that defines the central problem which needs to be addressed – the lack of research on marketing in SMEs in general and the gap in literature on the marketing practices of ICT SMEs in particular. This establishes the need to understand the marketing practices adopted by the ICT SMEs and eventually their impact on firm performance. This research aims to address this gap in the marketing literature and thereby seeks to enhance the understanding of the marketing practices in ICT SMEs.

The aim of this research is to contribute to both to theory and practice, by seeking to answer the broad question: *How do the marketing practices adopted by ICT SMEs contribute to firm performance?* By answering this question, the research aims to identify a set of best marketing practices for the ICT SMEs. In this paper, we discuss the

development of a conceptual model of the marketing practices adopted by small and medium ICT firms and their influence on firm performance.

2.0 Theoretical background and conceptual framework:

This section is organised as follows: Section 2.1 gives an overview of the contingency theory and its applicability in understanding the marketing practices of ICT SMEs. Section 2.2 presents the preliminary conceptual framework that is proposed for the marketing practices in small and medium ICT firms.

2.1 An overview of the contingency theory and its applicability for the current research

Contingency theory suggests that there is no universal set of strategies which is optimal for all businesses or firms, and therefore different strategies should be designed for firms operating in different environmental contexts (Gardner, et al., 2000, Zeithaml et al., 1988). Contingency approaches are positioned within management as mid-range theories between the two extreme views which states that either universal marketing principles exists and are equally applicable to different sizes of firms, or each small firm is unique and each situation should be analysed separately.

According to Zeithaml et al., (1988), contingency theory involves three types of variables - contingency variables, response variables and performance variables. Contingency variables are those situational characteristics which are usually exogenous to any firm. In most instances, the opportunities to control or to manipulate these variables are very limited. Response variables are the firm's actions taken in response to current or anticipated contingency factors. Performance variables are the dependent measures. They represent specific aspects of effectiveness that are appropriate to evaluate the fit between contingency variables and response variables for the situation under consideration. Based on this theory, Zeithaml et al., (1988) posited that, for a firm, if there are any differences in the situational characteristics, it will result in differences in structures, strategies and decision processes adopted by the firm. Hence, if the situational characteristics are different for the firms under study, a different set of marketing strategies should be designed and adopted by the small and medium ICT firms, which will influence the performance of these firms.

A review of literatures shows the applicability of contingency theory in understanding marketing planning and implementation in both small and medium enterprises and high technology firms like the ICT firms. It has been widely recognised that the marketing practices adopted by SMEs are generally different from those found in larger firms (Gilmore et al., 2001; MacGregor 2004; Carson and Cromie 1990). SMEs are known to have three broad constraints on the firms marketing activity. They are limited resources like finance, marketing knowledge and time, limited marketing expertise and limited impact on the market place (Carson and Cromie, 1990; Gilmore et al., 2001; Hogarth-Scott, Watson and Wilson, 1996, MacGregor 2004). They are also said to have much less control over their external environment (Westhead and Storey 1996; Hill and Stewart 2000 cited in MacGregor 2004; Wolff and Pett, 2006). It is argued that these characteristics influences the marketing practices adopted by the SMEs. Hence, Siu and Kirby (1998, 2002) proposed the use of contingency approach which acknowledges that various factors affects the small firms' marketing performance and that there is no universal set of strategic choices that is optimal for all businesses regardless of their resources or business environment in which they operate.

It is evident from literature that, the marketing of high technology products differs significantly from the marketing of other low technology products (Gardner et al, 2000; Mohr, 2000, 2005; Meldrum, 1995; Yadav, Swami and Pal., 2006, John, Weiss and Dutta, 1999). Various studies have identified unique circumstances which give rise to challenges and issues in high technology marketing. Mohr (2000) and Mohr, Sengupta and Slater (2005) posit that high technology marketing is influenced by different industry/market situations. The marketing environment is characterised by the interaction of three common characteristics. They are market uncertainty, technological uncertainty and competitive volatility. The interaction of these three characteristics typifies a high technology marketing environment. The three identified characteristics are discussed below.

Market uncertainty refers to the ambiguity about the type and extent of the customer needs that can be satisfied by a particular technology. According to Mohr et al., (2005) market uncertainty arises from consumer fear, uncertainty and doubt about what needs the new technology will address and how well it will meet those needs

Technological uncertainty is, not knowing whether the technology or the company providing it, can deliver on its promise to meet specific needs. Five factors give rise to technological uncertainty (Mohr et al., 2005). The first comes from questions about whether the new innovation will function as promised. The second relates to the timetable for the availability of the new product. The third technological uncertainty arises from concerns about the supplier of the new technology-about effective servicing. Fourth, the concern over the unanticipated side effects. Finally, the technological uncertainty is brought about by the rapid obsolescence of technology.

Competitive volatility refers to changes in competitive landscape. There are three sources of competitive volatility (Mohr et al., 2005). Uncertainty over which firms will be new competitors in the future makes it difficult for the firms to understand the high-technology markets. New competitors from outside existing industry boundaries bring their own set of competitive tactics which the industry incumbents may be unfamiliar with. New competition often arises as product form competition, or new ways to satisfy customer needs and problems.

The marketing of high technology products occurs at the intersection of the above discussed variables, viz, market uncertainty, technological uncertainty and competitive volatility (Mohr, Sengupta and Slater, 2005). This marketing environment is best described as the uncertain and turbulent which differentiates high technology marketing from the marketing of other low technology products. Based on the contingency approach, this difference in the business environment calls for modification of the standard marketing strategies and tactics that are to be adopted by the high technology firms (Uslay et al., 2004; Mohr 2000; Yadav et al., 2006; Gardner et al., 2000; Weerawardena and O’Cass 2004, Meldrum, 1995). Cravens et al., (2000), points out that the rapid advancement in technology and the turbulent marketing environment necessitates the businesses to have more distinctive marketing strategies which should be implemented effectively for success in high technology markets. The research done by Gardner et al., (2000), is an example of the application of contingency theory to study marketing of high technology products. They used the contingency theory to study the environment, strategy and performance link for high technology products, based on the premise that high technology marketing environment is different.

Applied in the present research context this framework implies that, because the marketing practices of both SMEs and ICT firms are influenced by their unique situational or contingency factors, a different set of marketing strategies should be designed for small and medium ICT firms which influences the performance of these firms and thus their survival and growth in the market.

Also, contingency theory is applied in this research as there are no other proven theories for the marketing of ICT products in the SME sector. There are no available conceptual or empirical models which have been used in the previous studies on the marketing practices of ICT products in either large or small and medium enterprises.

To summarize, contingency theory is found to be more appropriate for the study on the marketing practices adopted by the ICT SMEs. This is supported by scholars in SME marketing and high technology marketing. The next section explains the conceptual model that guides the study and discusses in detail, the relationships between the constructs in the framework.

2.2 Conceptual model of the strategic marketing practices of ICT SMEs and their influence on firm performance.

The conceptual model is presented (see figure.1) and its development has been facilitated by integrating literature in the areas of marketing practices of large and small firms. It is developed to address the existing gap in the current literature in the area of marketing practices and firm performance in the SME sector with reference to the ICT firms.

The proposed conceptual framework posits that the strategic marketing practices of the firm leads to customer satisfaction which in turn influences the performance of the firm. The predictor variables that are identified in this study are marketing research, segmentation, targeting, differentiation, positioning marketing mix and social media. Firm performance is the dependent variable and customer satisfaction is the intervening variable. The relationships among the constructs are explored in the discussion that follows.

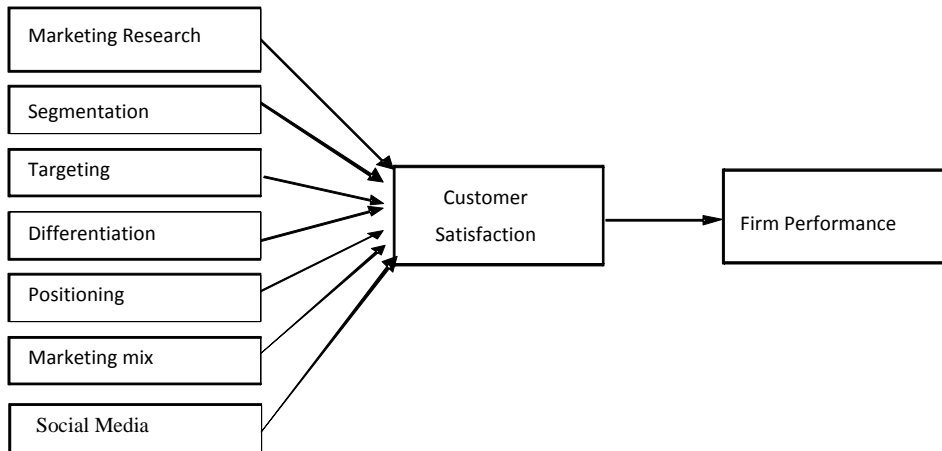


FIG.1. CONCEPTUAL FRAMEWORK OF THE STRATEGIC MARKETING PRACTICES OF ICT SMES AND THEIR INFLUENCE ON FIRM PERFORMANCE.

2.2.1 Strategic marketing management

This includes the strategic analysis, planning and implementation of marketing strategies to deliver value to satisfy customers and to achieve corporate financial objectives (El-Ansary, 2006; Benkenstein and Bloch, 1994). It facilitates effective decisions that lead to the creation of economic value to satisfy customers and results in higher firm performance (Slater and Narver, 1995; Doyle and Wong 1998; Slater, Hult and Olson, 2007). The strategic marketing practices used in the framework as dependent variables are adopted from the marketing strategy formulation and implementation processes as defined by El-Ansary (2006). The marketing strategy formulation process, which is the core marketing strategy, is defined as the total sum of the integration of segmentation, targeting, differentiation and positioning strategies designed to create, communicate and deliver an offer to a target market. This involves understanding customer behaviour (market research), social media, segmenting the market, selecting target segments, designing the offer to fit target market needs, differentiating the offer and positioning it in the customers mind. The marketing strategy implementation process or the marketing management is defined as the process of creating the value (product/price), communicating the value (promotion) and delivering the value (channels of distribution). Thus it is the process of deploying the marketing mix to create, communicate and deliver value.

Studies done on marketing parameters in SMEs are widely dispersed. Watkin (1986) identified strategies to gain competitive advantage through market segmentation in small enterprises. Peterson (1991), revealed the use of target marketing in small firms. The high performing small firms in mainland China are found to use strategic marketing practices like marketing research and positioning through product mix, promotion mix and distribution mix (Siu, 2000). Small firms are also found to be product oriented and price oriented and use some form of marketing mix to grow their business (Carson, 1990). Upon the review of literature, Boussouara and Deakins (1999) concluded that small firms widely use market segmentation, targeting and positioning to compete in its chosen market and most firms adopt the use of the elements of the marketing mix (product, price, place and promotion). Based on the above discussions, the preliminary conceptual model is developed integrating the literature available on marketing in large and small firms. For this study, the elements of the strategic marketing practices of the small and medium ICT firms are chosen as the predictor variables. The strategic marketing practices are identified to

include marketing research, segmentation, targeting, positioning, marketing mix practices and social media practices in the conceptual framework.

In literature, plenty of evidence exists proving the contribution of strategic marketing to firm performance. For example, Doyle and Wong (1998), found a strong correlation between marketing and business performance. In their study, they contend that marketing strategy and marketing planning are also highly correlated with performance. Knight (2000) argued that in the globalised environment, adopting suitable marketing strategies to suit the uncertain and turbulent environment is positively associated with firm performance.

It is acknowledged that application of strategic marketing management practices in high technology SMEs increases customer satisfaction and thus enhances firm performance (Mohr, Sengupta and Slater, 2005). Stratis and Powers (2001) also contend that under conditions of strategic uncertainty, strategic marketing management processes are significantly more important as determinants of long term performance. Since high technology environments are fraught with change and uncertainty (Mohr, Sengupta and Slater, 2005), the application of strategic marketing management practices in small and medium ICT firms increases customer satisfaction and thus enhances firm performance.

2.2.2 Customer satisfaction

Firms seek to increase customer satisfaction because satisfied customers ultimately lead to financial benefits to the firms who serve them (Ranaweera and Prabhu, 2003; Gupta and Zeithaml, 2006). There is significant evidence in the marketing literature that customer satisfaction is an important driver of firm's profitability. For example, Anderson, Fornell, and Lehmann (1994) and Rust, Moorman, and Dickson (2002) report a positive impact of customer satisfaction on financial performance, such as return on investment and return on assets. Yeung and Ennew (2000) in their study suggested that customer satisfaction has a positive impact on profitability. A study on the personal computer industry by Smith and Wright (2004), suggests that the firm's ability to satisfy its customers provides a sustainable competitive advantage that allows higher average prices, higher sales growth and higher return on assets. Customer satisfaction is also recognised as one of the market assets that can be leveraged to produce superior financial performance (Clark, 1999).

According to Yu (2003) and Graver (2003), managers always seek to improve organizational effectiveness by identifying organizational metrics in response to competitive market place, which will contribute to long term success. They contend that organizations are touting for continuous improvement strategies to stay ahead of the competition. In order to drive the continuous improvement, researchers are placing more importance on measuring organizational performance from the customer's perspective. A growing number of organizations are using customer satisfaction measures in developing, monitoring and evaluating product and service offerings (Anderson et al., 1994). This is because, the firm's ability to satisfy customers provides a sustainable competitive advantage which is necessary to operate in today's competitive global environment (Smith and Wright, 2004; Graver, 2003; Kotler, 2007).

Customer satisfaction is a more fundamental indicator of firm's performance due to its link to behavioural and economic consequences that are beneficial to the firm (Anderson et al., 1997). According to Gupta and Zeithaml (2006), customer satisfaction is expected to lead to repurchase behaviour (behavioural consequence), which translates into increased sales and profits (economic consequence). Also, customer satisfaction is the central element in the marketing exchange process (Martin-Consuegra, 2007). The marketing concept starts with a well-defined market, focuses on customer needs, coordinates all the activities that affect customers, and produces profit by satisfying customers (Kotler, 2007). Hence it is appropriate to use customer satisfaction as an intervening variable.

2.2.3 Firm performance

Firm performance measures attempt to evaluate the extent to which the firm's financial and other objectives are achieved (Jarvis et al., 2000; Knight, 2000). It has been acknowledged that performance is a complex and multidimensional construct (Wolff and Pett, 2006). Firm performance may at various times be reflected by financial outcomes, sales or market growth, customer satisfaction, or establishing a foundation upon which future growth may take place (Wolff and Pett, 2006). From the marketing practice perspective, performance is seen to be influenced

primarily by the firm's management of the marketing mix, the usefulness of its marketing research, the appropriateness of its positioning strategies and the nature of its marketing goals (Ellis, 2005).

Within SME research, the issue of firm performance has also taken a place of prominence as a dependent variable (Wolff and Pett, 2006). Given the resource constraints of small firms and their susceptibility to distress, hardship, and outright failure with respect to environmental change and uncertainty, a better understanding of the contributing factors and mechanisms for high performance is desirable and has significant implications for SME owner managers. This study focuses on the achievement of firm performance by small and medium ICT firms, through customer satisfaction, by the execution of the strategic marketing practices.

Many different criteria for evaluating performance have been used (Cameron, 1986, cited by Carpano and Chrisman, 1995). According to Rust, Moorman and Dickson (2004), the measures of performance often prioritise profit maximisation (Jarvis et al., 2000). SMEs typically initiate ventures with several objectives, the most important of which are financial (Cavusgil and Zou 1994). The financial measures of performance includes profitability measures indicated by return on investment, profit margins (Jarvis et al., 2000; Anderson et al., 1994); shareholder value (Gronholdt and Martensen, 2006); sales, market share and cash flow (Clark 1999, rust et al., 2004).

2.2.4 Marketing Research

Marketing research is a major source of information for marketing decision making, as it serves as the firm's formal communication link with the environment (Hart and Diamantopoulos, 1992). It helps in the identification of viable market opportunities, reduction of uncertainty and a better coordination of marketing activities. Market research is the most important basis for modifying products to meet the needs of consumers (Knight, 2000). In high tech markets marketing research is diligently used to gather information from the marketplace, to incorporate consumer needs into the product development and the marketing process (Mohr, Sengupta and Slater, 2005).

Marketing research is identified as a quality practice in smaller firms. It helps to identify customer needs. As firms meet these needs, the level of customer satisfaction increases, providing smaller firms with the competitive advantage which is vital for their operations (Kuratko et al., 2001). Analoui and Karami (2002) in their investigation found the positive impact of marketing research on firm performance. The positive effect of marketing research on firm performance is also identified in the study on marketing strategy making process by Lee et al (2006). In SMEs, it was found that company performance is positively associated with self-generated market research.

2.2.5 Segmentation

Segmentation helps to homogenize the market heterogeneity, that is, through segmentation, customers are aggregated according to similar buying needs and behaviour will tend to demonstrate a more homogenous response to marketing programmes (Dibb, Stern and Wensley, 2002). It is a known fact that businesses adopting a market segmentation approach can enhance their firm performance. According to Dibb et al., (2002), segmentation enhances marketing effectiveness and improves an organization's ability to capitalise on marketing opportunities.

Claycamp and Massey (1968) contend that marketers are interested in the segmentation concept because of its profit implications. Also Frank et al., (1972), cited by Dibb et al., (2002), infers that market segmentation is grounded in economic pricing theory, which suggests that profits can be maximized when pricing levels discriminate between segments. O'Donnell et al., (2002), found that small firms tend to be more successful when they adopt concentrated marketing segmentation or niche strategies. There is evidence that segmentation leads to a better understanding of customers (Dibb et al., 2002). Lai and Cheng (2005), in their research identify that market segmentation improves customer satisfaction.

2.2.6 Targeting

The steps in target marketing are to identify profitable customers, learn their values, analyse the offerings they need and use, focus marketing on them and monitor their satisfaction (Duboff, 1992, cited by Cahill, 1997). Target marketing is important, argues Cahill (1997), in that it forces a strategic focus to the firm to determine the best fit between the customer and its product, and to be customer focussed.

When target market is well-conceived, it can produce stronger customer satisfaction and brand loyalty and give firms an edge against competitors (Peterson, 1991). El-Ansary (2004) also points out that targeting ensures

customer satisfaction and thus enhances customer loyalty. Slater et al., (2007) in their study on high technology markets, found that targeting of appropriate market segments is a critical marketing activity with the ultimate goal of achieving superior performance. A study on successful marketing practices by Brooksbank (1991), points out the consistent usage of targeting in the marketing planning process contributes to firm performance in successful firms.

2.2.7 Differentiation

Differentiation seeks to make the offering distinct and different in the market-place (Hooley et al., 1998). A firm can differentiate its market offering along five dimensions - products, services, personnel, channel and image (Kotler, 2007). The pursuit of a differentiation strategy enables a firm to target and profit from niche market more effectively (Li and Li, 2008). El-Ansary (2006) has conceptualized that differentiating a product ensures customer satisfaction and increases their loyalty towards the product. The differentiation strategy enhances customer satisfaction by meeting a particular need through innovative products, superior quality and technology, a differentiated brand image, good service and so forth, which distinguishes the brand from its rivals (Li and Li, 2008)

Porter (1980, 1985), cited by Hooley et al., (1998), suggests differentiation as one of the fundamental approaches to create advantage over their competitors. Doyle and Wong (1998), points out that the long term performance of the business depends most crucially on its ability to create a differential advantage. It is posited that the differentiation strategy ensures durable performance superiority after it is established (Knight and Cavusgil, 2004, Li and Li, 2008)

2.2.8 Positioning

The end result of any positioning strategy is the successful creation of a customer-focussed value proposition, a cogent reason why the target market should buy the product. Positioning is important for any type of product and refers to the way in which a market perceives a particular offering in relation to its alternatives (Meldrum, 1995). Strategic positioning can also be referred to as a strategic action to find the best mix of strategies to defend a firm against the competitive forces in the industry (Kim et al., 2008).

Positioning is a marketing process which helps in designing value to the customer to ensure their satisfaction and gain their loyalty (El-Ansary, 2006). Hooley et al., (2001) contend that positioning satisfies targeted customers. Positioning enhances the competitive advantage of firms and is geared towards creating value for any firm and its offerings, thus enhancing firm performance and reducing systematic risk (Kim et al., 2008). A study by Blankson et al., (2008), acknowledges the importance of positioning strategies' capability in contributing to firm performance.

2.2.9 Marketing mix

The goal of the marketing mix is to satisfy customers through offering the right product at the right price with the right promotion and place (i.e., distribution channels) in order to satisfy customers' needs better than competitors, and thus achieve the firm's corporate objectives (Indounas, 2006; Zineldin & Philipson, 2007). Covillo et al., (2006), in their study, explain that firms use marketing mix to attract and satisfy customers.

The marketing mix of successful firms is found to possess a strong competitive advantage which is seen as key to competitive success (Brooksbank, 1994). El-Ansary (2006) also contends that the marketing mix is a strategic marketing implementation process through which the firm's corporate financial objectives are attained.

Market driven product strategies are found to deliver superior value to the customers and thereby enhance customer satisfaction (Cravens et al., 2000). Product plays a central role in determining a firm's performance. Cravens, Piercy and Prentice (2000), posited the positive impact of product strategy on firm performance. Carpano and Chrisman (1995) investigated the relationship between international product strategies and firm performance. It was found that the extent to which a product is standardized influenced a firm to unlock opportunities for competitive advantage and thus has strongest implications for competitive success.

According to Hermann et al., (2007), price is an important element in consumer's purchases and therefore it has large influence on customer satisfaction judgements. In his study, price fairness perceptions are found to be positively correlated to customer satisfaction. Pricing directly influences the inflow of resources- that produces revenue (Martin-Consuegra et al., 2007; Kotler, 2007; Vaidyanathan and Aggarwal, 2003). Lancioni (2005) pointed

out that a company's pricing strategy has a substantial economic impact on the firm performance. Pricing is a powerful marketing tool and leads to profitability in the long-run (Indounas, 2006).

Narus and Anderson, (1996) have identified that effective distribution of products and services satisfies customer needs. According to Chaturvedi (2005), the distribution channels are often a long term mechanism in reaching, satisfying and keeping customers for life. Increasingly it is being recognized that distribution represents an untapped opportunity for major cost savings and productivity improvements (Narus and Anderson, 1996). El-Ansary (2006) contends that the channel of distribution has a positive impact on firm performance.

Promotional mix provides the main channels of communication utilised by a firm to present its messages to potential customers. The concept of promotion is replaced with the concept of "Integrated marketing communication". The modes of integrated marketing communication are means to communicate with target customers with the goal to increase sales and profits (Peter and Donnelly, 2007). Promotions have enormous impact on sales and brand loyalty (Gardner and Trivedi, 1998). Price promotions cause short term increase in sales (Trivedi and Morgan, 1996). Promotions are found to have an impact on sales volume (Kotler, 2007), which is a financial measure of firm performance. El-Ansary (2006) posits that an effective promotional mix contributes to firm performance along with the other marketing mix elements.

Promotion, being a strategic marketing process, forms part of the value-creating activities of a firm for its customers (Trivedi and Morgan, 1996). El-Ansary (2006) conceptualizes that promotional strategies leads to customer satisfaction. Some researchers suggest that promotion leads to customer satisfaction and customer satisfaction with a promoted brand leads to increased repeat purchasing even after the promotion has been withdrawn (Rothschild and Gaidis, 1981 cited by Gardner and Trivedi, 1998).

2.2.10. Social Media

Social media marketing is the contemporary form of word-of-mouth marketing, done with the intention of influencing the customer communications by professional marketing techniques through the World Wide Web (Kozinets et al., 2010). Social media facilitates the companies to talk to their customers directly and also the companies to listen to what their customers are saying about them and their products and services, thereby enhancing the relationship between them (Defelice, 2005). Because social media helps to know the pulse of the customer and deepens the relationship with the customers, it is proposed that it would influence customer satisfaction. It is found to drive customer purchase intentions, build brand image thereby influencing the performance of the firms (Murdoch, 2009).

The above discussion explains the individual constructs in the conceptual framework. The relationships among the predictor variables, dependent variables and the intervening variable have been explored.

3. Conclusion

As noted, SMEs are a key segment and driver for most of the economies. Understanding how these SMEs achieve high performance has significant implications for the SME owner/manager and the economy in which the SME operates. High levels of performance can facilitate firm growth and subsequent profit performance, which in turn can yield employment gains and contribute to the general economic growth of the nation. Given the resource constraints of small firms, and their outright dependence on environment changes and uncertainty, a better understanding of the contributing factors and mechanisms for high performance is desirable.

A key contribution of the research to the literature is the identification of the industry-specific marketing practices adopted by the ICT firms. ICT sector is a priority sector and is clearly of growing importance in many economies. Given the importance of the ICT sector for the economy, insights into their marketing practices enhances the understanding of their contribution to firm performance. The present study assumes significance in that it identifies and documents those marketing practices that are adopted by the small and medium ICT companies in New Zealand and India. The study would provide the SME owner/managers with information on the successful marketing practices for the ICT market, which would enable the owner/manager to adapt them to the firm's requirements.

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A Communication-Based Conceptual Mapping of the Supply Chain and its Link with Corporate Reputation

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Abstract

This exploratory qualitative study highlights communication support to supply chain management, emphasizing how relationships and processes are affected by communication flows and depicting the links among supply chain processes, communication and corporate reputation. Our study provides a preliminary communication mapping, emphasizing key stakeholders involved in supply chain management, communication roles enhancing logistics performances, and channels supporting information and physical flows among partners. It is based on a literature review, multidisciplinary academic meetings, interviews with supply chain directors of a global company operating in a reputation-sensitive environment, and desk analysis of company's documentation. Findings offer a preliminary conceptual framework of communication along the supply chain, pointing out its primary role in identity management and image building, and its supporting role in strategic and operational activities. Findings reveal that communication acts as "cultural glue", "trade-off and compensation", "relationship development and maintenance", and "alignment and integration" along the supply chain, fostering corporate reputation.

Theoretical Background: State of the Art and Research Gaps in Supply Chain Management and Strategic Corporate Communication Literature

The supply chain activities are focused on optimizing upstream and downstream stakeholder relationships with the aim of increasing profit margins and sustain competitive advantage (Christopher, 2005; Crespi, 2009; Chopra and Meindl, 2010). Previous studies highlighted the existing links among supply chain management and the network approach to the analysis of the industrial contexts, based on the concept of *exchange-relationships* between customer and supplier. These relationships find their basis in the "social exchange" theory (Thibaut and Kelley, 1959), which emphasizes the function of communication as a fundamental tool to create, develop and maintain trust and commitment among the parties (Anderson and Narus, 1990; Anderson and Weitz, 1992). Other supply chain studies emphasized that each business acts concurrently both as a supplier of certain actors and as a customer of others, having to manage lots of relationships with a variety of downstream and upstream publics, whose complexity varies according to the company positioning inside its own network (Kothandaraman and Wilson, 2001; Huemer, 2002, Tunisini, 2003; Bocconcelli and Tunisini, 2007). From the integration and the interdependence between the firm and its network partners are generated continuous exchanges of resources both material and immaterial (e.g. knowledge, information, culture, trust, commitment, etc.), intense processes of coordination among the different activities, and economic value for all the involved parties (Tunisini, 2003). An effective supply chain based on shared information and trust between partners leads then to successful supply chain implementation. More recent studies highlighted the different value creation logics developed in stakeholder relationships to deliver superior performance (Jayaram et al., 2004; Hammervoll, 2009a, 2009b; Helm and Jones, 2010), as well as relationships drivers and evolutionary phases (Chu and Fang, 2006; Eggert et al., 2006; Claycomb and Frankwick, 2010).

Even though supply chain management literature is rich and valuable, currently there is a lack of studies both pointing out the different roles that communication can play in facilitating the interaction dynamics between business partners and supporting process performances, and investigating the existing links among supply chain processes, communication, and corporate reputation. At this regard, an effective management of business

relationships encouraged by a systematic mapping of communication roles and channels supporting supply chain phases could outline distinctive competences and help the firm defining its corporate positioning.

Communication has been identified in the strategic corporate communication literature as a primary business function (Brioschi, 1990; 2008; Brioschi and Caprara, 2010) necessary to coordinate the mutual exchange of information flows and relationship-based resources among business partners (Itami and Roehl, 1987; Corvi and Fiocca, 1996). As a "glue" of each activity (Corvi, 2007), communication has a notable impact on the social dimension of the relationship, being considered as a business function of creation and maintenance of trust between parties (Anderson and Narus, 1990). In business-to-business relationships, the interactive dimension of communication, defined as the main relational vector between the firm and its environment (Fiocca, 1993), allows the activation of the mutual adaptation process among the actors, supporting the continuity of the relationships in the long period (Dwyer et al., 1987; Fiocca et al., 2009). Communication is thus identifiable as a variable of relationship development and coordination among organizations (Mohr and Spekman, 1994). Furthermore, communication has been indicated in the literature as a fundamental embedded component of each business process, as well as a strategic dimension supporting corporate decision-making of the executive committee of a company (Invernizzi, 2000; Invernizzi et al., 2009).

Even though strategic corporate communication literature is wide and articulated from a theoretical standpoint, it currently lacks a pragmatic contextualization in the business environment. In this respect, applying corporate communication conceptual principles to supply chain process dynamics can offer a valuable contribution to the understanding of the strategic role of communication in supporting value creation processes and enhancing corporate intangible assets such as culture, identity, image and reputation.

Study Objectives and Method

Our paper is based on an exploratory qualitative study aimed at building a preliminary conceptual mapping of communication roles and channels supporting strategic and operational supply chain management. The study is based on an in-depth literature review on supply chain management and corporate communication, followed by the application of communication theoretical principles to supply chain management practices, resulting in a preliminary mapping supported by field managerial expertise, highlighting communicational effects on supply chain processes and corporate reputation. In particular, our study is aimed at:

- mapping key internal and external stakeholders involved in the various processes of the supply chain;
- underpinning the various roles that communication plays in supporting supply chain management, depicting how relationships and processes are affected by communication flows;
- pointing out communication channels and tools supporting information and physical flows among intra- and inter-firm stakeholders;
- depicting the links among supply chain processes, communication and corporate reputation.

As for the method, the adoption of a qualitative approach appeared to us appropriate to a study aimed at mapping and understanding communication flows along the supply chain since the general knowledge aims of qualitative research are to: explore a thematic area which is little known and on which existing literature is limited; map and make sense of complex situations and mutable phenomena, like those featuring supply chain processes; get a deep understanding of a phenomenon, with the aim of pointing out topical concepts and main issues, as well as ideal situations (principles and practices); build an overall conceptual framework, emphasizing in this case the role of communication in supporting supply chain processes and reputation building (Seale et al., 2007; Morse et al., 2009). In particular, our study followed a two-step approach to pursue the identified objectives, encompassing:

- *the building of a preliminary conceptual mapping*, emphasizing key internal and external stakeholders involved in supply chain management phases, communication roles enhancing logistics performances, and channels that can be used to support supply chain processes. This conceptual mapping reveals how communication fosters different drivers of corporate reputation along the strategic and operational phases of the supply chain. It combines a literature recognition dealing with uptodate theoretical principles of supply chain management and current significant issues in strategic corporate communication theory, with a series of interdisciplinary research

meetings among scholars having expertise in the fields of corporate communication, reputation management and supply chain management;

- a *preliminary testing, integration and revision of the conceptual mapping*, based on both in-depth interviews with the key informants in charge of the basic supply chain processes of a global company recognized for its significant productive and commercial presence worldwide, showing an integrated supply chain and operating in a reputation-sensitive environment, and a desk analysis of the company's basic documentation related to supply chain management.

The chosen firm is Campari Group, a global company with headquarters in Italy, worldwide leader in the beverage industry, listed on the Italian Stock Exchange and showing a globally integrated supply chain.

Campari Group operates in a highly reputation-sensitive environment for two basic reasons:

- products of the beverage industry have a strong impact on crucial aspects of daily individuals' life, such as their growth, their health, and their psycho-physical well being;
- raw materials and products in the beverage industry are highly perishable, underpinning the necessity to guarantee product freshness and rigour of quality controls along the value chain and requiring a high timeliness and accuracy in supply chain management to gain competitive advantage.

Since its establishment in 1860, Campari Group has developed a worldwide presence in 190 countries. The group has a rich brand portfolio covering three main segments: spirits, wines, and soft drinks. The interviewed managers are the Global Supply Chain Director of the Group, the Global Purchasing Director, the Global Operations Director and the Customer Management Director. Their long-term expertise in supply chain management allowed us to revise and consolidate the preliminary conceptual mapping, integrating academic and managerial views of how communication can support and enhance supply chain performance, fostering corporate reputation.

In our opinion the study offers a valuable contribution both at a conceptual and at a managerial level, since it represents a first attempt to cast light on the strategic importance of optimizing communication flows inside a firm's primary processes and with its external partners in order to enhance corporate value creation and competitive advantage opportunities in the current reputation-sensitive, turbulent environment.

Supply Chain Management: a Communication-Based Conceptual Mapping

The Role of Communication in Strategic Supply Chain Management

Strategic supply chain management can be identified under the four following profiles and is supported by a communication action carried out at various levels:

- a *competitive and value-creation profile*, related to the strategic role that the supply chain plays as a bridge between the firm and its market.

Such role should be supported by a managerial effort of the Supply Chain Directors to manage their functional identity and image towards all the firm's stakeholders. The supply chain identity should be based on a settled yet dynamic knowledge system regarding production processes and customer/supplier relationship management, contributing to the firm's value creation and competitive advantage. Communication in this case acts strategically at two levels: 1) it fosters the supply chain identity inside the firm, spreading among the personnel both the values stemming from the quality and customer relationship culture of the firm (*value-based communication*) (Fiocca, 2002), and the competences and skills aimed at increasing their intellectual capital, as well as the service quality they deliver (*educational communication*) (Invernizzi, 2004). In this sense, communication plays the role of *organizational glue* and *knowledge vector* inside the firm. The most appropriate communication channels are interpersonal meetings among supply chain managers (strategy & coordination meetings) and between them and their personnel (e.g. periodical meetings, plant visits, annual convention), together with corporate website pages illustrating the supply chain mission, vision and values. Furthermore, ongoing updating of personnel competences through academic and professional education or on-the-job education (e.g. educational seminars and workshops) is essential for both the strengthening of the supply chain identity and the improvement of its customer oriented performance; 2) it supports the inside and outside image building (*image-building communication*) (Brioschi, 2008). The strategic role played by the supply chain in the firm must be made clear to both internal stakeholders (e.g. the

CEO, the Board of Directors with a particular focus on the HR and the Corporate communication Director, and other functional or business unit directors) and external ones through a transparent, timely and up-to-date information activity both face-to-face and Internet-based, aimed at creating visibility and consensus on the strategic contents, the operational modes, and the overall performances of the logistics system. Communication roles in this case are devoted to *culture diffusion, visibility building, identity amplification and stakeholder activation* with the aim of improving internal and external supply chain image, legitimating it as a strategic function, and strengthening stakeholders' perception of its contribution to the firm's profitability. The most adequate communication channels are the annual convention where supply chain news and performances are illustrated in detail, meetings with the corporate communication function to obtain visibility and media coverage of supply chain performances, corporate website pages dedicated to the supply chain, and periodical meetings between supply chain managers and personnel to monitor the internal image through the analysis of ongoing surveys;

- a *projecting profile*, related to the involvement of the Supply Chain Directors in the strategic decisions regarding both the *logistic network design* (and the consequent choices regarding service internalization or outsourcing and location of production sites) and the *integration of logistic systems and business processes* (Bowersox et al., 2002).

Communication plays in this case a fundamental role at three levels: 1) it encourages the diffusion and the homologation of cultural values and managerial principles (Nelli, 1994) inside the firm and its logistic network (*value-based communication*), facilitating supply chain design implementation in the case of both vertical integration and outsourcing of supply chain processes. The specificities of a firm's organizational culture represent an important differentiating factor among companies, resulting therefore often heterogeneous or even conflicting inside an enterprise network, and thus requiring a process of integration and harmonization; 2) it supports decision-making related to location of production and distribution sites, encouraging retrieval and exchange of internal and market information flows necessary to make location decisions. In this case communication plays a strategic-reflective role (*strategic-reflective communication*) (Invernizzi, 2004), supporting the external context analysis, and reporting (reflecting) market expectations inside the firm so as to sustain strategic decision-making in the long term; 3) it fosters the development and the strengthening of partnership relationships (*relational communication*) (Fiocca, 2002; Invernizzi et al., 2009) based on trust, conflict reduction and sharing of risks and benefits among the several supply chain actors, encouraging the global optimization of logistic system integration. In this case communication channels are based on strategic interpersonal meetings involving top management representatives, periodical coordination meetings among supply chain managers, and the annual convention;

- a *mid-term production planning profile*, involving the Supply Chain Directors in the search for the right balance between market needs and material and human resources required (Cavalieri and Pinto, 2007).

In this case communication is aimed at analysing and interpreting the environmental, market and organizational context. Such activity of context monitoring enables communication to offer a strategic contribution to the demand forecasting process, fostering the information gathering necessary to procurement decision-making, and supporting the analysis of human resources needs as well as information and physical flows ones. By doing this, communication helps formulating production strategies which are aligned with both competitive dynamics and market expectations (*strategic-reflective communication*). Such alignment results in an improvement of product and production processes. Moreover, the diffusion of the CPFR (Collaborative Planning, Forecasting and Replenishment) systems has emphasized the role of communication in supporting: reciprocal commitment and mutual learning in the development of collaborative and integrated plans (*collaborative communication*) (Mohr et al., 1996). Communication channels are based on six-monthly interpersonal strategy & coordination meetings, annual production planning meetings, and quarterly functional ones;

- an *operational coordination profile*, involving the Supply Chain Directors in a rational and consistent order cycle management, activating an ongoing interaction among the procurement, production, distribution, and marketing functions (Chopra and Meindl, 2010).

In this case communication accomplishes the task of coordinating physical and information flows (Nelli, 1994; Invernizzi, 2000) with the aim of synchronizing supply chain processes, encouraging efficiency and timeliness in typical intra-functional, inter-functional and inter-firm relationships of production cycle management (*functional communication*) (Fiocca, 2002; Invernizzi, 2004). In order to activate stable coordination mechanisms it is

fundamental to develop an effective information-sharing platform among the various nodes of the logistic network. In this regard, SAP systems offer visibility, transparency, and consistency of information inside the firm, whereas it is still not so spread the use of ICT systems supporting integrated planning activities. Furthermore, the coordination of information flows regarding the production cycle requires that communication fosters the integration and the homologation of processes structures and languages (*value-based communication*). Besides, communication is aimed at balancing the different functional interests and objectives (that can be even conflicting sometimes) as well as supporting mutual adaptation among the supply chain actors, by activating delicate trade-off mechanisms in the relationships with both external business partners and internal business units (*adaptive communication*) (Hakansson, 1982; Grönroos, 2004). Communication channels are based on periodical interpersonal meetings involving supply chain managers to share and align the guidelines of operational coordination.

The Role of Communication in Operational Supply Chain Management

The operational phases of the supply chain are based on four main macro-processes (Mentzer, 2001; Cavalieri and Pinto, 2007): *procurement* (sourcing and purchasing), *production planning and control*, *stock and inventory*, and *distribution* (shipment and transportation). Such phases depend upon an intense information exchange inside the firm and with external partners, emphasizing the role of communication as interconnector among the network nodes.

Procurement. The procurement process comprises a wide range of activities which are part of two main processes: *sourcing* and *purchasing*. The *sourcing* process is aimed at defining the service and material procurement strategies, identifying, evaluating and selecting suppliers, negotiating with them purchasing terms and monitoring their performance. At an intra-organizational level, communication coordinates internal information flows (Nelli, 1994) related to both suppliers' identification and selection, and the definition of procurement strategies. At an inter-organizational level, communication supports negotiation processes between the firm and its partners (suppliers, sub-suppliers, and service providers). Promoting collaboration among the actors, communication facilitates the building of relationships based on trust and reciprocal esteem (*relational communication*), increasing their length and loyalty over time (Grönroos, 2002). To do this, the most appropriate channels are interpersonal meetings with suppliers to synchronize on corporate values and service culture, and build long-term relationships of mutual advantage. As regards the *purchasing* process, it is based on the analysis of corporate requirements, issuing of the purchase request, issuing and evasion of the purchase order, and invoicing. Following the increasing managerial complexity of the purchasing process, it is important for the actors involved to access a huge amount of information. The use of the Internet has facilitated and accelerated data retrieval through *e-procurement* solutions. These solutions support intense communication flows between the parties, being one of the main tools to enhance the role and the strategic contents of the purchasing function. Under this profile, communication seeks to optimize coordination of both information and physical flows (Nelli, 1994; Invernizzi, 2000) of the purchasing process, fine-tuning its activities. This with the aim of regulating the order and related terms transmission to achieve production goals (*fine-tuning communication*) (Rampini, 1990).

Production Planning and Control (PPC). PPC systems are aimed at managing the firm's production capacity both immediate and short-term, including comprehensive planning, detailed operations scheduling and costs control. To minimize total production costs a typical behavior adopted consists in decentralizing production activities. Decentralization, though, increases the complexity of the production system requiring a centralization of its managerial responsibility. Communication plays in this case a significant role in the management of information flows among multi-site production systems, aligning systematically the requirements of the different functions and business units. In particular, communication encourages the coordination of the production capacity management (Cavalieri and Pinto, 2007), facilitating the timely sharing of information among the nodes in order to streamline the processes of the production cycle, (*functional communication*), reducing inventory levels and sustaining the interactions among the actors. In this respect, communication has supported the shift from transactional logistics, focused on the efficiency of the single operation, to relational logistics, focused on optimizing information and physical flows. Communication must be in this phase extremely lean, simple, and efficient (Christopher, 2000). Once completed the end product, the order issuing by the customer is generally preceded by a negotiation phase to define transaction terms. In order to support this delicate customer relationship activity, communication guarantees the ongoing, direct and real-time interaction between the company and its customer with the aim of helping the firm

getting the order at the best contractual terms. Communication, thus, acts as a relational vector (Fiocca, 2002) to develop positive attitudes and behaviours, and maintaining collaborative relationships with the customer (*relational communication*). Communication channels are typically based on corporate ERP systems, Intranet and other web-based tools. These channels are used to manage monthly production planning meetings either face-to-face or computer-mediated.

Stock and inventory. The process of inventory management represents today a critical success factor in supply chain management. Stock can be located in different sites (by suppliers, customers, peripheral warehouses, etc.) to meet customers' needs. Stock location significantly affects operational, financial and economic performances. Namely, the closer stock is to the customer, the timeliest can be its delivery. Furthermore, the storage of slow moving goods by suppliers allows the use of warehouses close to the customers for fast moving goods, relying on a collaborative warehousing system (*stock pooling*). Communication plays in this case a central role in supporting the stock pooling among the different storage sites. Through the stock transfer among the nodes, the pooling group shares resources reducing the stock-out and providing the best service at the lowest cost. Collaborative stock management requires then an intense sharing of information flows to optimize the overall performances of the logistic network (*collaborative communication*). Moreover, communication plays the role of vector of the key corporate culture values towards the various nodes of the pooling group (*value-based communication*), in order to encourage a synergistic collaboration among the actors based on ongoing interaction, confrontation and negotiation. Stock management related activities depend upon a continuous information exchange capable of developing commitment, motivation, participation and consensus among the network nodes (*commitment communication*) (Del Mare et al., 1990; Rampini, 1990). Among the most used communication channels to exchange information inside the pooling group, the adoption of a *Quick Response (QR)* system based on *EDI (Electronic Data Interchange)* solutions allows the ongoing monitoring of retail sales of single products in all the supply chain, facilitating the programming activity, guaranteeing the right assortment level, and thus reducing uncertainty and increasing the flexibility of the production system. Other common communication systems are the *Continuous Replenishment (CR)* and the *Vendor Managed Inventory (VMI)*.

Shipment and transportation. In the frame of the distribution system, the logistic channel is the set of resources and structures aimed at supporting the information and goods flows from the producer to the customer. Such flows are *inbound* (concerning raw materials, components and products) and *outbound* (finished products). As regards outbound flows, a common distribution strategy is the *Direct Shipment* which eliminates every intermediate warehouse, reducing costs and waiting times. On the contrary, the distribution strategy making use of intermediate warehouses, called *Distribution and Warehousing Centres*, allows the firm to obtain transport scale economies, reducing distance and delivery times. Another distribution strategy is the *Pick-up point*, where it is the customer itself picking-up the goods at a specific pick-up point. As for the transportation, it can be managed directly using transport means owned by the firm, or indirectly, applying to shipment companies. In the distribution process, information flows regard mainly order and transportation related documents accompanying the goods in the delivery process. Usually the shipment and transportation phase is underestimated from a communication standpoint. However, clear and comprehensive information related to delivery terms (*functional communication*) as well as the ability to cope with errors, unforeseen events, misunderstandings, and delivery delays represent important communication skills to show the firm's customer orientation (*relational communication*). The most appropriate communication channels are the Intranet or other web-based platforms and electronic mailing. Furthermore, communication flows are important both in the choice of the logistic operators (e.g. carriers) and in sharing with them managerial principles and established operational procedures (*value-based communication*). To do this, interpersonal meetings and electronic mailing are the most appropriate communication channels. FIGURE 1 provides a comprehensive mapping of the roles played by communication in strategic and operational supply chain, highlighting both stakeholders involved in each phase and communication channels/tools activated to manage relationships with them.

Discussion and Managerial Implications

This study has pointed out the central role that communication plays along supply chain processes. In particular, communication plays a *primary role* in the identity management and image building phases of the supply chain, representing strategic activities supporting all other processes: these phases are based on communication and totally depend upon the firm's ability to manage information flows with intra-firm and inter-firm stakeholders. Communication is critical in creating, settling and spreading the supply chain culture inside the firm, that is the awareness both of its values, function, and contribution to corporate value creation, and of its success drivers. The supply chain mission and vision statements must be shared among all supply chain employees and other business functions and units, as well as with the top management and the board of directors. Communication is also critical in building and strengthening the identity of the supply chain, by enhancing its service quality and customer orientation through ongoing education and learning programs aimed at improving personnel's competences and skills. Currently it still persists a strong "internal myopia" in the supply chain regarding the value of education, and often the focus of educational seminars is purely operational, whereas little or no attention is given to education on cultural and strategic aspects of the supply chain. This has a negative impact on the self-awareness of the value of the supply chain function inside the firm that is also reflected outside. Namely, supply chain is often still considered by the top management as a mere operational function supporting business performances on which to gain cost economies not to weigh down on other value creation functions. Communication is then fundamental in promoting the distinctive features of the supply chain identity as well as its competitive and sustainability performances to internal audiences, external partners and other stakeholders to obtain their consensus and enhance the supply chain image.

Furthermore, communication plays a fundamental *supporting role* in all the other strategic and operational phases of the supply chain. At this regard, communication accomplishes four basic functions: 1) "*cultural glue*" among internal functions, plants and units located in different countries, and external business partners. This function is aimed at homogenizing cultural values to integrate and develop synergies with partners sharing both the same principles related to quality and service standards and the same market orientation; 2) "*trade-off and compensation*" of interests and objectives among the various functional units, which are often guided by different and even conflicting business logics. In this respect, supply chain is often subjected to marketing. In the bargaining power dynamics among the functional units, marketing, owing to its capability to drive sales, normally obtains what it asks for. Supply chain, on the contrary, being considered as a cost-optimization function, sometimes finds it difficult to have its requests considered strategic by the top management. In this case, ongoing face-to-face communication between the supply chain director and the top management is aimed at emphasizing – especially in the current period of global economic downturn affecting marketing and other revenues-driving functions – how the supply chain can be not only a cost-optimization function, but also a revenues-driving one; 3) "*relationship development and maintenance*" with business partners in order to support trust-based long-term exchanges. Integrated and trust-based partnerships with suppliers and customers generate both competitive and reputational advantages in terms of better service quality, market know how, innovation, cost efficiency and time-to-market. It currently persists in supply chain management a kind of closed, "grain bin-based orientation" to relationship management with business partners. This attitude is being gradually substituted by an open, "inclusion-based orientation" to relationship management, focused on a bidirectional and frank information exchange with business partners according to a win-win communication logic; 4) "*alignment and integration*" of information and physical flows, aimed at coordinating and streamlining all operational processes to optimize costs, exploit synergies and develop highest consistency of goods and information along the supply chain.

Moreover, communication is typically *face-to-face*, normally based on interpersonal meetings, when it has to support the strategic phases of supply chain management, whereas it is typically *computer-mediated*, normally based on Intranet ERP and EDI solutions, when supporting operational phases. *Face-to-face communication* is particularly appropriate when the aims are to: spread and homogenize cultural values inside the firm and with business units located in different countries, balance and compensate divergent functional interests and logics, and develop trust-based relationships with business partners. *Computer-mediated communication* is particularly useful when the aims are to: integrate and coordinate information and goods flows, and meet and align the needs and

expectations of the different business functions. Finally, communication offers through its functions and forms (e.g. value-based communication, strategic-reflective communication, relational communication, adaptive communication, functional communication, etc.) a fundamental contribution to the building of corporate reputation, meant as a socially shared judgement expressed by all stakeholders as regards the firm in its whole, based on its previous behaviours and performances and highlighting its capability to create value for all its stakeholders over time (Fombrun and Rindova, 1998). In particular, it emerges from this study that communication supports four basic typologies of reputational drivers (Hakansson, 1982; Fombrun and Shanley, 1990; Fombrun, 1998; Fombrun et al., 2000; Walsh et al., 2009):

- *knowledge drivers*, such as cultural sedimentation and homogeneity as well as supply chain personnel's intellectual capital based on up-to-date competences and skills;
- *managerial drivers*, such as strategic vision, long-term orientation as well as internal and network leadership of supply chain directors;
- *relational drivers*, such as internal and external consensus and emotional appeal by all stakeholders, as well as risk, uncertainty and conflict reduction, trust, reciprocal commitment, mutual learning, and collaborative business development with business partners;
- *performance drivers*, such as product, service and process quality, process efficiency, service timeliness and accuracy, and routine and praxis alignment.

In this regard, FIGURE 2 offers a comprehensive overview of the existing links among supply chain processes, communication and corporate reputation. As for the *managerial implications*, our study has highlighted the strategic role that communication plays both in managing and in supporting supply chain processes to create value and enhance corporate reputation. Nevertheless, a comprehensive, consistent and mature supply chain culture is still to be created. Furthermore, even though the strategic role of communication is currently a widely accepted truth, the self-awareness of the supply chain function is still low, often resulting in an underestimation of its contribution to corporate value creation on the part of the top management and in a diffused subjection to other revenues-driving business functions such as marketing. The urgent need for supply chain managers is now to “enact” communication according to a managerial perspective. In particular, they should: invest in strategic supply chain management education beyond operational aspects to increase not only knowledge, competences and skills in the personnel, but also their understanding of the role of the supply chain in the overall economy of the firm in order to enable them to enhance their self-awareness and deliver better value; adopt formal practices and tools to homogenize culture and align the personnel on shared values and principles, since simply stating that communication is an important “cultural glue” is not enough; communicate more both inside and outside the firm about the distinctive features, and the competitive and sustainability performances of the supply chain to increase the appreciation of its doings by the top management and the other functional directors. The *original value* of this study is based on the fact that it represents a first attempt to carry out a conceptual and operational systematization of the role and the applications of communication along the supply chain. The study has also an heuristic value since it casts light and generate knowledge on a phenomenon – the communication processes along the supply chain and their potential impact on firm's reputational drivers – which has been little known and inquired so far. Moreover, the study offers a multidisciplinary perspective combining supply chain management and communication academic expertise. Furthermore, it carefully integrates the academic and the managerial standpoint in the development of the proposed conceptual mapping. In the end, this is a study where in-depth interviews with key informants are not typically used to build a best practice case study on the basis of which induce a theoretical framework, but as a tool supporting and enhancing the building of a combined deductive-inductive conceptualization.

Limitations and Future Research Directions

The conceptual mapping presented in the study is preliminary since it is based on an exploratory study, therefore it needs to be both consolidated through a wider range of interviews with supply chain managers of companies operating globally in a highly reputation-sensitive environment (e.g. the food and beverage industry) and deepened by combining other research methods to enrich and integrate data collection, so as to support and refine the

conceptualization proposed. In this regard, the evidences here illustrated represent the first step of a more comprehensive and thorough qualitative study that we are currently projecting, designed according to a Grounded Theory approach (Glaser and Strauss, 1967; Morse et al., 2009). Such comprehensive study will be aimed at exploring and understanding the whole communication process activated along the supply chain, underpinning the key points where communication is a fundamental vector of successful supply chain implementation. Furthermore, the study will provide a detailed mapping of the internal and external contextual dimensions positively or negatively affecting the communication process, in order to offer managerial insights for making an effective and efficient use of communication resources.

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For a complete list references, please contact the author(s).

Supply chain phases	Key stakeholders																		Communication roles	Communication channels & tools		
	Intra-firm										Inter-firm											
	CEO	Board of Directors	Supply Chain Director	Supply Chain Managers	Supply Chain Employees	Marketing & Sales	ICT systems	Administration & Finance	Human Resources	Corporate Comm. & PR	Business Development	Suppliers & Subsuppliers	Service providers	Logistic Operators	Transportations	Wholesalers & Retailers	End customers	Educational world	General public			
<i>Strategic phases</i>																		<i>Strategic communication</i>				
Identity management			■	■	■					■	■										<ul style="list-style-type: none"> - Organizational glue - Knowledge vector - Support to culture building and sedimentation 	<ul style="list-style-type: none"> - SC culture, vision and mission statement - Periodical identity & value-based meetings - Plant visits - Corporate website - Annual convention - Six-monthly strategy & coordination meetings - Quarterly functional meetings - Educational seminars and workshops
Image building	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	<ul style="list-style-type: none"> - Culture diffusion - Visibility building - Identity amplification - Stakeholder activation 	<ul style="list-style-type: none"> - Annual convention - Press room and media relations - Corporate website - Internal image surveys - Quarterly functional meetings
Logistic network design	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	<ul style="list-style-type: none"> - Alignment of values and managerial principles - Context analysis and decision-making support 	<ul style="list-style-type: none"> - Annual convention - Six-monthly strategy & coordination meetings
Logistic systems and business processes integration			■	■	■	■	■				■	■	■	■	■	■					<ul style="list-style-type: none"> - Relationship building and maintaining 	<ul style="list-style-type: none"> - Six-monthly strategy & coordination meetings - Quarterly functional meetings
Production planning, forecasting and replenishment			■	■	■	■	■	■			■	■				■	■				<ul style="list-style-type: none"> - Context analysis and decision-making support - Plans and processes integration 	<ul style="list-style-type: none"> - Annual planning meeting - Six-monthly strategy & coordination meetings - Quarterly functional meetings
Coordination of			■	■	■	■	■	■			■	■	■	■	■	■	■				<ul style="list-style-type: none"> - Coordination of 	<ul style="list-style-type: none"> - Six-monthly strategy

production and order cycle																				information and goods flows - Support to mutual adaptation - Processes and languages alignment	& coordination meetings - Quarterly functional meetings
<i>Operational phases</i>																			<i>Operational communication</i>		
Sourcing	■	■	■	■			■						■	■						- Knowledge and values sharing - Coordination of internal information flows - Support to negotiation processes - Activation of collaborative processes	- Interpersonal meetings - eMail communication
Purchasing			■	■	■		■	■					■							- Coordination of information flows - Synchronization of activities - Management of order transmission	- Intranet/web-based communication (e-procurement solutions) - eMail communication
Production Planning & Control			■	■	■		■	■				■	■	■	■		■	■		- Coordination of information flows - Synchronization of production cycle processes - Support to real time and continuous interaction between firm and customers	- ERP corporate system - Intranet/web-based communication - Monthly planning coordination meetings
Stock & inventory				■	■		■	■					■	■			■	■		- Spreading of corporate culture values - Support to process interaction, confrontation and negotiation - Commitment and participation development among the network nodes	- ERP corporate systems - EDI systems - Intranet/web-based communication - eMail communication
Shipment & transportation					■		■						■	■	■	■				- Pointing out and enhancing customer orientation - Improvement of perceived supply chain service quality	- Intranet/web-based communication - eMail communication - Interpersonal meetings

Legend: Supply Chain Managers (e.g. Purchasing Director, Operations Director, Customer Management Director); Service Providers (e.g. logistic intermediaries and brokers, strategic logistics advisors); Logistic Operators (e.g. carriers); Transportations (e.g. see-ground-air transportation companies); Educational world (e.g. Universities, Schools of professional studies).

FIG. 1 – A COMMUNICATION-BASED MAPPING OF THE SUPPLY CHAIN

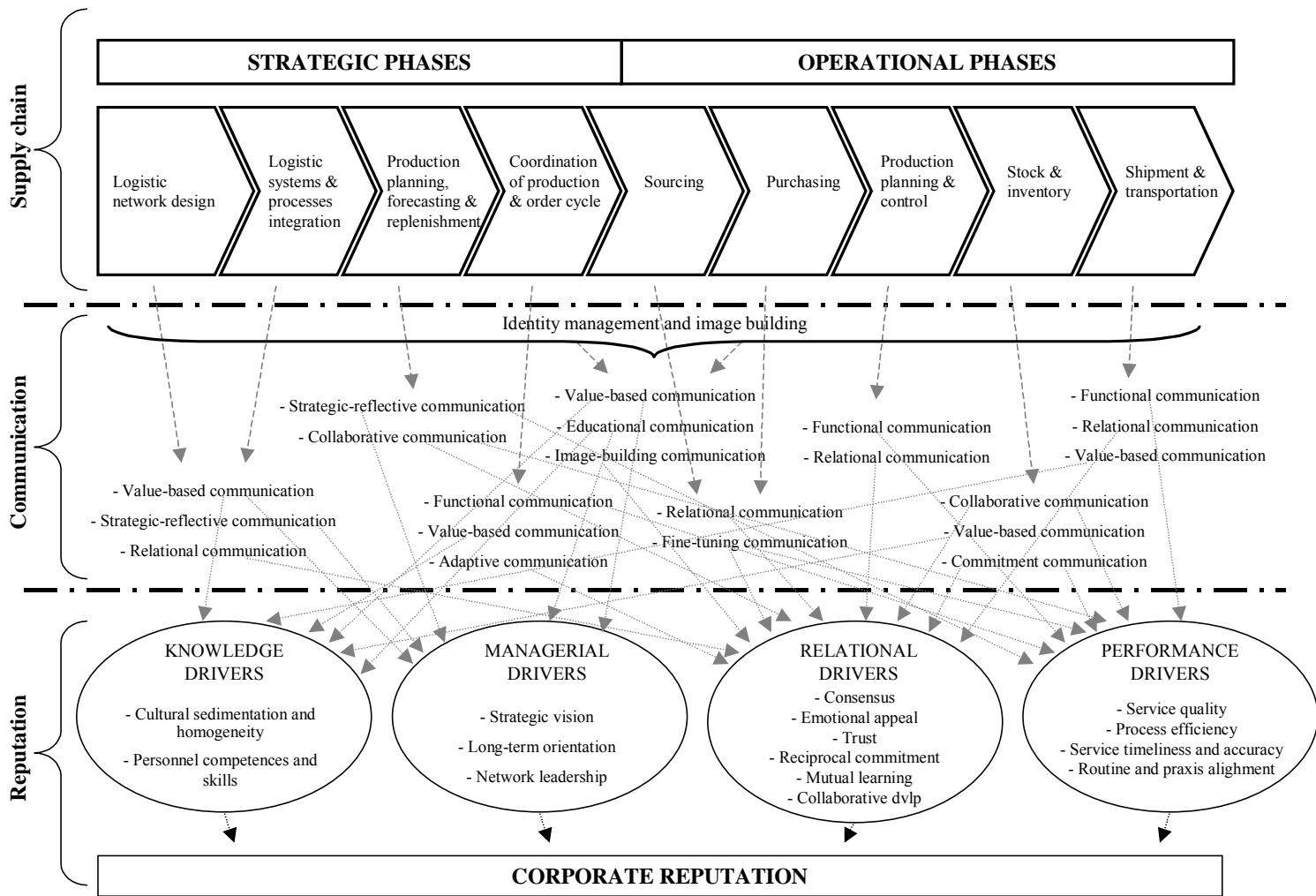


FIG. 2 – THE LINKS AMONG SUPPLY CHAIN PROCESSES, COMMUNICATION AND CORPORATE REPUTATION

Customer Relationship Management with Help of Data Mining Techniques

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Abstract

This paper considers the strategies of customer relationship management using software solutions. Based on data mining techniques like segmentation, cross sell, up sell and association analysis, the focus is directed to putting information technologies and customer satisfaction together. There is an increasing awareness that strategic thinking and acting is necessary to stay successful in a competitive world, in particular in mature markets. Companies are being confronted with saturated markets, customers can choose from variety of products and services; they became very demanding and expect high value for their money. Data mining helps businesses use technology and human resources to gain insight into the behavior of customers and the value of those customers. There are several methods and concrete examples provided in this article to show how to achieve the companies' objectives for organic growth by addressing their business activities to the right customers.

Customer relationship management builds mutually beneficial relationships with customers and to achieve this goal companies need to customize the value proposition in order to attract and retain targeted customers. Customer loyalty is fickle and companies face the challenge to detect customers who are highly valuable for the business but are likely to change to competition and with the right management CRM can become the strongest tool to ensure that customers become and remain loyal, it can help to manage relationships more effectively, with lower costs and at the same time can increase the viability of products and services.

Quality CRM is grounded on high quality customer-related data and enabled by using information technology. In 2010, CRM IT solutions, were weathering the economic downturn better than many other enterprise software applications, The recession in 2009 had less of an impact on CRM software than on other software segments, according to a recent European survey conducted by Gartner, Inc. (www.gartner.com). The worldwide market for business intelligence (BI) software, where data mining is one of common BI functions, is forecast to grow 9.7 percent to reach US\$10.8 billion in 2011. (www.gartner.com). The United States are the world leader in CRM usage and spending, but Western Europe is predicted for the period of 2008 – 2012 to have a much faster growth, reaching 22 percent annually, than the USA (www.marketingcharts.com). A Cahners research survey reveals that the United Kingdom leads Europe in forecast CRM deployments with 29 percent of respondents indicating they plan to implement CRM software solutions. Spain finished second with 19 percent, followed by Scandinavia at 16 percent. Survey results also show that the telecommunications and consumer goods industries forecast the largest CRM growth with the healthcare and automotive industries following close behind (www.crmforecast.com).

Companies collect data from a number of sources. Customer related information can be sales data (purchase history), financial data (payment history), marketing data (loyalty scheme, campaign response), etc. Fast growing of data amounts has exceeded human ability to evaluate it without suitable tools by far and it is not possible to evaluate all these data manually. Only small amounts of data can be evaluated using standard techniques or even manually. Saturated markets demand decision based more on exact evaluations rather than on marketers' intuition or previous experience, simply because marketers can never extract the valuable knowledge from the vast amount of data. Data mining is an advanced data analysis involving data warehouses where big quantities of data are being stored and accumulated. Data mining techniques are made to uncover important data patterns contributing greatly to business strategies; it enables marketers to extract valuable information from enormous amount of data. It is a solution to a problem many companies face: an overabundance of data, little time and limited staff to transform simple data into meaningful information.

Companies already know that data is extremely valuable and it needs to be understandable, valid, novel and useful to make companies more competitive and profitable. An important part of CRM is analyzing customer information to better address the objectives of a company and deliver the right message to the right customer. It involves use of data mining models in order to understand and predict their behavior. Data mining refers to mining or extracting knowledge from large amounts of data. It converts data into knowledge.

The customer lifecycle provides a good framework for applying data mining to CRM. Marketers say there are three ways to increase a customer's value: 1) increase their use (or purchases) of products they already have; 2) sell them more or higher-margin products; 3) keep the customers for a longer period of time (Rygielski, Wang, Yen, 2002). With help of software solutions a simple customer lifecycle can be prolonged and bring more money to a company. As seen on Figure 1, data mining solutions help an enterprise manage customer lifecycle in an organized way. It enables companies to be more efficient by acquiring new customers, identifying better cross sell and up sell possibilities, to manage customer retention or recover potentially valuable customer relationships.

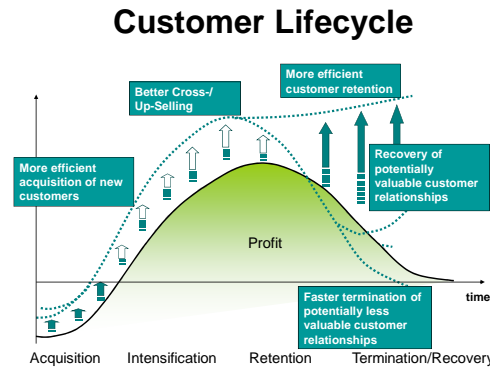


FIG. 1 DATA MINING METHODS AND CUSTOMER LIFECYCLE
Source: SAS Slovakia

There are 3 basic models of data mining which can be used in CRM and prolong the lifecycle of a customer: Propensity models, Cluster models and Association and sequence models (Tsipstsis, Chorianopoulos, 2009). Some basic principles of the models and their possible usage in marketing practice are described below.

1. Propensity models

The goal is to classify the cases into predefined groups, meaning they can predict an event. The generated models can be used for cross sell and up sell campaigns. Cross sell is marketing tool which uses selling or suggesting related or complimentary products to a customer. Up sell means suggesting a premium product, an upgrade. Data mining models can identify those customers who have higher propensity to purchase additional services or products of a company. Up sell initiative detects customers who are characterized by high probability of purchasing a higher level product or service. Data mining models can uncover how likely or unlikely a customer is to purchase specific product or service and also the most effective distribution channel can be determined. The most common use in marketing is offering quantity alternatives with incentives such as discount (buy two, get one free), free shipping, etc. with increased size of an order. A bank can offer customers holding a standard card an upgrade to a gold card, which is, indeed, more profitable for the company. A company can sell an extended service contract for an appliance or luxury finishing of a vehicle. Sales person can suggest customers an upgrade in form of a premium brand instead of a regular one. Companies can use cross sell in form of telling or displaying "Customers Who Bought This Item Also Bought...". Businesses can also build onto or create customized shopping cart solutions that use an advanced algorithm to recommend to shoppers the products that other customers purchased when purchasing that particular item, or that can determine items to recommend based on the buying habits of the shopper.

2. Cluster models

The goal is to analyze the data and identify the natural grouping of records. These models are used for customer segmentation. Customer segmentation is a process by which subjects are categorized into groups that share similar characteristics based on one or more attributes. Data mining can identify natural grouping of customers based on given characteristics based on observed data patterns. Traditional customer segmentation is usually based on experiential classification or simple statistical methods which are often not complex enough to

provide the needed information or information that actually is available, but the patterns are hidden in the data and cannot be discovered unless using sophisticated software and data mining methods. When segmentation models are properly built they can uncover groups with similar profiles and lead to rich segmentation schemes with business meaning and value. These models can also be used to prioritize customer handling according to the importance of each customer. Banks can for example use segmentation and divide their customers into subgroups according to how they use their credit cards, what kind of items they purchase, how much money they spend, how often they use their cards...A chain store may need the information whether its outlets are similar in terms of social neighborhood, size, staff numbers, vicinity to other stores, etc. The most basic use of segmentation in marketing is grouping customers according to similar attributes for the purpose of understanding how to market each customer segment. An analyst can group research findings, or can evaluate performance of various distribution channels, e.g. telephone or online sales.

3. Association and sequence models

The goal is to detect associations between discrete events, products, attributes where sequence models detect associations over time. The technique used for this kind of analysis is called Market Basket Analysis and can be described as determination what products or services customers buy together. This kind of analysis identifies relationships or affinities between entities and/or between variables. These relationships are then expressed as a collection of association rules. A typical example is in the retail business where historic data might identify that customers who purchase sugar and bread also purchase the milk. Retailers can use this type of information to identify new opportunities for cross- selling their products to the customers. Using market basket analysis helps companies to make suitable offers to their customers because they have a higher level of knowledge and know the buying behavior of their customers. Information obtained from given analysis can be for example used for supermarkets to reorganize their layout, taking products frequently sold together and locating them in close proximity. It can also be used to improve the efficiency of a promotional campaign when products that are associated would not be advertised at the same time.

The goal of all these methods is solving problems in better and easier and more effective ways, to provide customer insight, enable personalized interactions and hence increase profitability through data analysis. Data mining helps an enterprise to enable its marketing departments to identify and target their best customers, manage marketing campaigns and generate quality leads for the sales team. It also assists the organization to improve telesales, account, and sales management by optimizing information shared by multiple employees, and streamlining existing processes (for example, taking orders using mobile devices). Using data mining techniques also allows the formation of individualized relationships with customers, with the aim of improving customer satisfaction and maximizing profits; identifying the most profitable customers and providing them the highest level of service. The results of analysis provide employees with the information and processes necessary to know their customers understand and identify customer needs and effectively build relationships between the company, its customer base, and distribution partners.

Discussion

Customers are the most important asset for any organization. There is no successful business without satisfied customers. The key message is that there is not such a thing as average customer. They are different people with different needs, behaviors and potential. Thus there are some similarities in their behavior and with help of statistics and mathematics these, often hidden, patterns can be discovered. That is why every company should use strategies for building, managing and strengthening loyal and long lasting customers. CRM implementations require deployment of IT solutions based on customer-related data which help the company to communicate different offers to specific customers with the goal to optimize the processes within the company over the long term.

The need to use data mining as a part of customer relationship management comes from growing volumes of data and limited human capacity to deal with all the data, the business environment changes, customer become more informed and demanding, markets are saturated. Companies focus on customer and try to serve him in the best possible way.

The main challenges that a marketer must face when data mining becomes a part of CRM are:

- *Use of multiple data mining techniques*: to analyze CRM data properly, it needs to undergo different analysis, to be explored from different angles. It requires application of different data mining techniques.
- *Understanding the data*: data comes from multiple sources, in different patterns and codes. Analysts always need to understand these data before they are able to conduct any analysis.
- *Security issues*: companies have a lot of personal information about customers available online; therefore they need sufficient security systems to protect that information.
- *Real-world validation*: discovered patterns are often treated as hypotheses that need to be tested on new data using rigorous statistical tests for the actual acceptance of the results.
- *Privacy issues*: many of the information in a database are private and marketers must be aware of that and be able to clearly decide what kind of information can be used for marketing purpose.
- *Acquiring data*: many times collecting data for CRM is still a problem. Getting the right data that can be used for an analysis can be costly and time consuming.
- *Data preparation*: Data-mining requires a consolidated and cleaned data in a database. 70 to 85 percent of the work in building models using data mining relates to the cleaning and preparation of data prior to a specific analysis.
- *Model refreshing*: Data mining models have to be updated because of changes in environment also in customer attitudes.

The use of software solutions and data mining techniques is an inevitable part of successful customer relationship management but we need to understand it is not a core process of the CRM solutions, it just provides the right information and it only works when the extracted data comes into action. Customer relationship management uses variety of tools and techniques to do so. The trends for 2011, according to CRM professionals, are social CRM, mobile CRM and a continued emphasis on the customer experience (searchcrm.techtarget.com). Social CRM is based on communication with customers through social networking sites, such as Twitter and Facebook. Mobile CRM uses wireless devices such as iPhone, Blackberry or other smartphones and androids to communicate with customers. Customer experience management is looking at the company and its products and services through customer's eyes. It is a process of managing customer's experience from the moment of the first contact with the company and throughout the whole time. A positive customer experience can construct an emotional bridge between a company and its customers that in turn enhances customer loyalty. CRM should be more than just gathering data and evaluating them, it should be a part of holistic marketing and the customer should always be in the center of all the activities of an enterprise.

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An Investigation of the Image Congruence of Global Consumer Brands and Consumers' Self-image: A Cross-cultural Perspective

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Abstract

The purpose of this study is to establish a new conceptual model of self-congruity, which incorporates brand and self-image, and the consumer culture. This study espouses the consumer culture framework of Steenkamp and de Jong (2010) in order to discover a way in which to overcome the limitations of using Hofstede's cultural framework, and measure the consumer culture on the individual level. Considering the nature of this topic, catching-up intention and facts, a mixed method will be selected as the major research method, combined with focus groups, interviews and surveys. This working paper will demonstrate the relevant frameworks and processes. The conceptual model this study has been established will be presented based on the literature review, as well as the suggested research method and possible outcomes.

1 Introduction

In current consumer behaviour research, the self-congruity theory has been studied in numerous ways, particularly focusing on the concept of "symbolic purchase" in the retail industry. Brand personalities, a crucial component of brand equity, are not only associated with a product's functional attributes, but also influenced by other virtual factors, such as consumers' self-image (Aaker, 1997). Consumer researchers assume that product/brand image interrelates with self-concept, that is, that self-image and product/brand image are congruent and therefore influence consumers' buying behaviour and brand performance (e.g. Adam, 2005; Kressmann et al., 2006; Kuester et al., 2007). Empirical studies have determined that the notion of self-congruity plays a significant role in the evaluation of global brands. Self-image also significantly influences purchase intention (Jamal & Goode, 2001). However, the results of recent studies differ exceedingly from the above expectation. Different corresponding types of self-image congruities should be outlined (Ibrahim & Najjar, 2008), since Sirgy et al. (2000) have indicated different dimensions of self-concept. On the other hand, Azoulay and Kapferer (2003) criticised the brand personality scales by challenging the conceptual validity of Aaker (1997)'s framework. Furthermore, while existing studies of self-image congruence regarding global consumer brands encountered problems with widespread implementation, a broader application of self-congruity theory could overcome these difficulties by extending product categories and target consumer groups (Kwak & Kang, 2009). Moreover, the global measurement for self-image congruence provides more clear and accurate scales rather than the traditional measurement most previous studies used.

On the other hand, it has also been observed that cultural issues significantly impact brand image and self-concept. Hofstede's cultural framework has been applied extensively, but various limitations have been identified regarding its use in assessing cross-cultural issues (Smith & Bond, 1998). Recent empirical studies of cross-cultural issues use different image congruence models and apply them to just a few countries, making it difficult to generalise their findings. Therefore, Steenkamp and de Jong (2010) have developed a whole new framework for examining cultural issues in consumer behaviour research.

The purpose of this study is to establish a new conceptual model of self-congruity: the proposed model incorporates brand image, self-image, and cultural values. The research adopts the method of Steenkamp and de Jong (2010) to investigate cross-cultural issues, which will be applied more comprehensively to measure image congruence. Moreover, in order to discover a way in which to minimise the limitations of using Hofstede's cultural framework, this study espouses the consumer culture framework of Steenkamp and de Jong (2010), which would be more applicable to consumer behaviour research regarding consumer cultural issues. Considering the nature of this topic, catching-up intention and facts, a mixed method will be used as the major research method. It will be combined with focus groups, interviews and surveys. The theoretical contribution of this study will be that the new self-congruity model can be used in various domains of global consumer brands. With regard to managerial contribution, this study could also enable global brand managers to effectively produce or modify their brand strategies.

2 Theoretical Background

The literature review aims to seek gaps in the previous studies regarding the three areas: brand image, self-concept, and culture. It also provides the theoretical foundation to establish the conceptual framework for the current study. In the meantime, the literature research will determine the selection of industry sectors and suitable brands for this research to study on. The research questions carry out through the process of the literature review. They are: (1) How is brand image measured in relevant studies? (2) What is the role of self-concept in consumer behaviour research? (3) How does culture serve as a source and relate to the symbolic meaning of products and brands? (4) How do these three subjects work and influence each other? The methodologies adopted in the relevant research have been analysed during the literature review process as well in order to find out better research method for the current study. The following section will determine the key issues addressed in the previous literature.

2.1 Brand Image

Kotler et al. (2005, p. 282) define brand image as “*the set of beliefs that consumers hold about a particular brand*”. Brand image, as the perceptions of brand traits or prototypical buyers, is often represented by qualities to which the consumer relates, such as reputation (Kotler, 2003). The perception is reflected by the brand associations held in the consumer’s memory (Keller, 1993). It would also be a challenge to change on brand image is established (Kotler, 2003). From consumer’s perspective, brand image is the result of the cumulative effects of the company’s marketing mix activities (Roth, 1995). Moreover, Keller (1993) identifies that brand associations include the attributes of product-related or non-product-related. These associations could be different based on the favorability, strength, and uniqueness. This also includes the symbolic and functional meaning of products. A congruence theory of brand image developed by Keller (1993) indicates that brand associations share content and meaning with other attributes and associations. This type of associations can help consumers to recall the brand and connect to the brand node in consumer’s mind. However, brand image is not always easy to built for service intangibility and variability (Kotler, 2003), which also take time to develop and prevents duplication by competitors. Therefore, from this perspective, brand image is significant to all marketers. Nevertheless, Wood (2000) states that brand image is impossible to quantify.

2.1.1 Symbolic or Functional

Another importance of brand image is that a brand can be either symbolic or functional, although some authors argue that a brand could not be both symbolic and functional because the two aspects serve in different purposes (Park et al., 1991; Park et al., 1986). However, the empirical study shows that consumers do not only focus on symbolic side of a brand, but they also prefer the functional performance of the product (Bhat & Reddy, 1998). Jaffe and Nebenzahl (2006, p. 19) state that “brand names serve as abstract symbols for attributes of products”. In addition, a number of researchers recognise that products have symbolic images that are often more important to a product’s success than its actual physical attributes and characteristics (Aaker, 1991; Graeff, 1996). The current study started with the brand concept developed by Park et al. (1986) who proposed brand concept management (BCM), which states that a brand concept can be either symbolic or functional. They suggested that a brand concept should be remain for the brand’s life in order to maintain its consistency once the concept is selected for the brand (Park et al., 1986). Their conceptual framework directly relates to the current study. However, the assumption made by Park et al. (1986) was based on brand concepts being unidimensional without empirical studies to examine their assumption. Thus, how to measure and scale whether a specific brand is functional or symbolic is the problem and needs to be solved. Furthermore, there is an argument that Park et al. (1986) assert that brands should be positioned to appeal to being either functional or symbolic; otherwise, they could not clearly relate the brand to either their functional or their symbolic need.

The research of Bhat and Reddy (1998) might give a clarification to Park et al. (1986). They suggest that consumers see a brand’s functionality and symbolism as separate phenomena. However, they continue to say that consumers accept brands that had both symbolic and functional meaning (Bhat & Reddy, 1998). Additionally, the current research notices that Bhat and Reddy (1998, p. 40) state, “if the associations representing the different brand concepts do not fit well, the resulting confusion among consumers can

result in a brand being perceived as neither functional nor symbolic and thus not really useful to consumers". Therefore, from the above points of view, that can help the present research to pay more attention on the relationship between the two aspects of a brand. It also significantly influences on the consistency of self-image and brand image. What is more, Bhat and Reddy (1998) conducted an empirical study to measure BCM. They used focus groups to generate the items used in the questionnaires. The measurement scales are not based upon any conceptual framework, which might cause problems with generalising knowledge.

2.1.2 Brand Personality

The symbolic use of brands often involves consumers' perceptions of endowing brands with human personality traits Aaker (1997). Plummer (1984) declared that personality of brand itself is one of the components of brand image. He characterises brand with such attributes like "youthful," "colorful," or "gentle". Those attributes could also reveal emotions induced by brand (Keller, 1993). Aaker (1997, p. 347) formally defined brand personality in his paper formally as "the set of human characteristics associated with a brand". She cited Sirgy (1982) to designate the elusiveness of how and when brand personality could develop a relationship with the consumer's personality and then influence consumer preference. Aaker is the first one to explore the effect of the "Big Five" dimensions into consumer behaviour – sincerity, excitement, competence, sophistication, and ruggedness - on brand personality. She reviewed numerous studies regarding the "Big Five," which were first documented by Digman (1990), and brought it to the highest organisational level by citing Goldberg (1993). Aaker provided a systematically generalisable scale across product categories that can measure brand personality. She also developed a theoretical framework of brand personality. Aaker's framework has a far-reaching impact on future studies. It is essential to the current study, because it could also help to build up the scales for measuring self-congruity. Moreover, the contribution of Aaker's research can also provide a general understanding about the symbolic use of brands. It partially filled in the gap in the work of Park et al. (1986). The variables Aaker analysed made a huge impact on brand personality, which would link brands' symbolic meaning to consumers' self-image.

However, Azoulay and Kapferer (2003) have criticised the brand personality scales by challenging the conceptual validity of Aaker (1997)'s framework. They do not agree that brand personality scales actually measure brand personality but, rather, brand identity. In fact, brand personality is one of the dimensions of brand identity (Kapferer, 1992, 1998). Hence, Aaker might have combined different levels of brand identity and mixed all the aspects into brand personality only (Azoulay & Kapferer, 2003). On the other hand, Aaker (1997) recognised the difficulties of applying the scale of measuring brand personality in different cultural contexts. Those dimensions might not all be valued across cultures, which remind us to carefully choose the measurement scales in the current study.

2.1.3 Measurement of Brand Image

Based on the literature review, brand personalities and the brand-consumer relationship seems significantly influence brand image. Viot (2003) developed a set of brand image dimensions from the brand identity concept to explain the effect of brand image of consumers' brand (Fig.1). In his framework, there are four components to define brand image dimensions: brand personality, brand values, brand-consumer relationship, and consumer image. The components of Viot's (2003) definition of brand image dimensions are consistent with Kapferer's (1992, 1998) brand identity prism. Viot's (2003) also used a second-order factor analysis to demonstrate how the four modules related to inner and social dimensions of brand image. The brand personality and brand symbolic values are two features of the inner dimension, whereas the brand-consumer relationship and user image are related to the social dimension of brand image.

However, there is no consensus on how to measure brand image (Martinez & de Chernatony, 2004). In the brand identity literatures, researchers have used different methods to measure brand image from the variable angles of the brand (e.g. Aaker & Joachimsthaler, 2000; Hsieh, 2002; Aaker, 1997; de Chernatony, 2001; Kapferer, 1998; Keller, 2001). Hsieh (2002) argued that image dimensions as consistency with consumers' various desires were represented as members of the higher-order category, which served as the foundation of brand associations. Therefore, identifying brand image dimensions is critical for the current study. Hence, despite the framework of Viot (2003) might be the most comprehensive model regarding brand image dimensions located in the literature, the framework has not been tested by empirical studies. Except brand personality, the rest of three brand image dimensions of Viot (2003) still need to be justified

in order to apply them onto self-congruity theories. On the other hand, Martinez and de Chernatony (2004) contended that Aaker's (1996) approach based on measuring brand equity might be appropriate for use for brands in different product categories. There are also a compilation of image dimensions including 50 pairs of brand image attributes have been widely practised to measure image congruence (i.e. Malhotra, 1981; Graeff, 1996; Dennis et al., 2002a). Hence, the current study will use choose suitable brand/self-image attributes within from the 50 brand image dimensions for the chosen brands.

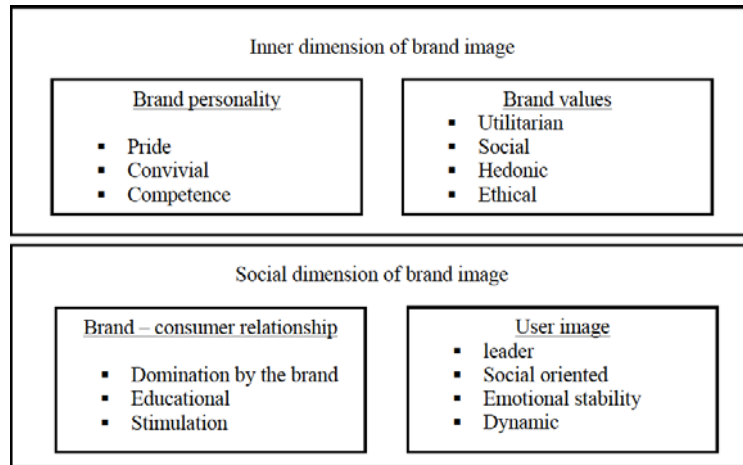


FIG.1: BRAND IMAGE DIMENSIONS (Viot, 2003)

2.2 Self-concept

Self-concept is defined as “the totality of the individual’s thoughts and feelings having reference to himself as an object” (Rosenberg, 1979, p. 9), but it is treated in variable ways. Previous research has identified that consumers’ purchasing is based on products and brands’ symbolic values as well as functional properties (Aaker, 1997; Kwak & Kang, 2009; Adam, 2005; Bhat & Reddy, 1998; Dennis et al., 2002b; Hsieh, 2002; Kapferer, 1998; Levy, 1959; Markus & Wurf, 1987; Sheth et al., 1991). Brand name capture the symbolic value connected with a brand or product, as well as the realisation of the symbolic value represented by consumers’ consumption of those products or brands (Kapferer, 1998). Hence, brand image can ensure favoritism and purchase intention when it comes to match consumers’ self-image. This is called self-congruity defined by Sirgy (1985, 1986).

The problem of self-congruity theories is that those analyses cannot be generalised across all categories of products (Sirgy, 1982). Sirgy’s (1985) hypothesis test indicates a significant relationship between self-congruity and ideal congruity towards purchase motivation. He used 30 personality images as attributes to measure the products’ image and the participants answered the questions in the form of questionnaires. Sirgy’s (1985) study shows that self-congruity mechanisms may have greater influence on consumers than ideal congruity dynamics. He also assumed that purchase motivation may be differently affected by self-esteem and self-consistency motives. It brings notice to the current study that differences in individuals’ personalities can affect purchase motivation regarding self-image/brand image congruity. However, Sirgy’s (1985) work still has the same problem as his another work back to 1982 (Sirgy, 1982). The result might not be able to apply in broader areas. The outcomes might be different to apply Sirgy’s assumption into different product categories, although they proposed a new method later on to measure self-congruity that could minimise some of the limitations of the traditional method (Sirgy et al., 1997). Moreover, the samples have limitations.

The study of Graeff (1996) links considerably to the two papers published by Sirgy (1982, 1985). He argued that consumer’s product evaluation and buying intention could be significantly influenced by the degree of the congruence of brand image and the consumer’s self-image (Coward et al., 2008; Graeff, 1996; Walchli, 2007). However, a question is also raised by Graeff (1996) regarding whether the result can be applied to both public and private brands. The limitation could also be a single choice of product, which means the result might not be suitable for products with different natures from those studies. Another

contribution is that the result of his research is extrapolated into managerial implementation. Graeff emphasised the effect of advertisements on consumers' purchasing evaluation. Thus, it means that marketers could influence the purchase intention of consumers whose self-images are quite different from brand images via advertisements that focus on functional product quality.

Sirgy et al. (2000) have also developed an integrative model of self-congruity and retail patronage that involves retail environment, retail patron image, self-congruity, and retail patronage. Retail patronage actually involves such key concepts as brand image, store choice, and frequency of visits (Pan & Zinkhan, 2006). It is crucial to understand this concept for retail managers who intend to identify and attract their target customers (Pan & Zinkhan, 2006). The model illustrates that the degree of self-congruity is determined by the retail patron's image, which is evaluated in terms of the consumer's self-concept (Sirgy et al., 2000). The significance of this model for the present research is to demonstrate the importance of self-congruity to the retailing industry and give the inspiration of how to develop the model in light of self-congruity and retail brands.

2.3 Image Congruence

There are two parts of image congruence: self-image and brand image. Sirgy et al. (1997) propose two methods of measuring self-image congruence: traditional measurement and direct or global measurement. However, Sirgy et al. (1997) discover that the traditional method has three key problems: discrepancy scores, irrelevant images, and the use of the compensatory decision rule. Hence, they propose another method which is called global measurement. Global measurement would have more clear and accurate scales which would be suitable for both brand image and user's self-image. The method cues subjects to conjure up their own image of the product user (Sirgy et al., 1997). Then, the method guides them to indicate their global perception of degree of match or mismatch between how they see themselves (self-image) and the product-user image, which means this measuring process catches self-image congruence directly (Sirgy et al., 1997). In fact, the global measurement for self-image congruence aims to discover the image trails which is both suitable to the brand image and self-image. Hence, the present study will adopt the global method to measure the image congruence.

2.4 Culture issues

2.4.1 National culture

Most studies regarding national cultural issues cited Hofstede's (1983b, 1984b) work. Hofstede (1983b, 1984b) developed a conceptual framework for culture dimensions as a theoretical basis or justification for the choice of countries in many studies. This typology of Hofstede's (1983b, 1984b) cultural dimensions sufficiently describes the main aspects of culture (Lu et al., 1999; Nakata & Sivakumar, 1996). However, (Smith & Bond, 1998) argued that Hofstede (1983a, b, 1984a) was particularly careful to emphasise that his core values applied to national cultures rather than individuals. The significant limitations were obvious in Hofstede's (1983a, b, 1984a) studies. They included the target sample and the scales of individualism. Therefore, the current study must not only consider Hofstede's (1983a, b, 1984a) framework, but also integrate the recent studies of cross-cultural issues.

Roth (1995) has developed a conceptual framework that can be applied in foreign markets by identifying a variety of cultural and socioeconomic environmental characteristics. One precondition that must be mentioned here is that those characteristics hypothetically affect brand image performance. Roth (1995) connected Hofstede's (1984b) influential work to brand image evaluation. Three culture dimensions linked to brand images and consumer needs, which are power distance, uncertainty avoidance, and individualism. However, Roth (1995) does not quite clearly indicate a specific situation, such as how to make distinctions between nations in which there exist high power distance and low individualism cultures. With the trend of globalisation, a fusion of eastern and western culture has been taking place. On the other hand, Roth (1995) also realises that regional culture within countries has exerted considerable influence on brand image performance. Thus, cross-cultural issues appear to be significantly important, especially for international enterprises.

Another important framework of national culture was developed by Inglehart and Baker (2000). It is more useful for consumer and brand/product research because it is grounded in materialism and modernisation theory (Steenkamp & de Jong, 2010). The national-cultural value theory of Inglehart and

Baker (2000) emphasises on both national and individual levels, which Steenkamp and de Jong (2010, p. 22) summed up as “two concepts occupy a central position in both consumer culture theory and globalisation theory”. The bipolar dimensions including four clusters of national-cultural values were identified by Inglehart and Baker (2000) which are traditional versus secular-rational values and survival versus self-expression values (Steenkamp & de Jong, 2010). The traditional versus secular-rational dimension reflects the contrast between societies with the importance of religion, family and politics. On the other hand, the involvement of the polarisation between materialist and postmaterialist values is a central component of the survival/self-expression dimension (Inglehart & Baker, 2000). Hence, this framework is more suitable for the current study and it will be applied into the conceptual model instead of using Hofstede’s framework.

2.4.2 Self-congruity and cross-cultural issues

Quester et al. (2000) empirically apply the self-congruity theory into different cultural contexts from the perspective of market behaviour; the current research might use a similar approach. Quester et al. (2000) notice that two determinants of market behaviours, consumer behaviour and the managerial decision-making process, can be influenced by culture (Tse et al., 1998; Usunier, 1996). Nevertheless, an analysis of Quester et al. (2000) reveals the difficulties of generalising and predicting such results. Through this paper, the present study understands that the role of the self-congruity concept in consumers’ choices in cross-cultural contexts still needs to be further investigated. How to generalise such knowledge is the crucial matter the current study needs to consider. Moreover, due to the complexity of self-congruity, self-image congruence models include the actual self-congruity model, the ideal self-congruity model, the social self-congruity model, the ideal social self-congruity model, and the affective self-congruity model (Sirgy et al., 1991). The nature of this complexity might make it difficult for the current study to evaluate self-congruity across different retail product categories. Aside from involvement in cross-cultural issues, this difficulty would be a significant hurdle to overcome.

2.4.3 General Values

Basic human values theory has two core components: Openness to Change versus Conservation and Self-Enhancement versus Self-Transcendence (Schwartz, 1992, 1994; Schwartz & Sagiv, 1995). Values are defined by this theory as desirable, trans-situational goals which are important in different ways as guiding principles in human’s lives (Ros et al., 1999). 10 motivationally distinct types of values relate dynamically to one another (Ros et al., 1999) and can be arranged around the perimeter of a circle (Steenkamp & de Jong, 2010): universalism, benevolence, conformity, tradition, security, power, achievement, hedonism, stimulation, and self-direction. According to the analysis of Steenkamp and de Jong (2010, p. 23-24), “associations of any external variable should decrease monotonically when going around the circular structure of value types in both directions from the most positively associated value type to the most negatively associated value type” (Schwartz & Sagiv, 1995). Moreover, during to globalisation, the consumers who value stimulation will have more significant influences on global products (Steenkamp & de Jong, 2010) which fits the purpose of the current study.

2.4.4 Consumer Culture

From another perspective, culture is a system of shared meanings (Smith & Bond, 1998). Smith and Bond (1998) asserted that the studies of value differences provided the best conceptual frameworks to guide cross-cultural research. They stated that consistency across cultures could be shown by the structure of individual values (Smith & Bond, 1998). Value differences across countries was crucial when the selected values were different both within and across countries, which could help to explain cultural differences (Smith & Bond, 1998). They also categorised the levels of cross-cultural studies as culture-level and individual-level comparisons. Hence, it is fundamental to recognise the differences between as culture-level and individual-level in any cross-cultural research.

The value classifications are in the two different levels: culture-level and individual-level (Smith & Bond, 1998). It seems Hofstede’s (1983b, a, 1984a) cultural framework was more closely related to culture-level. Consequently, it could demonstrate a limitation of Hofstede’s (1983b, a, 1984a) framework to some extent. However, Schwartz and Sagiv (1995) found that the problem of establishing criteria from sample deviation for separating actual cultural differences was rarely addressed by previous cross-cultural

researchers who conducted studies of values. Schwartz and Sagiv (1995) claimed that indexes of value types could be constructed from single values, the meanings of which were reasonably similar across cultures, if scholars wanted to compare value priorities across cultures (Schwartz & Sagiv, 1995).

Consumer culture is highly dynamic and subject to change (Slater, 1997). Hoyer and MacInnis (2009) provided a more reasonable and appropriate framework for consumer behaviour research regarding cultural issues. They state that ideas or values as cultural principles are the implication of cultural categories (e.g. time, space, and occasions), which could transfer meanings to the product and the consumer respectively (Hoyer & MacInnis, 2009). Consumers also attempt to discover meaning in their lives throughout the consumption of products that are generally recognised as international and transcending individual national cultures (Steenkamp & de Jong, 2010). Hence, in the recent study of Steenkamp and de Jong (2010), they classify consumer culture values into three categories by recognising that consumer culture deals with the consumption of products, across times, and across space consistent with Hoyer and MacInnis (2009) by considering materialism, innovativeness, nostalgia, ethnocentrism, and environmentalism (Fig.2). The first two consumer values are related primarily to products, nostalgia to the time perspective, and ethnocentrism and environmentalism to the social and physical context (Steenkamp & de Jong, 2010). This set of consumer values is comprehensive, but they are among the more important consumer values to study as antecedents of attitudes toward global and local products (Steenkamp & de Jong, 2010).

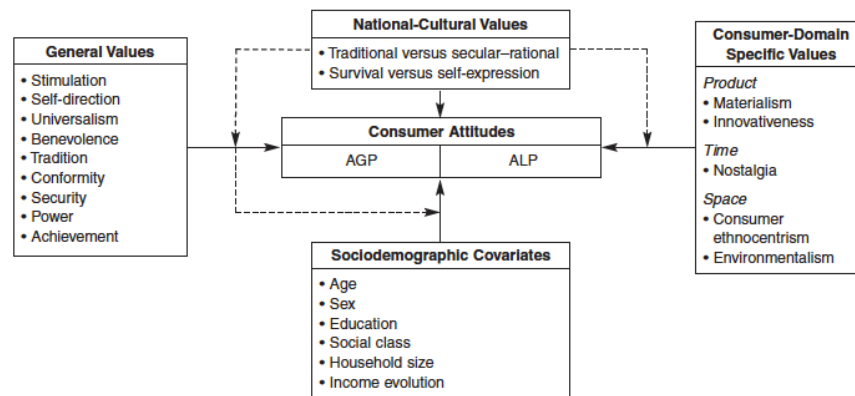


FIG.2: VALUES-BASED FRAMEWORK OF ANTECEDENTS OF AGP AND ALP

The feature of consumer culture could be defined during products consumption (Arnould & Thompson, 2005), which should resonate with consumers when they value materialism (Richins & Dawson, 1992). In addition, new products play an important role that could stimulate consumption to a higher level (Ritzer, 2007). Accordingly, when consumers value a new product, they relate to the core of consumer culture (Steenkamp & de Jong, 2010). People tend to be more prospective than living in the past (nostalgic), which is crucial for researchers to figure out how they continuously respond to this dynamism (Steenkamp & de Jong, 2010). At the same time, the sales of locally conceived products as well as globally conceived products are independent to each other in the terms of sociological notions of groups (Shimp & Sharma, 1987). However, people with high ethnocentrism could fill more strong tension between them (Shimp and Sharma, 1987). Finally, critical theorists criticise that environment have impact on consumer culture consumption frequently (Steenkamp & de Jong, 2010). This claim might be especially resonant with those consumers who are high on environmentalism (Steenkamp & de Jong, 2010).

2.5 The conceptual model

Based on the literature review, this study establishes a conceptual model to measure the image congruence toward global consumer brands from a cross-cultural perspective (see Fig.3).

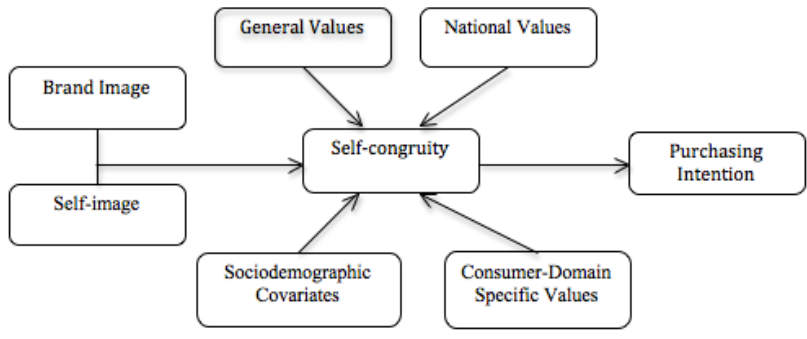


FIG.3: THE CONCEPTUAL MODEL

3 The Suggested Research Method

To present, this study has identified the general problems of the concepts and frameworks regarding brand image, self-concept, and cultural values. In view of the complexity of these subjects, it is impossible to generate a universal model that measures self-congruity across all product categories in all cultural contexts. Many studies have considered self-congruity, but they used limited product categories in only two specific countries. The problem with such findings is that they are difficult to generalise, creating a gap to be explored for the current research. Assuming that culture can be measured, this study will seek a way to discover how to evaluate self-congruity across product categories. Considering that global consumer brands are one of the most common industries in the international retail business, the project will focus on examining self-congruity among those brands that are distributed through retailers. Moreover, considering a conceptual framework has been established, the study will go to the stage of data collection.

This study has conducted two focus groups in order to select a group of brands within four product categories based on the consumer culture studies of Holt (1998; 2002), McCracken (1986), Steenkamp and de Jong (2010), and Tomlinson (1999) which could represent global consumer brands. Four brands have been chosen based on the in-depth interviews those are Apple, Zara, Häagen-Dazs, and IKEA. The study has also conducted 69 pre-tests to select suitable brand/self-image dimensions among 50 image attributes. As a result, 21 image dimensions will be used in the following questionnaire. Fig.4 shows the research approach of this study.

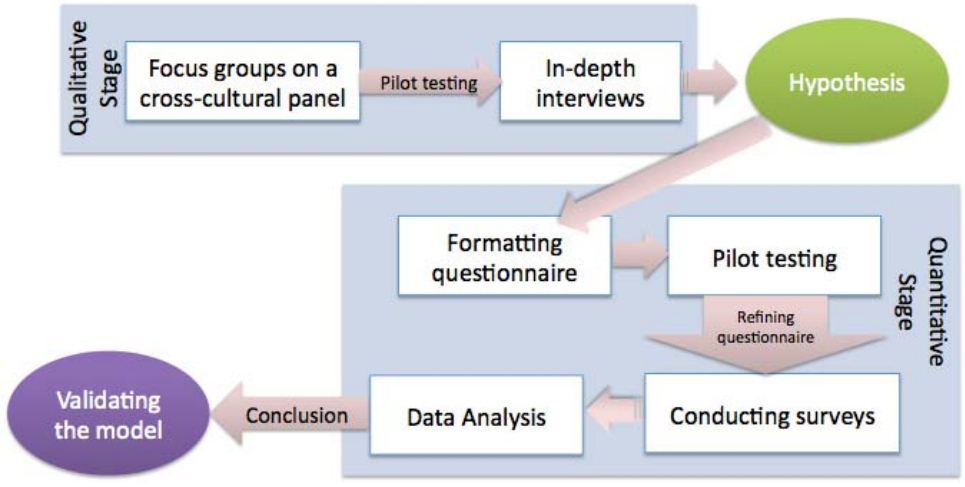


FIG.4: GRAPHICAL REPRESENTATION OF RESEARCH

The first stage is based on the literature review, and a conceptual framework has been developed. In the second stage, focus groups, in-depth interviews and pre-test were conducted in order to clarify the traits and scales associated with brand image and self-image regarding the selected global consumer brands to measure self-congruity. The selection of the global brands will be based on the consumer culture studies of Holt (1998; 2002), McCracken (1986), Steenkamp and de Jong (2010), and Tomlinson (1999). The results of focus groups and interviews will also contribute to the refinement of the model and strengthen the development of hypotheses. In the third stage, surveys will be conducted in three countries: China, the Netherlands, and the United Kingdom. The sample size will be expected more than 300 for each market. The final stage is to analyse the data using structural equation modeling (SEM). SEM allows for the quick creation of models with which to test hypotheses and confirm relationships among observed and latent variables, moving beyond regression to gain additional insight.

4 Conclusions

This study has reviewed the significant features of the three subjects in terms of brand image, self-concept, and cultural issues. Consumer researchers have recognised that product/brand image is intertwined with self-concept. That is, the congruency of self-image and product/brand image influences the consumer's buying behaviour and brand performance (e.g. Adam, 2005; Kressmann et al., 2006; Kuester et al., 2007). Sirgy et al. (2000) report there are different self-concept dimensions. Thus, this study should include different types of corresponding self-image congruities (Ibrahim & Najjar, 2008). Moreover, studying value differences could lead to the development of a better conceptual framework to assist cross-cultural researchers (Smith & Bond, 1998). In hopes of achieving these aims, this study has critically reviewed relevant research investigating this issue at both the culture and individual levels. The most suitable framework of consumer culture for this study developed by Steenkamp and de Jong (2010).

Theoretically, This study would be the first to apply the consumer cultural framework of Steenkamp and de Jong (2010) to self-congruity for cross-cultural studies, and would give practitioners an alternative framework to improve the effectiveness of their marketing. Second, this study would be the first to measure image congruence by integrating national-cultural values, consumer cultural values, and general values as the measurement of cross-cultural issues. Third, the model could extend the application of the existing self-congruity frameworks across more product categories and different cultural contexts.

In practice, the framework that this study will develop can help brand managers to understand the differences between the congruence of their brand images and consumers' self-image in a cross-cultural context. They can utilise this information both in their home country and in a number of culturally diverse nations. Brand managers need to understand the crucial role of self-congruity in predicting consumers' intentions (Ibrahim & Najjar, 2008). The model will help them to establish and implement strategies in order to enter into new countries and build their market share in different cultures. The managers will also be able to evaluate and amend their current marketing strategies using the framework, thereby maintaining and enhancing their compatibilities and market shares.

Based on the literature review thus far, this study has proposed a conceptual model to measure self-congruity regarding the research topic. The methodology and research approach are proposed in terms of the previous literature research. SPSS will be used as a statistical tool to analyse the data, whereas Amos will be utilised to discover the relationships between variables and validate the model.

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An Approach to Engaging with Customers Enrolled in Rewards Program

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Abstract

Several organizations, across industries, are collecting large amounts of customer data in their transactional and operational systems. Very often this data is used to profile customers, estimate their current value and future potential and drive relationship marketing programs. In this study, we propose an approach to engaging with customers enrolled in a loyalty program through promotions across different segments, geographies, channels and promotion types. We use data from a hotel chain to segment customers through a classification tree (CT), regression analysis to identify characteristics that are important in each of these segments and finally optimization to maximize revenue from customers across geographies. Our proposed approach will help managers, working within budget constraints, to choose the most appropriate promotional strategy to build stronger relationship with their valued customer segments.

Introduction

Businesses aim to retain customers based on the realization that it is cheaper to retain an existing customer than earning the equivalent revenue from a new customer. But it is not enough to retain customers. The challenge is to repeatedly draw them to buy. To achieve this end, many businesses have launched rewards programs patterned on the lines of "frequent flier" programs of the airlines. It is easier to engage with customers enrolled in these rewards programs as companies have data on demographics, purchases, preferences, revenues, profits, etc. collected over a period of time as well individual customer's response to communications. The wealth of data creates a potential to influence customer usage and buying behavior which impacts profitability. Bell, Deighton, Reinartz, Rust and Swartz (2002) highlight the impact of loyalty programs on profitability through an analysis of HHonors, the loyalty program of the Hilton chain of hotels. Only 9% of its almost 18 million guests who stay in a Hilton hotel in a year belong to HHonors but they account for about 56% of the chain's profits. The skew is even more pronounced among the upper tier of customers belonging to the elite silver, gold, and diamond status. These top 3% groups contribute 46% of Hilton's profitability.

Other studies have reported similar skew in revenues. According to a survey, the frequent travel segment represents \$ 40 to \$ 50 billion in revenues each year (Brown, 2004). These guests spend only a part of their annual expenditure on hotels in their preferred hotel chain. A considerable percentage (estimated to be over 60 percent) is spent in competing hotel chains. Many of these heavy users are enrolled in the loyalty programs of competing chains thus there is potential to their increase the share of wallet of these customers. Persuading such customers to increase their share of spending with a specific chain can add potentially increases revenues as well as profitability. Hotel chains, to achieve this objective, are trying to make their loyalty programs more focused while making them more attractive to the members. This requires appropriate classification of the members (proper segmentation) as well as better understanding of individual customer in each of these segments for engaging with them on a continuous basis through multiple channels of communications and promotions.

Objectives

The objectives of our paper are

1. To identify characteristics of customers enrolled in the rewards programs across key value segments,

2. To identify characteristics that are important in each of the segments, and
3. To identify appropriate promotional strategies to engage with customers.

Literature Review

Successful marketers study consumer needs to develop insights about customer segments, sometimes a very small subset of their overall customer portfolio, to lead product development initiatives and manage existing products for profitable growth. Successful segmentation programs based on customer loyalty are dynamic, grounded in data, and learn from the concerns of loyal and profitable consumers.

Markey, Ott and Toit (2007) identified three skills prevalent at successful companies. These companies combine loyalty and segmentation tools to excel at –

1. Using insights from their analysis to deepen relationships with their loyal and profitable customers.
2. Looking inward to identify and tap capabilities to meet target customers' needs in unique ways.
3. Engaging customers in an ongoing dialogue that guides decisions about how their products, services and business evolve resulting in a spurt in innovation.

McDonald and Dunbar (2000) propose a customer-centric approach to market segmentation by utilizing information already held by or accessible to a company. Their framework is built on the key insight that customers segment themselves by the way they obtain value. Therefore, it doesn't matter how the company segments its market, it is how the customers segment in their market that is important. Schweidel, Fader and Bradlow (2008) analyzed the limited information residing in a telecom firms databases to help understand service retention within and across cohorts of customers.

Based on a competitive test in a simulated direct marketing scenario, Linder, Geier and Kölliker (2004) investigated the predictive performances of artificial neural networks (ANNs), classification trees (CTs) and logistic regression (LR) and concluded that the performance of all methods increased with the size of the sample size. They also found that the combination of the prediction scores of ANNs, CTs and LR into a single model revealed synergistic effects among the three modeling approaches and resulted in better results than any single model. They concluded that the combination of ANNs, CTs and LR into a single model mostly resulted in the best prediction, suggesting that model combination might be a safe way of maximising predictive performance. Classification trees have been used by researchers to predict alumni donations for higher education (Weertsa and Roncab, 2009).

The process of identifying market segments should logically begin from the observed differences in behaviour, and, through understanding this behaviour, develop an understanding of customers' differing requirements through the study of such variables as 'perceived benefits' or similarly 'customer needs'. 'The belief underlying this (benefit) segmentation strategy is that the benefits which people are seeking in consuming a given product are the basic reasons for the existence of true market segments. Experience with this approach has shown that benefits sought by consumers determine their behavior much more accurately than do demographic characteristics or volume of consumption' (Haley, 1995: 60).

It should be further emphasised that such a 'behavioural', needs or benefits-based approach, however, is likely to be specific to a product or product category and, as such, more difficult and time-consuming than an a priori approach (Neidell, 1983) to segmentation which simply classifies segments in terms of customer characteristics. The inherent shortcoming of the latter approach is that it is likely to produce segments that are plausible and even vividly descriptive, as are the 'VALS' segments, but which are unlikely to be predictive of actual purchase behaviour - the ultimate objective of analysis.

Beyond identifying segments, there is the further task of evaluating and choosing between segments. This process of selecting among available segments will frequently revolve around an assessment of the value of the various segments (most commonly their revenue potential) and the degree of fit with the organisation's marketing activities.

Elliott and Glynn (1998) had recommended integrating behavioural segmentation and customer value to reflect the joint combination of 'customer needs (or 'benefits'), as a means of properly understanding the customer and responding to the precepts of the marketing concept, and some analysis of 'usage' as a means of understanding their current and future value. 'Needs' reflects what the customer is looking for from their service provider, the complementary process of estimating 'value' represents what the service provider is looking for in its customer mix. Thus, for the process of segmentation to be complete requires both types of analysis.

Segmentation plays a significant role in relationship marketing where it is more interested in enhancing the existing customer relationships thus generating a need for a better understanding of the existing customer base. Analysis that facilitate the calculation of customer relationship profitability, is a useful starting point for segmenting customer bases and a basis for formulating marketing strategies (Storbacka, 1997). By using empirical data collected from a leading hotel chain, the paper illustrates different ways of segmenting customer bases for effective relationship strategies with existing customers and 'attraction' strategies for new customers.

Organizations have started adopting customer portfolio analysis to classify customers or segments according to present and future value. It can be used to derive implications for resource allocation to customers or customer segments, with the objective of increasing customer equity defined as the sum of the lifetime value of its customers. Customer portfolio management involves a combination of the two stages of classification and resource allocation. Homburg, Steiner, and Totzek (2009) developed a segment based customer-lifetime-value model and capture customer dynamics by analyzing how customers switch between segments of different values across time. They found that general customer characteristics and aggregated transaction characteristics indicate future segment dynamics, while specific product usage data differentiate customers according to current value. Thus transactional characteristics better predict current customer profitability, while customer characteristics indicate changes of customer value in the long run.

Customer lifetime value (LTV) models have long been used to focus direct marketing campaigns by allocating resources to those customers who are deemed to offer the most value to the company. After developing frameworks for creating customer segments which forms the basis for customer portfolio management, the strategic marketer continually identifies and improve customer management strategies that lead to the greatest impact on marketing performance.

The review of literature helps identify several options available to marketers for using data available in their databases. The data includes customer level details on transactions, purchase, usage, survey responses, response to promotions, demographics and interactions with service employees, etc. In the next section, we describe the research methodology.

Methodology

Detailed data is obtained from the loyalty programme of a major hotel chain. The database consisted of various demographic characteristics as well as contribution to revenue. The customers (members of the loyalty programme) are categorized into three segments namely, Low, Medium and High, based on revenue from customers during one year. Initially, the differences in demographic characteristics of each of these segments are identified. It is necessary to estimate the importance of each of these characteristics in determining the segment that the customer belongs to. As many of the characteristics are categorical or ordinal in nature, the usual techniques such as regression and correlation cannot be used. Although Chi-square technique is eminently suited for this type of data (categorical or

ordinal data), it cannot provide the relative importance of each of these characteristics. So we used Classification Tree to predict the category to which the customer belongs. The accuracy of this prediction of group memberships is tested and also the characteristics of customers in each segment are identified. These characteristics can be used to classify customers into respective categories (High, Medium and Low Value).

In the next stage, we carried out Regression Analysis to identify factors which determine the revenue from each customer. This was separately conducted for the four main geographies as geography had emerged as an important predictor in the Classification Tree.

Finally we propose an optimization process to allocate the promotional budget across customers enrolled in the rewards program through different channels for each segment. The optimization builds on the results of the Classification Tree and Regression Analysis to help tailor the promotions at the segment level.

Results and Discussion

As mentioned earlier, all customers were classified into three categories, namely Low, Medium and High. Table 1 presents the summary of the average spend by each category under different heads namely, Food and Beverages (F&B), Room Revenue and Other Revenue. Other revenue includes various revenue items such as laundry, business center, health club, telephone and internet services etc.

Needless to say, the average spending of the High Category customers is significantly higher in all the three types of revenue. On the other hand, the percentage of F and B Revenue to the total revenue was the lowest among the High Category customers. The corresponding percentage was the highest for the Medium Category. The percentage of Room revenue was the lowest for the Medium category. In other words, High Category customers spend a relatively lower percentage on Food and Beverages while the Medium Category customers spend a larger percentage on Food and Beverages.

TABLE 1: SEGMENT-WISE SPENDING (AVERAGE)

	Average spend			
	F & B	Other Revenue	Room Revenue	Total Revenue
Low	81,879.96	54,532.89	398,423.88	534,836.72
Medium	131,459.95	86,335.28	576,964.64	794,759.87
High	223,200.34	187,976.50	1,225,424.71	1,636,601.55
	Percentage of revenue type (Percentage to total revenue)			
	F & B	Other Revenue	Room Revenue	Total Revenue
Low	15.31%	10.20%	74.49%	100.00%
Medium	16.54%	10.86%	72.60%	100.00%
High	13.64%	11.49%	74.88%	100.00%

The data was used to build a classification tree to classify the customers into Low, Medium and High categories. The rules derived from the classification tree are applied to the data set to determine the prediction accuracy. Table 2 presents the prediction accuracy of the classification tree.

TABLE 2: PREDICTION MATIX

	Segment	Prediction		
		Low	Medium	High

Actual	Low	88.33	8.56	3.11
	Medium	8.14	85.27	6.59
	High	5.04	5.81	89.15

The classification tree was able to predict 88 percent of the Low Category correctly. Similarly, it is able to predict 85 percent of the Medium Category and 89 percent of the High Category correctly. Thus the predictions accuracies of the classification tree were satisfactory.

A close perusal of the structure of the tree revealed that three important variables influence the classification by the tree. These variables are

1. Country (Nationality)
2. F & B Revenue (contribution) and
3. Other Revenue (contribution)

The impact of these three variables is discussed in the following sections.

1. Country (Nationality): The customers are grouped into 4 groups based on their nationality, namely India, United Kingdom (UK), United States of America (USA) and Other countries (Others). Table 3 presents the country-wise revenue for each of the three categories. Among the Low category customers, those from United Kingdom spend the highest where as those from India spend the lowest. Similarly, among the Medium category, those from Other countries spend the maximum, where as those from the USA spend the least. Finally, the High category is characterized by the USA (who spend the highest) and UK (who spend the least amount). Thus, there is a clear distinction in the spending pattern based on the nationality among the three categories.

TABLE 3: SEGMENT-WISE AND COUNTRY-WISE SPENDING

		INDIA	UK	USA	Others
Segment	Low	527,959	556,287	555,218	529,046
	Medium	795,521	787,023	776,161	802,803
	High	1,702,342	1,524,206	1,874,612	1,549,543

2. Food and Beverage (F&B) Revenue: F&B revenue accrues through 11 different sources such as F&B Chamber, Coffee Shop, Continental Restaurant, etc. Table 4 presents the revenue contribution of each of these sources by category of customers. The highest percentage of Indian Restaurant, Oriental Restaurant and Room Service appear to come from Low category customers (out of the three categories). Similarly, highest percentage of Multi Cuisine, Mini Bar and Outdoor appear to be coming from Medium category customers. The highest contribution to the remaining 5 sources comes from the High Category customers. In other words, the contribution in percentage terms is dominated by different categories in different sources of Food and Beverage.

TABLE 4: ITEM-WISE SPENDING UNDER F & B CATEGORY (PERCENTAGE)

	F&B-Chambers Revenue	F&B-Coffee Shop / Lobby Lounge Revenue	F&B-Continental Restaurant Revenue	F&B-Mini-Bar Revenue	F&B-Indian Restaurant Revenue	F&B-Multi Cuisine / Alternate Cuisine Revenue	F&B-Oriental Restaurant Revenue	F&B-Pastry Shop Revenue	F&B-Room Service Revenue	F&B-Bar / Lounge Bar / Night Club Revenue	F&B-Banquets / Outdoor Revenue
Low	1.02%	19.56%	5.50%	3.63%	6.04%	6.07%	8.49%	0.23%	33.84%	8.00%	7.61%

Medium	1.15%	20.11%	4.63%	4.44%	5.38%	6.58%	7.54%	0.25%	28.49%	9.41%	12.02%
High	3.56%	20.51%	9.07%	4.23%	4.89%	4.84%	6.62%	0.63%	32.01%	9.57%	4.06%

3. Other Revenue: From among the three categories of customers, Low category appears to contribute the highest percentage in terms of revenue from Health Club and Beauty Salon. The highest percentage of revenue from Laundry and Miscellaneous comes from High Category customers. The highest percentage with respect to other items such as Fax, Internet and Telephone (local and STD) is contributed by the Medium category customers. Table 5 presents the percentage contribution of “Other” revenue, category wise.

TABLE 5: ITEM-WISE SPENDING UNDER “OTHER” CATEGORY (PERCENTAGE)

	Other-Business Centre / Fax Revenue	Other-Internet Revenue	Other-Telephone - Local Revenue	Other-Telephone - STD / ISD Revenue	Other-Health Club / Beauty Salon Revenue	Other-Laundry Revenue	Other-Miscellaneous Revenue
Low	9.35%	4.87%	4.13%	48.40%	3.06%	19.51%	10.67%
Medium	10.57%	6.09%	4.28%	49.01%	2.47%	20.19%	7.40%
High	10.26%	2.84%	4.26%	44.00%	1.44%	23.44%	13.76%

The classification tree helps identify important variables which determine the type of category of the customers namely, Low, Medium and High. The prediction accuracies of the classification tree are more than satisfactory. A further analysis of the data pin points the different sources of revenue (in terms of percentages) contributed by different categories.

Regression Analysis

The hospitality industry is characterized by the same customer wearing different hats when travelling for different purposes. A corporate executive is booked as a ‘Corporate Segment’ when travelling on official work and as ‘Leisure Segment’ while on personal and recreational visit. In the next stage of analysis, we used regression analysis to identify the contribution of each segment to revenue. The Classification Tree analysis clearly showed that there are significant differences in the contribution to revenue based on the Country (Nationality) of the customer. Hence, separate regression equations are fitted for each of the 4 country groups with ‘Revenue’ as the dependent variable. Table 6 presents the regression coefficients, statistically significant at 0.01, for these equations. The Coefficient of Determination (R^2) varied between 0.512 and 0.848. The regression fit was the best with respect to the customers from the USA with an R^2 of 0.848. Three segments namely Long Stay (LSY), Others (OTH) and Corporate (CORP) are significant in all equations. Leisure (LSE) segment was significant with respect to UK and Other countries, whereas Complimentary (COMPY) segment is significant only for India. It is important to note that the coefficients of these variables are very different across countries. The implication is that the contribution of different segments varies significantly according to country of the customer.

TABLE 6: REGRESSION COEFFICIENTS OF EQUATIONS FOR DIFFERENT REGIONS

		USA	INDIA	UK	Other
	Intercept	559676.1	611543.4	448751.0	412724.8
LSY	Coefficient	2292.986	3112.356	2837.291	3213.397
OTH	Coefficient	13571.28	3128.372	3434.925	4411.795
CORP	Coefficient	2863.882	2937.54	3966.563	3896.826

LSE	Coefficient			11223.74	3271.984
COMPY	Coefficient		-7700.02		
	R-Square	0.848	0.624	0.523	0.512

The classification tree helped us identify the variables that are important in determining the spending category of the customers. The country of origin is one of the important variables and hence the relationship between various segments and the revenue was estimated through regression equations, estimated market-wise. The significance of the regression coefficients also indicates that the contribution of different segments differs across markets. Obviously, the hotel chain will have to adapt different strategies for different segments in each of its markets. It can use various channels of communication for addressing different segments. The effectiveness of various channels is likely to vary across different regions for each of the segments. This effectiveness in terms of a “hit rate” can be estimated in the form of yield, measured in room nights under each of the segments, based on historical data and with certain amount of experimentation. At the same time the budget available for such a communication campaign is limited. This limited budget needs to be distributed across various segments, covering different regions. Obviously, the objective of such exercise is to maximize the revenue (or profit) arising from all the segments and regions and channels. Thus, the problem reduces to optimal allocation of the limited budgetary resources to maximize the revenue (or profit). Such issues are best addressed through a linear programming approach. A possible linear programming formulation for maximizing the revenue with limited budget is presented below. This formulation takes into account, the following constraints:

1. There is a limit to the total budget available for the campaign
2. There are certain pre-determined lower and upper limits that are needed to be adhered to in distributing the available budget between different channels and regions (this will ensure some amount of visibility in all the regions across all channels). If necessary, the management can decide to limit the lower bound or upper bound (thresholds) for a particular channel or region to be zero.
3. The spend in a particular region/market should not exceed a predetermined percentage of the total spend.

Based on these constraints, we propose the following optimization model to maximize revenues -

$$\text{Max } \sum C_{ij}X_{ij}$$

C_{ij} = Revenue in i^{th} region for j^{th} type of segment e.g. conference nights, leisure, longstay etc.

X_{ij} = Number of nights in the i^{th} region (geographical market e.g. USA, UK, India etc.) for the j^{th} type of segment

Subject to

$$L_{ij} \leq B_{ij} \leq U_{ij}$$

B_{ij} = Budget targeted for the i^{th} market and j^{th} Segment

L_{ij} = Minimum amount

U_{ij} = Maximum amount

$$\sum_j B_{ij} \leq Q_i \sum \sum B_{ij}$$

Not more than Q_i percentage of total budget in the i^{th} market

$$\sum_k Y_{ijk} B_{ijk} = X_{ij}$$

Every rupee budgeted for i^{th} market for the j^{th} segment through k^{th} channel will yield Y_{ijk} room nights (based on historical data for promotion efficiency of channels viz. telecall, email, sms, mailer, etc. This can also be determined through promotional experiments)

$$\sum_k B_{ijk} = B_{ij}$$

The total budget through the all the k channels is equal to the budget in i^{th} market for j^{th} segment

Conclusions

The starting point for our research was the need to utilize the data residing with service firms with whom customers interact regularly and details of such interactions are captured in the firm's database. At the same one has to remember, that building strong relationship with customers requires a deeper understanding of their needs and current interactions with the focal firm's competitors. As highlighted by Du, Kamakura and Mela (2007), while companies are collecting voluminous data of their customers' interactions, they often face a dearth of information on external (outside the firm) customer activities. This leads to customer relationships being managed by using a view of customers that is based mostly on internal records. This inward focus often results in misleading measures of a customer's market potential. Du et. al. (2007) state that customers with high value, based on internal records, may have modest growth potential if few requirements are served by competing firms. On the other hand, customers who have a high transactional volume with competing firms may be good targets for growth if the firm can attract a larger share of their business.

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Analysis on Market Expansion Strategy of Luxury Brands in China: The Evidence of LV (Louis Vuitton)

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Abstract

China has become the second largest consumer market of luxury goods and is expected to be the number one in the next five to ten years. Some luxury brands are expanding rapidly in China. In this paper, we take LV as an example and build a model to analyze geophysical exploration pattern, by assuming that LV chooses a exploration pattern so that the 'total cost' the consumers paid to reach their nearest LV store is minimized. We also use optimization programing and Monte Carlo simulation to examine several series of data to determine the goodness of the geophysical exploration model. We find that the use of distance data between cities and GDP, Tertiary Industry GDP data, respectively, can provide a model with good descriptiveness and predictability of the geophysical exploration pattern of LV in China.

I Introduction

According to the BCG report (2010), the global market for luxury is close to €1 trillion. It is worth noticing that there has been a shift from traditional luxury markets (France, Italy, England etc.) toward new luxury markets, such as China, Russia, and Brazil and so on. Chinese consumers are enthusiastic about spending on luxury items, and luxury consumption in China shows a trend of constant renewal.

Many luxury pioneers have entered into Chinese market by working with licensees since 1990s. After two decades of nurturing, China' luxury consumption has become a strong force in the global luxury market and is experiencing a sustaining growth. Even under global financial crisis it performed pretty well. China is expected to become the world's largest luxury market in the next five to ten years. Furthermore, global luxury brands are expanding their business rapidly in China. In this paper, we focus our study on the business expansion strategy of luxury brands in China.

II Literature Review

D . L . Huff(1963) developed famous Huff's retail model which is "generally used to determine trading areas around particular facilities." Huff's model based on gravity principle and presents that the size of shopping district is determined by the shopping areas attractions for consumers and obstacles which consumers feel.

Huff David L. (1966) presents a computer-programmed solution for retail location choice. In this article, Huff chose a set of locations, and calculated corresponding net profit. The optimum location is the place where firms can generate the biggest net profit.

Zhou Shangyi, Zuo Yi'ou, Wu Qjian (2008) built a modeling of KFC's spatial diffusion in Beijing City.

Their paper builds models to analyze how foreign catering chain store is spatially diffused within Beijing City. This paper design three new spatial variables in the model and finally Ring Order Model and Radius Model didn't pass the tests while Alpha model passes. The conclusion is that economic factors have greater influence on KFC's diffusion.

Yu Xiang-yang, Wang Xin-zhong (2003) tries to discover the special formation and distribution laws of the commercial entertainment places in urban areas. This paper studied the contents and structures of the commercial entertainment places in urban areas, as well as their relationship with the quality of the urban social life spaces.

Gong Xiaoyin (2009) presents some strategies regarding to the retail industry location choices based on the theory of population economics. Gong Xiaoyin suggested that population is a key factor to determine the location choice strategy for a retail industry.

IV Geophysical Exploration Pattern of LV: OPT Model

In this paper, we develop a geophysical exploration model of LV. This article assumes that LV expand its business by opening stores under a rational thinking, in other words, LV is a 'rational man/woman'. In order to attract the potential customers and stimulate sales, LV chooses a pattern to open new stores among cities so that it minimizes the total cost paid by the LV product consumers to reach LV stores.

In addition, the number of stores opened every year is constrained and predetermined by its financial budget, which means that the number of stores opened in a specific year is an exogenous variable. In our study, we collected location information of stores opened each year since 1992, when LV opened its first store in Beijing. We focused our study only on mainland market and ignored the number of stores opened in Hong Kong, Macao and Taiwan.

In this paper, we developed geophysical exploration model, using population and distance between cities as variables. We adopted Monte Carlo (MC) simulation to calculate the *Simulated Pattern* (see *Definition (9)*) and compared with the *Historical Pattern* (see *Definition (8)*), and tested the goodness of LV geophysical exploration pattern in China market. We called this model as *Optimize Model*, or *OPT Model*.

4.1 Core Concepts

It is assumed that there are two factors were considered when LV locating their shops geographically. One is the economic status of the candidate city, which is proxied by population, GDP, GDP per capital, or other variables. The other is the total cost paid by the consumers to purchase LV products, which, in this paper, is proxied by the distance that the consumers move to reach a LV nearest store.

To summarize, we assume that the geophysical exploration pattern of LV is which that minimize the 'total cost' the consumers in different cities paid to reach their nearest LV store.

4.2 Definitions

In our paper, the following words have special meanings:

- (1) *Major Cities*: Provincial capitals and cities specially designated in the state, defined by *China Statistic Yearbook 2010*.
- (2) *Consumers*: LV product consumers.
- (3) *Population*: The total population in *Major Cities* at the end 2009.
- (4) *Distance*: The straight-line distance between two *Major Cities*.
- (5) *Minimum Distance*: The *Distance* between a *Major City* and the nearest LV store. When there has been a LV store in a *Major City*, the *Minimum Distance* for that city is zero.
- (6) *Scene*: The specific set of cities where LV has opened stores for a given time. For example, the *Scene* in 1998 is that, LV has opened stores in Beijing, Shanghai, Dalian, Guangzhou and Shenzhen.
- (7) *Pattern*: The change of the *Scene* over time. For example, one possible *Pattern* may be the following: in the first year when LV entered China, it opened a store in Shanghai; in the second year, it opened three stores in Beijing, Chengdu, Wuhan, respectively; and in the third year, it opened two stores in Hangzhou, Xi'an, respectively; and so on. Each *Pattern* is constructed by a series of *Scenes*.
- (8) *Historical Pattern*: The actual *Pattern* that LV opened stores in major cities in the past years. In our investigation, we find LV actually opened one store in Beijing in 1992; in 1995, it opened the second store in Shanghai; and then Dalian, Guangzhou and Shenzhen in 1998; and so on.
- (9) *Simulated Pattern*: The Monte Carlo simulated *Pattern* according to *Historical Pattern*, holding the number of cities in every *Scene* unchanged, while the cities in the *Scene* are randomly chosen. For example, one *Simulated Pattern* may be the following: in contrast to *Historical Pattern*, LV opened one store in a randomly chosen city, for instance, Nanjing (rather than Beijing) in 1992; in 1995, it opened the second store in a randomly chosen city, Xi'an (rather than Shanghai); and then Qingdao, Chengdu and Wuhan (rather than Dalian, Guangzhou and Shenzhen) in 1998; and so on.
- (10) *Historical f*: The f value (see assumption (5)) over time calculated by using *Historical Pattern*.
- (11) *Simulated f*: The f value over time calculated by using *Simulated Pattern*.
- (12) *Historical F*: The F value (see assumption (6)) calculated by using *Historical Pattern*.
- (13) *Simulated F*: The F value calculated by using *Simulated Pattern*.

4.3 Assumptions

To build our models, we assume that:

- (1) The *Consumers* of LV products live in nowhere but the *Major Cities*.
- (2) LV opens stores only in *Major Cities*.
- (3) LV faces financial budget constraints. The number of stores opened in a specific year is limited by its own predetermined budgets. That is, in other words, the number of stores opened in a specific year an exogenous variable.
- (4) *Consumers* are rational individuals, they buy LV products in nearest stores, either in the Major City they live in (when there is not a LV store in the Major City they live) or in another nearest Major City (when there is not a LV store in the Major City they live).

(5) LV is a rational enterprise. It tries to construct a *Scene* to minimize the total cost the *Consumers* paid to reach their nearest LV store. For a specific year i , the total cost the *Consumers* paid is determined by the following formula:

$$f_i = \sum_{j=1}^n P_j \cdot D_j$$

Here, P_j is the total number of LV-product *Consumers* of *Major City j*, and D_j is the *Minimum Distance* between *Major City j* and the nearest LV store. When there has been a LV store in *Major City j*, $D_j=0$.

(6) To justify the goodness of the *Patterns*, we introduce F value, where for every *Pattern*:

$$F = \sum_{i=1}^m f_i$$

(7) LV stores are identical. They provide identical products and services. Furthermore, rents, ⁽ⁱⁱ⁾ salary levels and other cost related to the location of the stores are identical.

(8) The percentage of *Consumers* in the *Population* in each and every *Major City* is constant.

(9) The growth rate of *Population* of every *Major City* is identical over time.

(10) The opening of more than one store in the same *Major City* has no influence on the f value. We only consider the year of the first store opened in every *Major City*.

4.4 Explanations and Inference of the Assumptions

Since the potential consumers of LV products are the high-income consumers in cities. To simplify our model, we assume that all *Consumers* are living in the *Major Cities*, as the *Assumption (1)*.

After our investigation, we found that LV had opened stores in 28 cities in 2010, among which, there were only 4 cities that were not provincial capitals or cities specially designated in the state (*Major Cities*), as defined by *China Statistic Yearbook 2010*. The 4 cities were Wenzhou, Sanya, Suzhou and Wuxi. Due to the difficulties to obtain the authoritative data of these 4 cities such as city's total population, GDP, GDP per capita, etc., our paper ignored the stores opened in these 4 cities and assumed that LV only set up stores in the *Major Cities*, as assumed in *Assumption (2)*.

In this paper, we assumed that LV expanded its business by opening new stores in *Major Cities*. However, the year of opening new stores and the number of new stores opened in a year is constrained by the predetermined financial budget. In this paper, we do not discuss the financial condition of LV. Based on the considerations above, we have assumed *Assumption (3)*.

Just as described in *Assumption (4)*, we think *Consumers* always spend their money on LV products in the nearest store. *Assumption (4)* ensures that D_j is the *Minimum Distance*.

In the *Assumption (5)*, $P_j \cdot D_j$ can be reasonable considered to be the 'total cost' the *Consumers* in *Major City j* paid to reach the nearest LV store. And f_i can be viewed as the 'total cost' over time in the i th year.

It is a natural logic to assume that LV optimizes the *Pattern* to minimize the 'total cost' over time, that is, to minimize the sum of f_i , as we assume in *Assumption (6)*.

We don't want to discuss the cost difference of opening stores in different *Major Cities*, so we have

Assumption (7).

Assumption (8) and *Assumption (9)* is reasonable, given that we don't want to discuss the consumer structural change or demographic change in this paper. And together, these two assumptions ensure that it is reasonable to use *Population* to proxy the number of *Consumers* in every *Major City*.

In our paper, we focus on the geophysical exploration among cities, rather than an exploration within a city. So we have *Assumption (10)*.

4.5 Data Collecting

4.5.1 Cities and Years

We collected the specialty store number LV opened in China Mainland market according to statistics on LV official website (<http://www.louisvuitton.com/>). So far, LV has opened 36 stores in 29 cities, including 7 flagship stores and 29 specialty stores. In addition, we obtained the year when the stores opened via LV official website and internet news.

Note that we ruled out the store opened in 2011 in Zhengzhou city because year 2011 has not yet completed. And as mentioned above, we ignore the 4 stores opened in non-Major Cities, namely Wenzhou, Sanya, Suzhou and Wuxi.

In summary, we have collected 24 pairs of data, each pair of data includes the cities and year LV opened stores, the data cover the year from 1992 when LV first entered China to the end of 2010.

TABLE 1: CITIES AND YEAR OF LV OPENED STORES

City	Year	City	Year	City	Year	City	Year
Beijing	1992	Hangzhou	2004	Kunming	2007	Taiyuan	2009
Shanghai	1995	Xiamen	2004	Tianjin	2008	Harbin	2009
Dalian	1998	Qingdao	2004	Changchun	2008	Ningbo	2009
Guangzhou	1998	Xi'an	2004	Wuhan	2008	Hohhot	2010
Shenzhen	1998	Shenyang	2007	Changsha	2008	Fuzhou	2010
Chengdu	2002	Nanjing	2007	Urumqi	2008	Nanning	2010

4.5.2 Major Cities and relative data

We use data from government sources in *China Statistical Yearbook 2010*, including population, total GDP, GDP of secondary and tertiary industry of the *Major Cities*. We use the data above to calculate GDP per capita.

4.5.3 Latitude and Longitude of Major Cities

In order to get the Distance between two Major Cities, we collect the longitude and latitude for each Major City through Google Earth Software (version: 6.0.1.2032 beta).

4.6 Data processing

4.6.1 Historical Pattern

Using historical data (cities and years), we can construct historical *Scene* and *Historical Pattern* from year 1992 to

2010.

4.6.2 Distance

We use the latitude and longitude information collected above, to calculate the *Distance* matrix between every two *Major Cities*, using geometry formulas.

4.6.3 Minimum Distance and Historical f

For every historical *Scene*, we use MATLAB® (version: 7.6.0.324 (R2008a)) to find *Minimum Distances* D_j for every *Major City*.

After that, *Historical f* can be derived using formula (i), for given *Minimum Distances* D_j and population, GDP, GDP per capita, etc.

After using *Historical Pattern*, we get *Historical f* value (using *Population-Distance* data) as following table, where f is in (million persons*thousand km):

TABLE 2: HISTORICAL f VALUE (USING POPULATION-DISTANCE DATA)

Year	f_i	Year	f_i	Year	f_i	Year	f_i
1992	272.44	1997	203.70	2002	87.61	2007	54.96
1993	272.44	1998	135.18	2003	87.61	2008	35.49
1994	272.44	1999	135.18	2004	70.73	2009	29.26
1995	203.70	2000	135.18	2005	70.73	2010	23.47
1996	203.70	2001	135.18	2006	70.73		

And we draw the *Historical f* curve (using *Population-Distance* data) from year 1992 to 2010 as following figure:

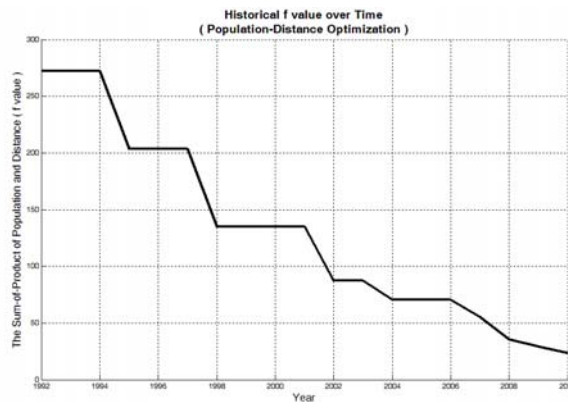


FIG.1: HISTORICAL f VALUE OVER TIME (POPULATION-DISTANCE OPTIMIZATION)

4.6.4 Monte Carlo simulation and Simulated f

We generate 10^5 *Simulated Patterns*, by employing MATLAB® Monte Carlo (MC) simulation programing.

And then, as illustrated above, we repeat the process of determining *Minimum Distance*, and calculating *Simulated f* for each *Simulated Patterns*.

The figure of *Simulated f* values over time is obtained by MATLAB®:

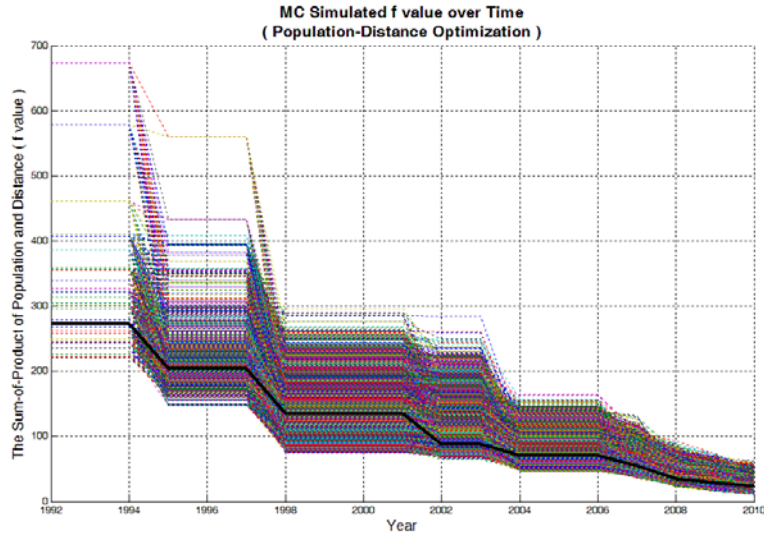


FIG.2: MC SIMULATED f VALUE OVER TIME (POPULATION-DISTANCE OPTIMIZATION)

The figure is drawn in contrast with the bold line, which stands for the *Historical f* value over time, while the colored dashed line stands for the *simulated f* value over time.

4.6.5 Using GDP and other data

After replacing the *Population* data with GDP, GDP per capita, GDP of secondary and tertiary industry, and repeating the process above, we can get the *Historical* and *Simulated f* values and figures of GDP, GDP-per-capita, GDP of secondary and tertiary industry versus *Distance*.

4.7 Results

To determine the goodness of the *Historical Patterns*, we use F value, as defined by *Assumption (6)* and formula (ii). And furthermore, we introduce G value, the determinant factor of Goodness, where:

$$G = \frac{\text{the number of Simulated } F \text{ value that is smaller than Historical } F}{\text{the total number of MC simulation}} \quad (\text{iii})$$

One can consider the G value to be the probability that a randomly created *Simulated Pattern* is better than the *Historical Pattern*.

As long as F can be reasonably viewed as the ‘total cost’ of the *Consumers* paid to reach their nearest LV store over time, the smaller the F value, the better the *Pattern*. We compare each and every *Simulated F* values with *Historical F*, and get a G value.

The *Historical* and *Simulated F* shows that, when using *Population-Distance* data, the G value is about 24.747%, the indication is that, when the *Pattern* is randomly simulated, the probability of the *Simulated Pattern* is better than the *Historical Pattern* is 24.747%.

The G values using different series of data are shown in the following table:

TABLE 3: *G* VALUES

Data	<i>G</i> value
Population- <i>Distance</i>	24.747%
GDP- <i>Distance</i>	0.844%
GDP-per-capita- <i>Distance</i>	6.783%
Secondary-Industry-GDP- <i>Distance</i>	2.671%
Tertiary-Industry-GDP-- <i>Distance</i>	0.292%

V Conclusions

We found that, when randomly chosen, the probability that the *Simulated Pattern* is better than the *Historical Pattern* is 24.747%, when *Population* and *Distance* data were used.

The idea of optimizing *Patterns* is to minimize the ‘total cost’ over time to reach the LV stores, while the ‘total cost’ over time is represented by the *F* value. In other words, LV chooses geophysical exploration patterns to getting their stores as closer as possible to their *Consumers*.

The replacement of *Population* data is reasonable because, it is natural to think that LV also wants to choose geophysical exploration patterns to getting their stores as closer as possible to national wealth, which may be represented by GDP, GDP per capita, Secondary or Tertiary Industry GDP.

Our results show that, when replaced *Population* data with other series of data, the goodness of the *Historical Pattern* (*G* value) varies. The GDP-*Distance* and Tertiary-Industry-GDP-*Distance* data provide a better fit to the *Historical Pattern*, and the *G* values are 0.844% and 0.292% respectively. While the GDP-per-capita-*Distance* and Secondary-Industry-GDP-*Distance* optimization show a weaker descriptiveness and predictability, GDP-*Distance* optimization perform even worse.

The results indicate that, a GDP-*Distance* and Tertiary-Industry-GDP-*Distance* optimization could be an efficient model to describe and predict the geophysical exploration patterns of LV.

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Is There Free Lunch in the Stock Market?

—A Theoretical Analysis Based on Stochastic Process

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Abstract

There are different theoretical view points regarding whether there is “free lunch” in the stock market. Some economists believe that there is no free lunch in the stock market based on the “Hypothesis of Efficient Capital Market.” However, some other economists gradually realize that some form of “free lunch” can be obtained with nicely designed investment strategies. In this paper, we assume that the stock returns are following the Geometric Brownian Motion. Then we calculate the probabilities of portfolio’s return rate which is greater than that of the government bonds based on Ito’s Lemma and find the conditions for free lunch in the stock market. Finally, we analyze the factors affecting the probabilities and propose some suggestion to the investors.

Introduction

There are different view points regarding whether there is “free lunch” in the stock market. When buying shares, investors are trying to figure out which stock will bring them the highest returns. In real investment world, we know that some investors are extremely successful. This is because they apply unique investment strategies and advanced analytical methodologies and commit to long term engagement.

For example, the price of stocks held by the well known investor Warren Buffet has been increased for more than 2000 times in the past 30 years, while the Standard & Poor index has been increased for merely 50 times during the same period. For years, Buffet stands in the first three positions in the Forbes’ list of Global Richest People. American News and World Report summaries Buffet’s investment rules as follows. First of all, don’t be cheated by returns. Buffet is more likely use earning per share, EPS, to evaluate the profitability of the listed companies. When calculating EPS, you divide net income by the number of shares outstanding. EPS measures the company’s profit per share and hence better reflects its profitability. Based on this investment rule, Buffet selects those shares whose EPS is greater than 15%. In Buffet’s investment basket, Coca-Cola’s EPS is greater than 30%, and American Express’ EPS goes as high as 37%. Second, investors should look forward. Buffet is called the “Oracle of Omaha” because he is always trying to figure out whether the company is able to grow in the future, whether or not the company can be successful in the next 25 years. As Buffets said:,you need to look forward through the front window, rather than look back through the back mirror. Third,investors should look for those stocks that have long-term growth potential. These companies will make your forecast more save. For example, Buffet did not choose IT companies. He chose companies with steady demand instead, such as Coca-Cola. Finally, be patient. If you buy and sell stocks frequently, you will miss wonderful opportunities. Buffet’s rule is that investors should not buy and sell frequently. You should buy only when the good shares appear.

On the other hand, economists tell us that there is no “free lunch” in the stock market. The well known American economist Paul Samuelson once said that you can decide stocks by throwing dart on the financial column of the Wall Street Journal, and you choose those share which are hit by the dart. “This is crazy”, said another well known American economist, N. Gregory Mankiw. “However, you have a good reason to trust it. It is not misleading” The reason is the so called “Efficient Market Hypothesis, EMH.”

EMH actually means that there is no “free lunch” in the stock market. There is no such thing that costs nothing in the world. In a normal efficient market, no investor can expect to earn abnormal returns. Just as the story in *New Explanations of the World* says, in a crowding orchard, if there are some fruits left on the trees, you should not pick them up. Because they are probably sore. Following the same logic, if the fruits are sweet, they must be picked up already by other people.

Then the question is: should the investors follow the theory of EMH to select shares randomly, or should they know the secret word “open sesame” to pursue high returns in the stock market? In this paper, we first construct a theoretical stochastic model to calculate the probability that the return rate of shares greater than that of government bonds. Then we analyze the conditions for the “free lunch” in stock market. In addition, we discuss about the factors affecting the probability. Last but not least, we come up with some suggestions for the investors based on our findings.

The rest of the paper is arranged as follows. Section 2 reviews the related literature. Section 3 sets up theoretical model and explains its assumptions. Section 4 analyzes the factors affecting the probabilities. Finally, Section 5 summarizes our discussion and gives investment suggestions.

Literature review

EMH was first orientated in early 1920s. The founding father of this theory is Louis Bachelier, a French mathematician. Bachelier (1900) first used stochastic process to estimate the economic value of financial products. Osborne (1959) came up with the theory of Random Walk. He believes that the movement of stock prices is similar to that of chemical molecules Brownian Motion in which the path of the molecules can not be predicted precisely. Eugene Fama (1970) argued that the stock price time series do not have “memory”. Therefore, investors are not able to predict future trend of the stock prices based on historical data.

This conclusion is somewhat disappointing to the stock analysts. They make great effort to analyze listed companies’ financial report so as to determine the economic value of their stocks. If the stock prices are totally random, is there any economics rule to follow when investors trying to make right decisions? Paul Samuelson believes that this is exactly an efficient market formed by economics rules.

The key points of EMH are as follows. First, investors are rational¹. Listed companies are strictly supervised. Investors try their best to analyze fundamental information of the firm so as to evaluate the profitability of the shares. They discount the future value of the shares and try to make decision by weighting the returns and risks that are taking. Second, stock prices reflect the equilibrium of investors’ supply and demand of the stock. In another word, the number of investors who believe that the stock price is over valued is exactly the same as the number of investors who believe that the stock price is under valued. If some investors find that these two numbers are not equal, there exist arbitrage opportunities. These people will buy or sell stocks

immediately to take the free lunch in the market until the two merges into one. Finally, stock prices reflect all available information about the asset. Stock prices will change according to information changes. When a piece of good news or a bad news comes to the market, stock prices start to move. When every investor gets the information, stock prices are adjusted to their new equilibrium.

Of course, EMH is only a theory. In reality, neither every investor is rational, nor information is efficient at any time. Therefore, sometimes, a miracle may appear in the stock market. Mankiw once said, "The theory may not be right completely. However, EMH as a description of the capital market is better than you can imagine." According to EMH, market price will be adjusted until there is no arbitrage opportunity, namely, when there is no "free lunch" in the market.

Nevertheless, economists realize recently that some nicely designed form of "free lunch" can be obtained in the theoretical models about financial market. This is directly conflicting with fundamental economics principles. How can we interpret this interesting issue? Harrison and Kreps (1979) first noticed that there likely exists an "arbitrage strategy", which can give a positive return in a given limited period of time regardless whether there are inputs or not. In the book of Ingersoll (1987), we can find an example of this strategy. Just as in the Coin-Flipping Game, the stake is doubled when you fail until you win the game. Therefore, it is called the "Double Strategy."

Harrison, Kreps and some other economists realize that the limitation on trading volume can sterilize the "Double Strategy". The key point is how to limit the trading volume so as to sterilize the "Double Strategy", but not other strategies which benefit the investors. Starting from this point, Heath and Jarrow (1987) proved that the margin requirement can sterilize arbitrage strategies and allow other stock option trading strategies to work at the same time. Dybvig and Huang (1988) argued that low level wealth constraint is able to sterilize arbitrage strategies and allow investors to apply any trading strategies that satisfy the condition of standard integration, such as non-negative wealth restrictionⁱⁱ.

Omberg (1989) proposed a totally different approach to solve this problem. He believes that the probability of the "Double Strategy" to generate unlimited loss is close to zero, and the probability of the strategy to generate limited returns is close to 1. The expected utility of the "Double Strategy" is negatively unlimited large for risk averse function under all wealth level. Hence, there is no need to impose trading limit for stock brokers because this strategy is extremely unattractive to them.

However, this is only part of the answer. At least there are some stock brokers whose behavior satisfies the expected utility theorem. There are still some attractive arbitrage strategies for them. For example, if the utility function of a broker is risk seeking under low wealth level, then the "Double Strategy" will be profitable. While for those brokers whose absolute risk tolerance is decreasing as the wealth grows, Kim and Omberg (1990) found some trading strategies which can both satisfy the expected utility test and possess arbitrage features.

This paper contributes to the literature of financial free lunch in the following aspects. Assuming that stock return rate follows geometric Brownian Motion and applying Ito's Lemma, we calculate the probability of the stock return that is greater than that of the government bonds. Then we obtain the conditions for the "free lunch" in stock market and analyze the factors affecting that probability.

The model

Assume that at time t , an investor needs to decide whether to invest in government bonds or stocks. The question is that at time T , will the return of stocks be greater than that of government bonds? If yes, what is the probability?

Assume that the stock index S follows Geometric Brownian Motion.

$$\frac{dS}{S} = \mu dt + \sigma dW \quad (1)$$

Here, μ stands for the expectation of stock returns, and σ stands for the standard deviation of stock returns.

Actually, we are more interested in the stochastic process which $d(\log S)$ follows because the lognormal distribution better describes the sharp-peak and fat-tail characteristics of the security returns.

$$\text{Assume that } f(t, S) = \log S, \quad (2)$$

Hence,

$$\frac{\partial f}{\partial S} = \frac{1}{S}; \quad \frac{\partial f}{\partial t} = 0; \quad \frac{\partial^2 f}{\partial S^2} = -\frac{1}{S^2} \quad (3)$$

According to Ito's lemmaⁱⁱⁱ:

$$df(t, X) = \left[\frac{\partial f}{\partial t} + \frac{\partial f}{\partial X} \mu X + \frac{1}{2} \frac{\partial^2 f}{\partial X^2} \sigma^2 X^2 \right] dt + \frac{\partial f}{\partial X} \sigma X dW \quad (4)$$

Take these results into equation (1), we have

$$d(\log S) = \left(\mu - \frac{\sigma^2}{2} \right) dt + \sigma dW \quad (5)$$

This enables us to get a solution for the stock price. When integrate equation (5) on the interval $[0, T]$,

$$\int_0^T d(\log S) = \left(\mu - \frac{\sigma^2}{2} \right) \int_0^T dt + \sigma \int_0^T dW \quad (6)$$

We obtain

$$\log(S_T) - \log(S_0) = \left(\mu - \frac{\sigma^2}{2} \right) T + \sigma [W(T) - W(0)] \quad (7)$$

Take logarithm and note that $W(0) = 0$, we obtain S_T as the function of S_0 :

$$S_T = S_0 \exp \left[\left(\mu - \frac{\sigma^2}{2} \right) T + \sigma W(T) \right] = S_0 \exp \left[\left(\mu - \frac{\sigma^2}{2} \right) T + \sigma \phi \sqrt{T} \right] \quad (8)$$

If invested in the government bonds, the future value of S over a period of $T - t$ will be

$$S(t) \exp \{R(T - t)\} \quad (9)$$

Then, the probability of the event that the return of stock greater than that of the government bonds, p , can be shown by the following equation.

$$p = \Pr \left[S(t) \exp \left\{ \left(\mu - \frac{\sigma^2}{2} \right) (T - t) + \sigma \phi \sqrt{T - t} \right\} > S(t) \exp \{R(T - t)\} \right] \quad (10)$$

According to the calculation of JamilBaz and George Chacko)^{iv}(2004),

$$p = \Phi \left[\left(\frac{\mu - R}{\sigma} - \frac{\sigma}{2} \right) \sqrt{T - t} \right] \quad (11)$$

Here, Φ represents the accumulative standard normal distribution.

In order to make the probability non-negative so as to let the return of stock greater than that of government bond, we need

$$\frac{\mu - R}{\sigma} - \frac{\sigma}{2} \geq 0$$

This means

$$\sigma \leq \sqrt{2(\mu - R)} \quad (12)$$

This is the condition for the event that the return of stock greater than that of the government bonds to happen. In another word, if the standard deviation of the return of stock is less then the square root of 2 times the risk premium, then the investor can enjoy “free lunch” in stock market.

Factors analysis

From equation (12), we know that the probability of the event that stock return is greater than that of government bonds is mainly rely on three factors, risk premium, standard deviation of stock return and the square root of holding period of stock. We analyze the three factors one by one in the following paragraphs.

Portfolio risk premium

Under normal conditions, security risk premium is positive. This is because investors usually believe that the expected return of risky securities is higher than that of risk-less securities. The risk premium of securities is correlated with the relationship of security returns and state price density^v. From equation (11), we know that

the higher the portfolio risk premium ($\mu - R$), the greater the probability of the event that the stock return is greater than that of government bonds. Although these two are not correlated proportionally, they are correlated positively. In another word, the probability of the event that stock return is greater than that of government

bonds is an augmenting function of portfolio risk premium. This agrees with the common knowledge of investors. However, we will see later that investment returns are obtained in a relatively long time. Investors should not be lured by the short-term risk premium. However, in the reality, it is extremely hard for any investor not to be lured by short term benefit.

Assume that the portfolio standard deviation is 25% and the holding period of the portfolio is 25 years, based on equation(11), we can analyze the impact of portfolio risk premium on the probability of the event that stock return is greater than that of government bonds. In this case, the probability can be written as

$$p = \Phi \left[\left(\frac{\mu - R}{\sigma} - \frac{\sigma}{2} \right) \sqrt{T - t} \right] = \Phi \left[5 \times \left(\frac{\mu - R}{0.25} - 0.125 \right) \right] = \Phi [20(\mu - R) - 0.625] \quad (13)$$

Table 1 shows the result. From Table 1, we know that portfolio risk premium has significant impact on the probability of the event that stock return is greater than that of government bonds. When the portfolio risk premium is 5%, the probability of the event that stock return is greater than that of government bonds is close to 65% ; When the portfolio risk premium is 10%, the probability of the event that stock return is greater than that of government bonds is over 90% ; When the portfolio risk premium is 20%, the probability of the event that stock return is greater than that of government bonds is close to 100%.

Portfolio risk

Investors usually pay more attention to returns than risks. Theoretically, it is understandable. This is because risk is measured by the standard deviation of the portfolio returns. It is hard for investors to understand the concept of standard deviation, not to mention calculating and applying the concept.

From equation (11), we know that the smaller the portfolio risk σ , the greater the probability of the event that the return of stock greater than that of government bonds. Furthermore, from equation (12), we know that there is limit on portfolio risk σ , which should not be greater than the square root of 2 times the risk premium.

Assume that the portfolio risk premium ($\mu - R$) is 7% and the holding period of portfolio is 25 years, based on equation (11), we can analyze the impact of portfolio standard deviation on the probability of the event that the stock return is great than that of government bonds. In this case, the probability can be expressed as follows.

$$p = \Phi \left[\left(\frac{\mu - R}{\sigma} - \frac{\sigma}{2} \right) \sqrt{T - t} \right] = \Phi \left[5 \times \left(\frac{0.07}{\sigma} - \frac{\sigma}{2} \right) \right] = \Phi \left[\frac{0.35}{\sigma} - 2.5\sigma \right] \quad (14)$$

Table 2 shows the result. From Table 2 we know that just like portfolio risk premium, portfolio standard deviation has significant impact on the probability of the event that stock return is greater than that of government bonds. When portfolio risk premium is less than 10%, the probability of the event that stock return is greater than that of government bonds is 100%. When portfolio standard deviation reaches 20%, the

probability of the event that stock return is greater than that of government bonds is also close to 90%. When portfolio standard deviation reaches its limit, 2 times the square root of risk premium, 37% in our example, the probability of the event that stock return is greater than that of government bonds is still over 50%.

Portfolio holding period

Regarding the holding period of portfolio, the result of theoretical analysis is quite different from investors' common sense. Investors usually believe that the return of investment is correlated with natural time in terms of years. However, the result of theoretical analysis tells us that the return of investment is correlated with the square root of time, rather than time itself. In other words, in stochastic process, the return of stock varies as the square root of time changes, rather than time itself as investors usually imagine. To be precise, investors need to be more patient in order to obtain higher return from their investment.

Assume that the portfolio risk premium $(\mu - R)$ is 7%, and the portfolio standard deviation is 25%, based on equation (11), we can analyze the impact of the holding period on the probability of the event that stock return is greater than that of government bonds. In this case, the probability can be written as follows.

$$p = \Phi \left[\left(\frac{\mu - R}{\sigma} - \frac{\sigma}{2} \right) \sqrt{T - t} \right] = \Phi \left[\left(\frac{0.07}{0.25} - \frac{0.25}{2} \right) \sqrt{T - t} \right] = \Phi [0.16 \sqrt{T - t}] \quad (15)$$

Table 3 shows the calculation result. From Table 3, we know that the impact of holding period on the probability of the event that stock return is greater than that of government bonds is not very significant. When the holding period is 1 year, the probability of the event that stock return is greater than that of government bonds is over 50%. However, to increase the holding period will not do much for increasing the probability of the event that stock return is greater than that of government bonds. For example, when the holding period is 10 years, the probability of the event that stock return is greater than that of government bonds is only close to 70%. When the holding period is 30 years, the probability of the event that stock return is greater than that of government bonds is just over 80%. Even if the holding period is 100 years, the probability of the event that stock return is greater than that of government bonds is less than 95%. We know from equation 15 that the probability of the event that stock return is greater than that of government bonds is positively correlated with the square root of holding period, rather than the holding period itself. The basis for this relationship is the hypothesis of randomness of stock returns.

Conclusions

Based on the above analysis, we get the following conclusions.

First, the impact of portfolio risk premium on the probability of the event that stock return is greater than that of government bonds is significant. In our example, when the portfolio risk premium is 5%, the probability of the event that stock return is greater than that of government bonds is close to 65%. When the risk premium is 10%, the probability of the event that stock return is greater than that of government bonds is over 90%. And when the risk premium is 20%, the probability of the event that stock return is greater than that of government

bonds is close to 100%.

Second, the impact of portfolio standard deviation on the probability of the event that stock return is greater than that of government bonds is also significant. In our example, when the portfolio standard deviation is less than 10%, the probability of the event that stock return is greater than that of government bonds is 100%. When the portfolio standard deviation is 20%, the probability of the event that stock return is greater than that of government bonds is close to 90%. When portfolio standard deviation reaches its limit, 37% in our example, the probability of the event that the stock return is greater than that of government bonds is still over 50%.

Finally, the impact of holding period on the probability of the event that stock return is greater than that of government bonds is not very significant. Increasing holding period will not increase the probability of the event that stock return is greater than that of government bonds significantly. This is because we assume that the stock return moves randomly. The probability of the event that stock return is greater than that of government bonds is correlated with the square root of the holding period, rather than the holding period itself.

Back to the question at the very beginning of the paper, is there “free lunch” in the stock market? The conclusion of this paper shows that there is “free lunch” in the stock market under some conditions. If investors choose high risk premium and low risk portfolio and hold them for long period, then the probability of their returns higher than that of government bonds will be greater. In other words, in order to harvest the “free lunch”, investors must have smart eyes enabling them to find out the portfolio which will bring them higher return in the long run. Second, investors need to manage investment risks effectively. Although high returns are associated with high risks theoretically^{vi}, in the reality, the winners of the stock market are usually those who are able to manage the investment risk timely and effectively. Finally, be patient enough. Frequent buying and selling can only increase the income of stock brokers. Buffet once said: “In the long run, the price of common stock is clearly correlated with firms’ fundamental economic value^{vii}.” If investors really want higher returns, they must invest for longer period, just like what Buffet has done. This is because that the growth of the stock prices is correlated with the square root of the time, rather than time itself. These are the suggestions for the investors based on our conclusions of the paper.

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TABLE 1: THE IMPACT OF PORTFOLIO RISK PREMIUM ON THE PROBABILITY OF THE EVENT THAT STOCK RETURN IS GREATER THAN THAT OF GOVERNMENT BONDS.

$\mu-R$	$X=20(\mu-R)-0.625$	$P(x)$
1%	-0.425	0.3354
2%	-0.225	0.4089
5%	0.375	0.6462
8%	0.975	0.8353
10%	1.375	0.9155
13%	1.975	0.9759
16%	2.575	0.9950
20%	3.375	0.9996
25%	4.375	1.0000

TABLE 2: THE IMPACT OF PORTFOLIO STANDARD DEVIATION ON THE PROBABILITY OF THE EVENT THAT STOCK RETURN IS GREATER THAN THAT OF GOVERNMENT BONDS

σ	$X=0.35/\sigma-2.5\sigma$	$P(x)$
0.05	6.8750	1.0000
0.08	4.1750	1.0000
0.10	3.2500	0.9994
0.13	2.3673	0.9910
0.16	1.7875	0.9631
0.20	1.2500	0.8944
0.25	0.7750	0.7807
0.30	0.4167	0.6616
0.35	0.1250	0.5498
0.37	0.0209	0.5084

TABLE 3: THE IMPACT OF HOLDING PERIOD ON THE PROBABILITY OF THE EVENT THAT STOCK RETURN IS GREATER THAN THAT OF GOVERNMENT BONDS

$(T-t)^{1/2}$	$x=0.16(T-t)^{1/2}$	P(x)
1	0.16	0.5636
2	0.2263	0.5896
5	0.3578	0.6398
10	0.5060	0.6936
20	0.7155	0.7627
30	0.8764	0.8096
50	1.1314	0.8711
65	1.2900	0.9015
80	1.4311	0.9238
100	1.6	0.9452

Endnotes

ⁱ Economic Man: The name given to the “construct” in economics whereby individuals are assumed to behave as if they maximize utility, subject to a set of constraints of which the most obvious is income. Economic man is then “rational” if he pursues this objective although he may face obstacles, such as imperfect information, which prevent him actually achieving the goal. David W. Pearce: *The Macmillan dictionary of Modern economics*, p123, The Macmillan Press Ltd., 1981.

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Measuring Perceptions of the Quality of Logistics Service of 3pl Services Providers Avocado Exporting Companies in Michoacán, México

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Abstract

Purpose - The aim of this paper is to understand the perceptions of the quality of logistics services provided by 3PL providers to avocado packing companies that export to the United States.

Design / methodology / approach - This is an empirical nature investigation which shows a model for assessing the quality of logistics services by land, where they surveyed companies exporting avocados to the market in the United States of America, which applied a measuring instrument which contains 111 items distributed in the following independent variables: Infrastructure, Communication, Marketing, Human Resources, Technology, and the dependent variable Logistic Service Quality; also, using Likert scales where the evaluators were logistics managers, who issued their perceptions of their three major 3PL providers.

Keywords: Customer services quality, Supply chain management, and third-party logistics

Paper type: Empirical Research

1. Introduction

In recent years, companies have increasingly embraced one-stop global logistics services. By allowing companies to concentrate on their core competencies, these third-party logistics (3PL) providers can improve customer service and reduce costs. A 3PL provider can act as a lead logistics provider or a fourth-party logistics (4PL) provider aligned with a host of 3PL providers (Vaidyanathan, 2005). In today's environment, organizations are searching for new business practices and solutions that can provide them successfully. Outsourcing is one of these business practices that can lead to greater competitiveness (Embleton & Wright, 1998) in (Percin, 2009). Outsourcing is simply the transferring of an internal service function to an external organization that otherwise would be difficult to acquire, or costly to have in-house (Ketler & Walstrom, 1993), (Razzaque & Sheng, 1998). In the recent past, logistics outsourcing or third-party logistics (3PL) has received considerable attention from logistics researchers. Three research areas for 3PL have attracted interest among the researchers (Boyson, Corsi, Dresner, & Rabinovich, 1999): first, the primary reasons for outsourcing logistics functions; second, measuring the contribution of logistics outsourcing to a firm's capabilities; and lastly the selection of 3PL provider for outsourcing relationship.

Outsourcing of logistics function is a business dynamics of growing importance all over the world. A growing awareness that competitive advantage comes from the delivery process as much as from the product has been instrumental in upgrading logistics from its traditional backroom function to a strategic boardroom function (Razzaque & Sheng, 1998). In order to handle, its logistics activities effectively and efficiently, a company may consider the following options – it can provide the function in-house by making the service, or it can own logistics subsidiaries through setting up or buying a logistics firm or it can outsource the function and buy the service. Currently, there has been a growing interest in the third option, i.e. outsourcing of logistics functions to third party logistics service providers.

The Third party logistics (3PL) has demonstrated its importance globally, but the quality to that provided this service is that you have to measure and evaluate. Despite evidence from around the world suggesting that effective quality management practices can lead to improved organizational performance (Ahire, Golhar, & Waller, 1996), (Kumar & Gupta, 1993), (Samson & Terziovski, 1999), (Taguchi & Clausing, 1993) the importance of quality management to logistics systems is yet to be fully realized. Quality is acknowledged as a critical component in the value-adding process of product creation and delivery. Orders requiring rework have been estimated to cost in excess of eight times the cost of those properly produced and delivered (Bowersox, Carter, & Monczka, 1985) in (Sahay & Ramneesh, 2006).

The 3PL services are widely prevalent in North America (Lieb, 1992), (Lieb & Randall, 1996) and Europe (Lieb, Miller, & Wassenhove, 1993) and have been examined in a number of previous studies. Similar studies have focused on logistics issues in Bulgaria (Bloomen & Petrov, 1994), South Africa (Cilliers & Nagel, 1994), Australia (Dapiran, Lieb, Millen, & Sohal, 1996), Korea (Kim, 1996), Asia Pacific (Millen & Sohal, 1996), Singapore (Bhatnagar, Sohal, & Millen, 1999), India (Sahay & Mohan, 2006) and Indochina (Goh & Ang, 2000). These countries have availed large benefits of 3PL services over the last few years.

Quality management involves being proactive in performing the right activity, the right way the first time, and continuing to perform tasks to the required level. In logistics, this could translate into strategies aiming to make order cycle times shorter and more predictable, as well as maintaining certain levels of in-stock availability and specific fill rates on customer orders. More recently (Anderson, Jerman, & Crum, 1998) and (Forker, 1997) demonstrated that a significant relationship exists between level of quality management practices and logistics operational performance. The importance of quality in this context is obvious.

2. Literature Review

The 3PL provider performs one or more of the logistics activities relating to the flow of product, information, and funds that could be performed by the firm itself. Traditionally, 3PL focused on specific functions such as transportation, warehousing, and information technology within the supply chain. Armstrong's Guide to 3PL & Global Logistics Services (Armstrong & Associates, Inc., 2001) in (Chopra & Meindl, 2007) describes some of the services offered by 3PL, as shown in table 1.

TABLE 1: SERVICES PROVIDED BY 3PLS		
Service Category	Basic Service	Some Specific Value Added Services
Transportation	Inbound, outbound by ship, truck, rail, air	Tendering, track/trace, mode conversion, dispatch, freight pay, contract management.
Warehousing	Storage, facilities management	Cross-dock, in transit merges pool distribution across firms, pick/pack, kitting, inventory control, labeling, order fulfillment, home delivery of catalog orders.
Information technology	Provide and maintain advanced information/computer systems	Transportation management systems, warehousing management, network modeling and site selection, freight bill payment, automated broker interfaces, end-to-end matching, forecasting, EDI, worldwide track and trace global visibility
Reverse Logistics	Handle reverse flows	Recycling, used-asset disposition, customer returns, returnable container management, repair/refurbish
Other 3PL services		Brokering, freight forwarding, purchase-order management, order management, order taking, loss and damage claims, freight bill audits, consulting, time-define delivery
International		Customs brokering, port services, export crating, consolidation
Special skills/ handling		Hazardous materials, temperature controlled, package/parcel delivery, food-grade facilities/equipment, bulk
Source: Chopra, S., & Meindl, P. (2007). Supply Chain Management: Strategy, Planning, and Operation. Upper Saddle River, New Jersey: Pearson.		

Five streams of literature relate to logistics provider models (Rabinovich A. , 1999): strategic decision making in organizations, industrial buying behavior, transportation purchasing, supplier selection, and logistics relationships. Among these topics, supplier selection, or how to evaluate 3PL providers and form strategic alliances with them, has been inadequately addressed in the current literature. Strategic alliances allow companies to reduce conflict, reciprocate regarding mutual goal-related matters, increase efficiency and stability, and establish marketplace legitimacy (Cooper & Gardner, 1993). Logistics managers consider perceived performance, perceived capability, and responsiveness as important factors in selecting logistics providers (Menon, 1998). In general, it appears that market and firm characteristics influence the choice of

logistics providers (Van Damme & Van Amstel, 1996), and managers achieve customer service improvement and cost reduction by outsourcing logistics services (Rabinovich E. , 1999).

One study applied transaction cost economics to logistics provider selection to explore the conditions under which logistics functions are separated (Aertsen, 1993). About 60% of the Fortune 500 companies surveyed reported having at least one logistics provider contract (Lieb & Randall, 1996). A conceptual model of the logistics provider buying process has been presented in five steps, in which companies identify the need to outsource logistics, develop feasible alternatives, evaluate and select a supplier, implement service, and engage in ongoing service assessment (Sink & Langley, 1997).

A major shortcoming of the 3PL literature is the lack of consideration of IT as a primary component of logistics-providing solutions. The integration of IT with the logistics providers and their customers— known as Inter-organizational Systems (IOS) — essentially supports the outsourcing of logistics activities (Lewis & Talalayevsky, 2000). IT is a critical factor for 3PL performance since the logistics provider must integrate systems with its clients. IT links members of a supply chain, such as manufacturers, distributors, transportation firms, and retailers, as it automates some element of the logistics workload, such as order processing, order status inquiries, inventory management, or shipment tracking (Vaidyanathan, 2005).

The 3PL services can be relatively limited or comprise a fully integrated set of logistics activities. Two surveys (Rabinovich A. , 1999) (Sink & Langley, 1997) identified the following as significant outsourcing functions: 1) Transportation, 2) Warehousing, 3) Freight consolidation and distribution, 4) Product marking, labeling, and packaging, 5) Inventory management, 6) Traffic management and fleet operations, 7) Freight payments and auditing, 8) Cross docking, 9) Product returns, 10) Order management, 11) Packaging, 12) Carrier selection, 13) Rate negotiation, 14) Logistics information systems.

Figure 1 describes a 3PL evaluation process, which includes a preliminary screening based on qualitative factors such as reputation. Depending on qualitative and feasibility factors, a short list of 3PL providers is obtained. An evaluation criterion is sent to the short-listed 3PL providers. After receiving the completed evaluation list, the prospective providers are interviewed. After the desired features and criteria are compared and analyzed, a 3PL provider is selected. This process has been tested in a Fortune 100 company and yielded good results. The basic process, as follows, was obtained from previous research (Sink & Langley, 1997).

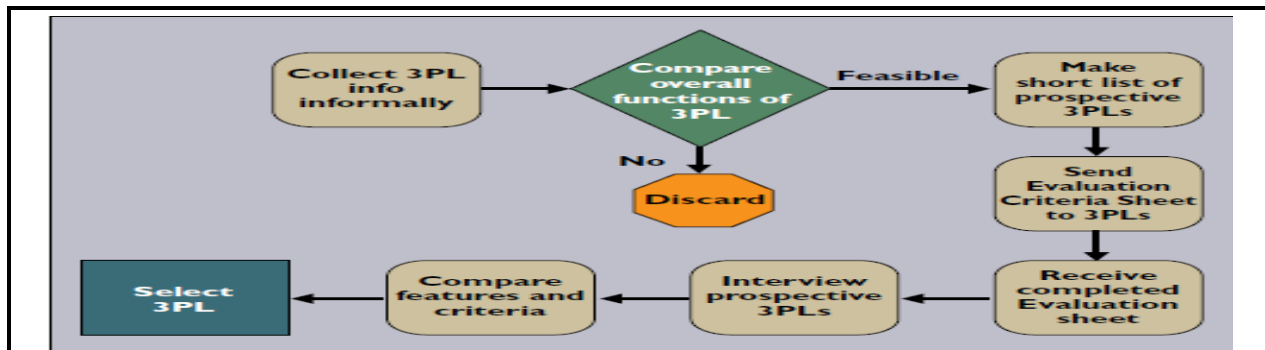


Figure 1: Services Provided by 3PLs

Source: Vaidyanathan, G. (2005). A framework for evaluating third-party logistics. *Communications of the ACM* , 48 (1), 89-94.

Evaluation criteria.

To evaluate prospective provider, a set of criteria must be defined. These evaluation criteria typically include quality, cost, capacity, delivery capability, and financial stability. In addition, cultural compatibility, customer references, financial strength, operating and pricing flexibility and IT capabilities play predominant roles (Sink & Langley, 1997). Performance metrics that must be part of the evaluation criteria include shipment and delivery times, error rates, and responsiveness to unexpected events (Menon, 1998).

According to Menon (1998), Sink & Langley (1997) the following set of factors can be used to evaluate a 3PL provider: a) Information Technology, b) Quality c) Cost, d) Services, e) Performance metrics, f) Intangibles.

Using the six factors against the framework we created for 3PL provider evaluation, we derived the criteria shown in Table 2.

Table 2 Criteria for 3PL evaluation					
Information Technology	Performance	Cost	Quality	Service	Intangibles
<ul style="list-style-type: none"> • Transfer of data at scheduled intervals from 3PL to customer • Transfer of data in real time • Connectivity to warehouse locations to the data center • Encryption of data • Automated technology to capture data for all shipment, directed put-away, picking, and cycle counting • Accuracy of data transmissions with existing clients • Validation and verification of data from flat file transmissions and XML transmissions and usage of standards 	<ul style="list-style-type: none"> • Historical On-time delivery schedules and deviations • Historical Inventory Carrying Rate • Historical average obsolescence rates • Historical forecast errors in a year • Historical average lead times • Historical shipment errors in the past • Historical productivity metrics • Historical DTT (Delivery Turnaround Time) • Historical quality of units delivered/month • Historical late/lost delivery 	<ul style="list-style-type: none"> • Cost of warehousing • Cost of IT services for effective information flow • Cost of transportation • Cost of logistics, supply chain and inventory management 	<ul style="list-style-type: none"> • FAA/FDA or other compliance requirements for warehousing • ISO procedures for units handling, storing, and preservation • ISO procedures for Pick, Pack, and Ship facilities and quality requirements • ISO procedure for delivery • Six sigma and commitment to continuous improvement • Facilities and personnel to identify, correct, collect, index, access, file, store, maintain and dispose quality records in accordance with ISO 	<ul style="list-style-type: none"> • Physical warehousing services • Security and scalability services in warehousing • Monitoring/Tracking efforts in warehousing • Historical delivery and reverse logistics metrics • Historical order Management Metrics • Historical transportation Management Metrics • Customer support services (24x 7 help desk) • Historical average time to settle warranty claim • Summarized reports available on monthly basis 	<ul style="list-style-type: none"> • The intangibles include questions on the business growth of the prospective 3PL to make sure that they will be conducting business for some time. • Financial stability • Strong profitability • Experience with similar companies • Global scope
Source: Authors and based adapted in Vaidyanathan, G. (2005). A framework for evaluating third-party logistics. <i>Communications of the ACM</i> , 48 (1), 89-94.					

3. Methodology

This research has a descriptive-correlational design, it describes the object of study and second because it determines the correlation with the proposed independent variables with the quality of service of 3PL logistics companies exporting avocados in Michoacán, Mexico. The model used in this research is part of the theory that you want to contribute to understand the relationship between the independent variables - infrastructure, communication, marketing, human resources and technology, with the dependent variable - Logistic Service Quality 3PL -.

a) Universe and Sample

The universe used in this study is 95 companies engaged in export of Mexican avocados to different parts of the world, mostly United States of America market with an estimated 95% confidence level with a maximum error of 0, 05%, therefore, the size of the sample turns out to be 76 companies to be surveyed and have achieved a response rate of 85%, that is to say 65 surveys were applied. Once selected the appropriate

research design and adequate sample according to our research problem, the next stage is to collect relevant data on the variables involved, for this purpose was made measuring instrument to provide measurements what they purport to measure.

b) Measuring Instrument

The questionnaire used contains 111 questions, which leads to the following numerical ranking of the variables, were for infrastructure 27 questions, communication 32, marketing 12, human resources 29, and ultimately, technology 11. The application of the questionnaire had duration of 40-50 minutes because some questions require analysis by the respondent. The survey was conducted in person to managers of exporting company's avocado.

c) Rating Scale

Hernandez & Fernandez (2010), measurement is the process of linking abstract concepts with empirical indicators. This requires a suitable measuring instrument to record observable data that truly represent the concepts or variables that are occurring, in order to measure the impact the independent variables - Logistic Service Quality 3PL-

All measurements must meet two requirements in data collection, which are essential, such as reliability and validity. It is said that a questionnaire is reliable when measured with the same accuracy, gives the same results, in subsequent applications made in similar situations (Santillana, 1998). The validity generally refers to the degree to which an instrument actually measures the variable it purports to measure, ie are we measuring what we think you are measuring? If so, the measure is valid, if not is (Kerlinger & Lee, 2002).

d) Likert Scale

In this investigation, a scale was used Likert type, which is in strict sense, an ordinal measurement, which "consists of a set of items presented in the form of affirmations or judgments before which the reaction of the subjects is requested. That is to say, each affirmation appears and it is requested to the subject that extern its reaction choosing one of the five points of the scale. To Kerlinger & Lee (2002) state, that the Likert scale is a set of questions about attitudes, which all have the same value and in which individuals may respond gradually to "agree or disagree".

The way to get the scores on the Likert scale is the sums of the values obtained for each question, with the support of an escalograma designed expressly analyze the results. The final score of the subject is interpreted as its position on the scale to the object of study (Valenzo, 2007).

With these results, we proceeded to classify items high or low favorable to the variables analyzed, later to make the final weighting of response alternatives, this is intended to establish the values of this scale and range positions. Based on these considerations, the allocation of scores on the scale of measurement was composed of the following values determined: 1, 2, 3, 4, 5, for each item, corresponding to these numbers the following concepts: 1) Very Low quality 3PL service, 2) Low quality 3PL service, 3) Regular quality 3PL service, 4) High quality service 3PL and finally 5) Very High Quality 3PL service.

Since the Likert scale is additive, the scores are obtained by adding the values understood each question in the questionnaire, noting that the number of response categories is the same for all questions. In a Likert scale, the maximum score equals the number of items multiplied by the highest score for each alternative response, while the minimum score is the result of the number of items multiplied by the lowest score of the answer choices (Navarro & Pedraza, 2004). In the global analysis and detailed in this research require the following: a) general scale to measure service quality in 3PL enterprises exporting avocados in Michoacán Mexico.

This scale considers the entire questionnaire for measurement. The scale is formed with a maximum of 555 points (111 questions multiplied by 5 is the highest value of each) and a minimum of 111 points (111 times 1 is the lowest score for each question.) It is then that the scale is between the values from 310 to 62 points.

The intermediate level is obtained by performing a subtraction between the maximum and minimum value and the result is divided between the categories used in our case is five. As shown below: Maximum 555 (-) 111 minimum = 444 divided by 5 = 88.8 scale points in each of the scales (table 4).

4. Findings

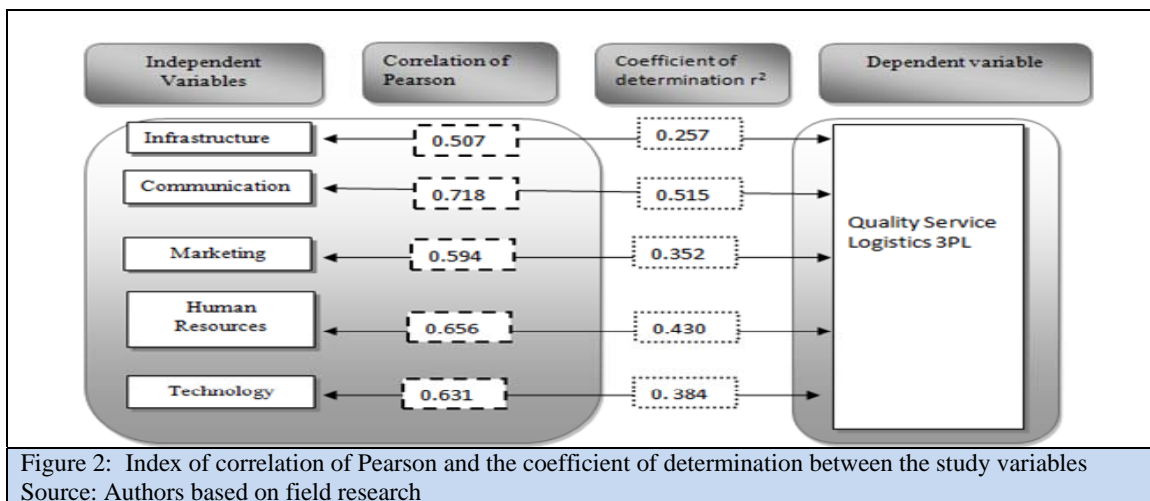
In this section, we analyze the results of field research, through which it was possible to derive quantitative aspects of the dependent and independent variables, where all responses were processed statistically in SPSS. The staff of managers surveyed as exporters of avocados in Michoacán, Mexico. In the table 3 shown the reliability Analysis measuring instrument.

Table N° 3 Reliability Analysis of Questionnaire	
Cronbach Alpha	No. of Items
.915	111
Source: Authors based on field research	

Table # 4 shows the results of field work in which is expressed with an arrow where the average using descriptive statistics. The score was 399.83 points is that managers of firms exporting avocados from Michoacán, Mexico evaluated through the 111 questions to your service providers with a high quality in the Service 3PL.

Table 4 Range of scales of the Quality Service Logistics 3PL				
Very High Quality in the Service 3PL	High Quality in the Service 3PL	Medium Quality in the Service 3PL	Low Quality in the Service 3PL	Very Low Quality in the Service 3PL
555	466.2	377.4	288.6	199.8
399.83				
Source: Authors based on field research				

Below in Figure # 1 shows the results of field work where the variables show that the highest correlation and therefore are further explained that the quality logistics service 3PL and are as follows: communication (0.718), followed by human resources (0.656), technology (0.631), Marketing (0.594) and finally infrastructure (0.407) correlation.



It then shows how they are distributed the results of 3PL Logistics Service quality in avocado exporters of Michoacán, Mexico.

Table 5 Distribution of frequencies of the variable quality of the logistic service 3PL			
Puntos	Frecuencia	Porcentaje	Porcentaje

			acumulado
Very High Quality in the Service 3PL 555- 466.2 points	9	13.8	13.8
High Quality in the Service 3PL 466.3 – 377.4 points	23	35.3	49.1
Medium Quality in the Service 3PL 377.5- 288.6 points	21	32.3	81,4
Low Quality in the Service 3PL 288.7- 199.8 points	7	10.8	92.2
Very Low Quality in the Service 3PL 199.9- 111 points	5	7.8	100,0
Total	65	100,0	

Fuente: Información obtenida de la investigación de campo

In the Quality in the Service 3PL variable yielded the following results, on the high quality service focused 3PL is where the largest number of companies (23) representing 35.3%, followed closely by a medium quality in the service 3PL (21) constituting 32.3%, only 9 companies evaluated with a high quality service in the 3PL that means 13.8%, however the results also showed a low and very low quality in the 3PL Service a 10.8% and 7.8% respectively. Likewise also making a more general analysis can be seen that 67.6% of those who evaluated their logistics service providers in a medium to high quality service that provides these companies to outsource the service time of transport to carry avocados to international markets, mainly the United States of America.

5. Conclusions

After to have realized a theoretical revision that will take us to the obtaining of the variables to measure the quality in the logistic service 3PL and after to have raised the surveys with the measuring instrument to the managers of the exporting companies of avocado; we conclude that according to the obtained results the propose variables for this investigation have different impacts in the quality in the logistic service of this group of companies.

In agreement with the index of correlation of Pearson it is possible to be appreciated the different correlations that explain the quality in the logistic service 3PL, the variable communication has high a noticeable correlation in 71,8%, followed by the variable human resources what is explained in a 65.6%, work in equipment in a 66.8%, technology 63.1%, marketing 54,9%, infrastructure 50.7% having a moderate, substantial correlation, and these explain to the dependant variable quality in the logistic service 3PL.

In which referring to the general results the average of the survey ones is located in 399.83 points that 3PL corresponds to the rank of High Quality in the Service. Also one concludes that the model to measure the quality in the logistic service 3PL proposed in this study, is approved in his independent variables - human communication, resources, work in equipment, technology, marketing and infrastructure-.

To if also, the work of field gave answer to the objective raised initially which consists of determining to what extent the quality in the logistic service 3PL was important at the time of evaluating to its three main logistic suppliers.

Of this form and on the basis of the mentioned thing previously, we can affirm that to the quality in the logistic service 3PL that prevails in the exporting companies of avocado in Michoacán, Mexico is high reason why we can also intuit that he is favorable for the good performance of the workings, as well as the implementation of policies destined to increase the efficiency, the productivity and the competitiveness in the international markets.

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Cultural Distance and Entry Mode Choice: Evidence from the North-Adriatic Area

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Abstract

The progressive strengthening of economic and political relations in the North-Adriatic area and their gradual formalization encouraged by the new institutional structures of Euro-regions are phenomena of central importance to the actual economic environment of the countries involved. These conditions significantly affect the strategic choices of local firms interested in penetrating the other markets of the area. In spite of the geographical proximity between Italy, Austria, Slovenia and Croatia, cultural differences still act as relevant determinants in leading foreign investment strategies. The aim of this study is to investigate the role played by cultural distance between Italy and Austria, Slovenia and Croatia, in influencing entry mode choices and strategies followed by companies of the North-eastern Italian region of Friuli-Venezia Giulia. The study was undertaken during the period January to December 2007 and involved the submission of a questionnaire to a sample of 129 companies. Multiple statistical analysis were used in this study. These procedures include exploratory factor analysis and Structural Equation Modelling (SEM).

Introduction

The progressive strengthening of economic and political relations in the North-Adriatic basin and their gradual formalization promised by the new institutional structures of Euro-regions are phenomena of central importance in the actual international economic landscape. These relationships significantly influence the strategic choices of companies that belong to this region and, on a wider scale, the socio-economic structure of the countries involved.

Companies around the world are immersed in an increasingly complex and competitive environment. New pressures have gradually transformed the global competitive landscape, requiring changes in the international strategic approaches. Each company has been forced to choose different strategies and organizational responses to meet the changes that constantly affect their respective areas of reference. Nonetheless, only few players have achieved significant results, thriving in the international competitive arena. Most of them have been merely surviving, struggling to adapt to a complex and contradictory demand (Bartlett, Ghoshal, 1998). Nowadays, running a business means managing the opportunities and challenges of international markets. Under the pressure of regionalization and globalization processes, the definition of success transcends national borders. Even the concept of domestic business has become a sort of anachronism: the modern company does not have a place to hide, it has no place to go, but everywhere (Adler, 2002).

The process of ongoing globalization, has partially rejected the wishes of those who saw in this economic and social phenomenon the basis for the creation of a cultural "melting pot". Although the seeds of the Western tradition have reached the "four corners of the World" and despite the metropolises and megalopolises seem similar in architecture and lifestyles of their populations, cultural differences remain below this facade. Often, just scraping the surface of this Westernized World allows us to discover a reality far more complex and multi-faceted.

The echoes of these matters have quickly reached the economic environment, exacerbating the difficulties of the operators in managing intercultural relations. In order to survive and thrive in the business environment of the twenty-first century, individuals and institutions have to incorporate cultural sensitivity and competence in their strategies and organizational structures. However, culture should not be considered as a mere shortcut to address these issues, but as an element able to promote the awareness and knowledge needed to pursue the path of international success (Morris, Gelfand, 2004).

The relevance of cultural aspects and their influence on the strategic choices of firms also affect the

countries and regions of the North-Adriatic basin. Despite the geographical proximity between Italy, Austria, Slovenia and Croatia and the gradual economic integration of the area, cultural differences still remain and impact on investment decisions and characteristics. The knowledge of the main cultural factors is a prerequisite to facilitate international business growth paths and a better comprehension of the motivations that drive local consumers and human capital as well as the characteristics of the relations with the various stakeholders.

This study aims at suggesting a study model, in order to investigate the role played by cultural distance between Italy and other countries of the North-Adriatic area, in particular Austria, Slovenia and Croatia, in influencing market entry strategies and policies. In particular, the analysis will be focused on the companies of the Italian region of Friuli-Venezia Giulia. The choice of this region lies in its geographical proximity with the countries involved in the study and in its stable and strong socio-economic relationships with them.

The study was undertaken during the period January-December 2007 and involved the submission of questionnaires by email and fax to the business executives of the identified Italian companies operating in Austria, Slovenia and Croatia. Multiple statistical analyses techniques were used in this study. These include exploratory factor analysis and Structural Equation Modelling (SEM).

Literature Review and Hypotheses

The main literature on internationalization has stressed the influence of firm characteristics on the choice of foreign markets entry modes. Kogut and Singh (1988) and Caves and Mehra (1986) stressed the importance of the experience in the international arena as an essential factor to promote a more effective level of control over foreign assets. The international experience leads to a better management of uncertain situations and reduces the risk perceived by companies in their international evolutionary paths (Johanson, Vahlne, 1977; Barkema, Vermeulen, 1998; Slangen, Hennart, 2007). Similarly, Barkema, Bell and Pennings (1996) suggested that companies engaged in international expansion paths need to acquire adequate knowledge of foreign markets. Previous experiences allow to reduce cultural barriers. In this sense, the international experience represents a mechanism to approach the culture of the local market (Shenkar, 2001). Based on these considerations, companies that have gained previous experiences on foreign markets have a greater ability to manage uncertain situations and are believed to have a deeper level of control over their foreign businesses.

Similar considerations are developed with regard to the company size. The creation of new enterprises in local markets, or the acquisition of existing businesses, often require more resources and efforts, both from the financial as well as the managerial point of view (Caves, Mehra, 1986). As a consequence, companies show a higher propensity to choose forms of acquisition when their size is larger (Kogut, Singh, 1988).

Therefore, the characteristics of the company influence the choice of foreign markets entry modes. As a result, it is believed that companies tend to prefer methods of internationalization (INTM) characterized by a greater degree of control when they have characteristics (FCAR), such as international experience and company size, that can reduce the level of uncertainty and the perceived risk in the local market. These considerations jointly support a potential positive relationship between FCAR and INTM.

Hypothesis 1: FCAR has a positive influence on INTM

The entry mode choice can also be influenced by the characteristics of the local context. Several studies have suggested that the legislative framework, the institutional and competitive environment, together with the geographical distance from the home country, have a profound impact on companies' strategic decisions.

Entry barriers, risks and uncertainties related to the socio-economic environment of the local market increase the difficulties that companies have to face (Gomes-Casseres, 1990; Hill, Hwang, Kim, 1990; Kim, Hwang, 1992; Hennart, Larimo, 1998; Delios, Beamish, 1999). Local legislative contexts characterized by high degrees of corruption, high risks that counterparts do not fulfill their contractual obligations, for example, exacerbates information asymmetries and, by this way, the risk faced by foreign companies. This supports entry solutions with lower levels of control, in order to reduce the risk borne (Gatignon, Anderson, 1988; Agarwal, Ramaswami, 1992; Brouthers, 2002; Ackerman, 2005). Similarly, Roberts and Greenwood (1997) and North (1990) suggested that

companies interested in markets with high legal restrictions tend to prefer methods of internationalization with lower levels of control. Conversely, favorable local governments attitudes, with reference to the presence of foreign firms, tend to favor entry strategies more focused on control logics (Gomes-Casseres, 1990).

Collins and Rodrik (1991) also stressed that geographical proximity is an important factor in the choice between exports and investments. Geographical proximity, in fact, reduces entry barriers, the costs of managerial coordination and control, as well as the costs of monitoring the behavior of foreign agents (Shenkar, 2001). Therefore, it is believed that the increase in the geographical distance between the country of origin and destination expands the risks borne by foreign companies, forcing them to choose strategic solutions with a lower degree of control.

Eicher and Kang (2004) also showed that the local competitive environment can influence entry decisions of foreign firms, raising entry barriers able to increase their costs. In particular, such actions may deter companies, especially small ones, from investing locally.

Therefore, it is believed that companies tend to prefer methods of internationalization (INTM) characterized by a lower degree of control when the local market characteristics (MKT) may increase risk and uncertainty levels. As a result, a negative relationship is likely to exist between MKT and INTM.

Hypothesis 2: MKT has a negative influence on INTM

Several scholars have stressed the influence of cultural issues on the choice of foreign markets entry modes. Operating in a foreign market means getting in contact with different realities, characterized by different customs and habits, ways of thinking and acting, both from the socio-cultural as well as the organizational and managerial point of view. The company, with its own national and organizational culture, is linked to several counterparts that do not share its cultural vision. This makes it difficult to achieve adequate levels of performance (Cavusgil, Knight, Riesenberger, 2008, Hung, 2003; Ponthukuchi, Damanpour, Choi, Chen, Park, 2002, Adler and Graham, 1989; Adler, 1983).

Many international initiatives fail to achieve the expected results because of the national culture is incompatible with that of foreign counterparts (Cartwright, Cooper, 1993). Cultural differences affect company's interpretations and answers to strategic and managerial issues, increasing transactional difficulties of international activities (Park, Ungson, 1997). Lane and Beamish (1990) emphasized that the influence of national cultures on behavior and management systems often leads to unresolved conflicts.

The differences between cultures create different psychological environments for international activities. These differences lead to different practices and management styles that influence the perceived risk of the company (Newman, Nollen, 1996, Cartwright, Cooper, 1993). The degree of cultural adaptation to a specific market is directly related to the success of this combination (Nes, Solberg, Silkoset, 2007; Ponthukuchi, Damanpour, Choi, Chen, Park, 2002, Cartwright, Cooper, 1993).

In particular, with reference to the key success factors of internationalization, it is possible to identify an evolutionary path characterized by the gradual shift from objective determinants (foreign markets, export incentives), to less tangible determinants, such as cultural and psycho-cognitive management aspects (Muller, 1991; Dichtl, Köglmayr, Müller, 1990).

Therefore, it is believed that cultural factors influence the perceived costs and risks that companies have to bear when operating in the international arena (Kogut, Singh, 1988). Johanson and Vahlne (1977), and the Scandinavian school (Johanson, Wiedersheim-Paul, 1975; Luostarinen, 1980; Engwall, 1984; Welch, Luostarinen, 1988; Forsgren, 1989; Axelsson, Johanson, 1992) stressed that this distance, defined psychological, is related to the degree of uncertainty with regard to the main features of the foreign market. These scholars showed that the progressive reduction of the perceived risks and the related increase in international experience influence the international evolution of the company from an approach merely based on exports towards a deeper presence in the foreign market.

Hennart and Larimo (1998), on the basis of the theory of transaction costs, suggested that cultural distance is a factor able to influence the degree of difficulty in acquiring an adequate knowledge of the local market. They showed that the higher the level of cultural distance, the higher the difficulties to be faced, the greater the cost

needed to acquire a satisfactory level of knowledge of the local market. Brouthers and Brouthers (2001), Erramilli and Rao (1993) and Kogut and Singh (1988) also stressed that a higher level of cultural distance is related to a lower degree of control over foreign activities. This pushes companies to prefer, for example, co-operative entry modes (joint ventures) to direct control ones (wholly owned subsidiaries), in order to reduce the uncertainty surrounding the internationalization process and the relative costs. Similarly, Brouthers (2002) emphasized that companies tend to prefer entry methods characterized by a lower degree of control when the risk associated with the investment is high. This allows them to increase their knowledge of foreign markets through relationships with local partners (Barkema, Bell, Pennings, 1996; Beamish, Banks, 1987) or to reduce their risk exposure through the progressive reduction in the use of resources (Kim, Hwang, 1992; Erramilli, Rao, 1993; Delios, Beamish, 1999). Gatignon and Anderson (1988) also stressed that, with increasing cultural distances, companies try to reach higher levels of flexibility by choosing entry modes characterized by a lower degree of control.

Therefore, it is believed that cultural differences increase foreign market entry costs, by reducing the operational benefits and hindering the firm's ability to transfer their core competencies to the foreign markets. Companies tend to prefer methods of internationalization (INTM) characterized by a lower degree of control when the cultural distance (CD) between home and local market is high. As a consequence, these facts support a negative relationship between CD and INTM.

Hypothesis 3: CD has a negative influence on INTM

The predicted hypotheses are presented in FIG. 1.

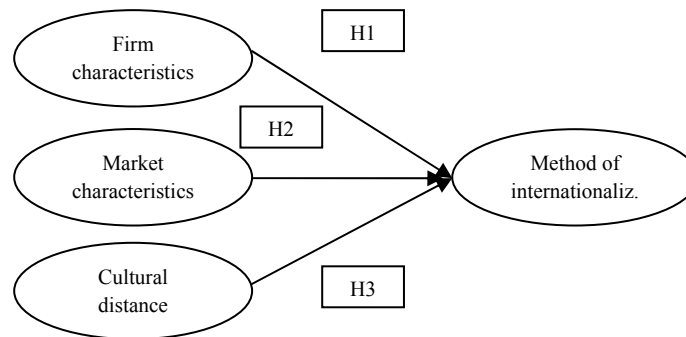


FIG. 1: STUDY MODEL

Method and measures

Sample

Data were collected from a population of 1,509 companies of the Italian region of Friuli-Venezia Giulia, analyzed by "Impresa e Economia" in 2007. After selecting companies of most representative sectors operating in Austria, Croatia and Slovenia, a sample of 129 firms was identified. 43 companies (33.34% of the total) were located in Austria, 41 in Croatia (31.78% of the total) and 45 in Slovenia (34.88% of the total).

The study was undertaken during the period January to December 2007 and involved the submission of questionnaires by email and fax to the business executives of the identified Italian companies.

Multiple statistical analysis techniques were used in this study. These procedures include exploratory factor analysis and Structural Equation Modeling (SEM). The three hypotheses were tested with SEM techniques based on a latent structure model with explicit causal relations, developed with LISREL (Linear Structural RELationship) 8.51 (Jöreskog, Sörbom, 2001).

Measures

The questionnaire showed 18 items adapted from the main literature that collectively provided responses for the four study variables. These variables were: 1. Firm characteristics; 2. Market characteristics; 3. Cultural distance; 4. Method of internationalization.

The firm characteristics construct measures the main peculiarities of the company which may affect their internationalization paths and strategies. The construct was scored with a three item scale adapted from the studies by Kogut and Singh (1988), Barkema, Bell and Pennings (1996), Johanson and Vahlne (1977) and Caves and Mehra (1986): firm size, firm longevity and international experience. Firm size was measured by the number of employees and turnover in the period 2004-2006, firm longevity was measured by the number of generations of the company, while international experience was measured by previous international experiences of the company and the number of languages spoken by business executives. The Cronbach alpha of the construct was 0.666.

The market characteristics construct studies the main contextual factors that can influence the choice of the internationalization method. It was evaluated with a four item measure adapted from the work of Shenkar (2001), Delios and Beamish (1999), Gatignon and Anderson (1988), Collins and Rodrik (1991), Gomes-Casseres (1990) and Hill, Hwang and Kim (1990): competitive environment, legal framework, institutional context and geographical distance. The items were measured as perceptual phenomena of the influence of each factor on the international investment strategy of the company. The four items are rated on a four point interval scale from a null influence (scored as one) to a significant high influence (scored as four) The Cronbach alpha of the construct was 0.887.

The cultural distance construct measures the cultural differences between Austria, Croatia and Slovenia and Italy. The construct was adapted from the studies of Kogut and Singh (1988) and Hofstede (1991). In particular, using the dimensions proposed by Hofstede, a composite index was identified based on the deviation along each of the four cultural dimensions measured for each country from Italy ranking: individualism, masculinity/femininity, power distance and uncertainty avoidance (long-term orientation was not included in the index because no values were calculated for the countries surveyed). The deviations were corrected for differences in the variances of each dimension and then arithmetically averaged. The composite index is represented by the following formula:

$$CD_j = \sum_{i=1}^4 [(I_{ij} - I_{it})^2 / \bar{\sigma}_i^2] / 4 \quad (1)$$

where I_{ij} is the index for the i_{th} cultural dimension and j_{th} country, $\bar{\sigma}_i^2$ stands for the sample variance of the index of the i_{th} dimension, it indicates Italy and CD_j is the cultural distance of the j_{th} country from Italy. The following table summarizes the values calculated by Hofstede for the countries analyzed and their cultural distances from Italy.

TABLE 1: CULTURAL DIMENSIONS AND CULTURAL DISTANCE FROM ITALY

	PDI	UAI	MAS	IDV	CD
Italy	50	75	70	76	-
Austria	11	70	79	55	1.07
Croatia	73	80	40	33	1.75
Slovenia	71	88	19	27	3.23

Note: PDI: Power distance; UAI: Uncertainty avoidance; MAS: Masculinity; IDV: Individualism; CD: Cultural distance.

The study also considers the relative cultural distance of each country in order to identify a more complete construct. The Cronbach alpha of the construct was 0.875 for the cultural distance between Italy and Austria, 0.813 for the cultural distance between Italy and Croatia and 0.871 for the cultural distance between Italy and Slovenia.

The method of internationalization construct measures the main internationalization choices of the company. The construct was assessed with a two item scale adapted from the work of Reiffenstein, Hayter and Edgington (2002): internationalization mode and international planning. Internationalization mode was measured

with reference to the type of internationalization followed by the company (direct and indirect exports, supply contracts, license agreements, joint ventures, foreign direct investments and acquisitions), while international planning was measured with reference to the presence of a strategy or an action plan at the beginning of the internationalization process. Item one is rated on a five point interval scale from direct and indirect exports (scored as one) to foreign direct investments and acquisition (scored as five). Item two is measured as dummy variable (1=yes, 0=no). The Cronbach alpha of the construct was 0.779.

Analysis

Prior to testing and estimating causal relationships between observed and latent variables, an exploratory factor analysis was undertaken to determine whether or not earlier research findings on the identified constructs could be confirmed. The factor analysis, incorporating the varimax option, assessed the validity of the measurement. Internal consistency reliability was tested and the Cronbach alpha results of 0.779, 0.666, 0.887, 0.758 were obtained for the constructs of INTM, FCAR, MKT and CD respectively. The analysis supported the dimensional concept used and provided fullest evidence of construct validity. Tables 2 shows the results of the exploratory factor analysis.

TABLE 2: EXPLORATORY FACTOR ANALYSIS

Items	Variables					
	M	SD	INTM	FCAR	MKT	CD
Internationalization mode (Y1)	1.398	0.881	0.807			
International planning (Y2)	1.526	0.503	0.584			
Firm size (X1)	4.542	0.953		0.763		
Firm longevity (X2)	1.589	0.855		0.684		
International experience (X3)	1.675	0.438		0.537		
Competitive environment (X4)	2.680	0.787			0.890	
Geographical distance (X5)	2.621	0.970			0.857	
Legal framework (X6)	2.249	0.648			0.881	
Institutional context (X7)	2.177	0.693			0.805	
Cultural distance ITA-HRV (X8)	1.482	0.361				0.769
Relative cultural distance Austria (X9)	1.023	0.033				0.942
Relative cultural distance Slovenia (X10)	1.795	1.072				0.769
Cultural distance ITA-AUT (X8)	1.048	0.032				0.974
Relative cultural distance Croatia (X9)	1.238	0.350				0.979
Relative cultural distance Slovenia (X10)	1.795	1.072				0.769
Cultural distance ITA-SLO (X8)	2.504	1.049				0.937
Relative cultural distance Austria (X9)	1.023	0.033				0.942
Relative cultural distance Croatia (X10)	1.238	0.350				0.979
Eigenvalues			4.687	3.029	1.367	1.060
Percentage of variance explained			51.609	16.826	7.597	5.892
Cumulative percentage of variance			51.609	68.435	76.031	81.923
Cronbach alpha			0.779	0.666	0.887	0.758

Note: M: Mean; SD: Standard deviation; Principal components analysis; varimax rotation, Kaiser normalization; KMO=0.639; Sig. 0.000.

As stated before, the three hypotheses were tested with SEM techniques based on a latent structure model with explicit causal relations. The estimated SEM follows a logic based on two steps. The first one is related to the process of estimating parameters, based on an interactive procedure aimed at minimizing the gap between data produced by the model and observed data. The second step is based on a comparison of the theoretical model with the data observed. If the gap between the matrix of the observed covariance and the expected matrix, generated by the program, is higher than the gap attributable to the stochastic error, the model is rejected. The analysis will then

determine if the model is able to represent the examined phenomenon, through four different sets of fit indices. These indices are represented by the χ^2 test, the Overall model fit indices, the Incremental fit indices and the Residuals indices.

Results

Results for Austria

The integrated exam of the fit indices, with reference to the cultural distance between Italy and Austria, confirms whether the model is able to fit the data or not. χ^2 scores 54.59 with 48 degrees of freedom, p-value 0.24. Overall model fit indices show reasonable fit results. The Goodness of fit index (GFI) scores 0.93 and the Adjusted goodness of fit index (AGFI) 0.89. Critical N (CN) scores 148.70. Incremental fit indices show even better results. The Normed fit index (NFI) scores 0.92, the Non-normed fit index (NNFI) 0.97, while the Comparative fit index (CFI) scores 0.98. Residuals indices confirm that the assumed model is able to explain most of the observed data. The Root mean square residual index (RMR) scores 0.041, the Standardized RMR 0.061 and the Root mean square error of approximation index (RMSEA) 0.033, with 90 per cent confidence interval between 0 e 0.069.

Hypothesis 1 predicted a positive causal relationship between FCAR and INTM. Lisrel model and statistical tests support this hypothesis for Austria (t-value=1.86; p-value<0.05). These data confirm Hypothesis 1. Hypothesis 2 predicted a negative causal effect of MKT on INTM. Lisrel model does not support this hypothesis for Austria (t-value=2.31; p-value<0.05). Data fail to confirm Hypothesis 2. Hypothesis 3 predicted a negative causal relationship between CD and INTM. Lisrel model and statistical tests support this hypothesis for Austria (t-value=2.50; p-value<0.05). Hence, hypothesis 3 is confirmed. A summary of these results is presented in table 3.

TABLE 3: ESTIMATION, T-VALUES, P-VALUES AND CONFIRMATION OF HYPOTHESES FOR AUSTRIA

Hypotheses	Rel.	Estimation	T-value	Confirmation
H1: Firm characteristics have a positive causal effect on the internationalization method of the company.	FCAR → INTM	0.18*	1.86	Confirmed
H2: Market characteristics have a negative causal effect on the internationalization method of the company.	MKT → INTM	0.37*	2.31	Not Confirmed
H3: Cultural distance have a negative causal effect on the internationalization method of the company.	CD → INTM	-0.36*	2.50	Confirmed

Note: *: p-value<0.05; **: p-value<0.01.

Results for Croatia

With reference to the model that measures the cultural distance between Italy and Croatia, χ^2 scores 51.10 with 48 degrees of freedom, p-value 0.35. Overall model fit indices show reasonable fit results. GFI scores 0.94, while AGFI 0.90. CN scores 160.29. Incremental fit indices show good results. NFI scores 0.95, NNFI 0.99 and CFI scores 0.99. Residuals indices confirm that the assumed model is able to explain most of the observed data. RMR scores 0.038, Standardized RMR 0.060 and RMSEA 0.022, with 90 per cent confidence interval between 0 e 0.063.

Hypothesis 1 predicted a positive causal relationship between FCAR and INTM. Lisrel model and statistical tests support this hypothesis for Croatia (t-value=1.65; p-value<0.05). These data confirm Hypothesis 1. Hypothesis 2 predicted a negative causal effect of MKT on INTM. Lisrel model supports this hypothesis for Croatia (t-value=2.35; p-value<0.05). Data confirm Hypothesis 2. Hypothesis 3 predicted a negative causal relationship between CD and INTM. Lisrel model and statistical tests support this hypothesis for Croatia (t-value=2.19; p-value<0.05). Hence, hypothesis 3 is confirmed. A summary of these results is presented in table 4.

TABLE 4: ESTIMATION, T-VALUES, P-VALUES AND CONFIRMATION OF HYPOTHESES FOR CROATIA

Hypotheses	Rel.	Estimation	T-value	Confirmation
H1: Firm characteristics have a positive causal effect on the internationalization method of the company.	FCAR → INTM	0.14*	1.65	Confirmed
H2: Market characteristics have a negative causal effect on the internationalization method of the company.	MKT → INTM	-0.37*	2.35	Confirmed
H3: Cultural distance have a negative causal effect on the internationalization method of the company.	CD → INTM	-0.31*	2.19	Confirmed

Note: *: p-value<0.05; **: p-value<0.01.

Results for Slovenia

The integrated exam of the fit indices, with reference to the cultural distance between Italy and Slovenia, confirms whether the model is able to fit the data or not. χ^2 scores 58.51 with 48 degrees of freedom, p-value 0.14. Overall model fit indices show reasonable fit results. GFI scores 0.93, while AGFI 0.88. CN scores 139.75. Incremental fit indices show better results. NFI scores 0.92, NNFI 0.96 and CFI scores 0.97. Residuals indices confirm that the assumed model is able to explain most of the observed data. RMR scores 0.035, Standardized RMR 0.062 and RMSEA 0.041, with 90 per cent confidence interval between 0 e 0.074.

Hypothesis 1 predicted a positive causal relationship between FCAR and INTM. Lisrel model and statistical tests support this hypothesis for Slovenia (t-value=1.66; p-value<0.05). These data confirm Hypothesis 1. Hypothesis 2 predicted a negative causal effect of MKT on INTM. Lisrel model does not support this hypothesis for Slovenia (t-value=1.84; p-value<0.05). Hence, data do not confirm Hypothesis 2. Hypothesis 3 predicted a negative causal relationship between CD and INTM. Lisrel model and statistical tests support this hypothesis for Slovenia (t-value=1.76; p-value<0.05). Hypothesis 3 is confirmed. A summary of these results is presented in table 5.

TABLE 5: ESTIMATION, T-VALUES, P-VALUES AND CONFIRMATION OF HYPOTHESES FOR SLOVENIA

Hypotheses	Rel.	Estimation	T-value	Confirmation
H1: Firm characteristics have a positive causal effect on the internationalization method of the company.	FCAR → INTM	0.36*	1.66	Confirmed
H2: Market characteristics have a negative causal effect on the internationalization method of the company.	MKT → INTM	0.26*	1.84	Not Confirmed
H3: Cultural distance have a negative causal effect on the internationalization method of the company.	CD → INTM	-0.35*	1.76	Confirmed

Note: *: p-value<0.05; **: p-value<0.01.

Discussion and conclusion

The study attempted to analyze the role played by cultural distance, together with firm and market characteristics, in influencing the choice of foreign markets entry modes. In particular, by considering the cultural distance between Italy and Austria, Croatia and Slovenia, the study tested that a larger cultural distance between home and local market forces companies to choose entry forms characterized by a lower degree of control. Conversely, the study model showed that firm characteristics, such as size, longevity and international experience, may facilitate internationalization strategies more oriented towards a higher degree of control. However, the analysis has not identified a unique role played by market characteristics in affecting entry mode choices of Friuli-Venezia Giulia companies in each of the countries analyzed.

Hypothesis 1 confirms that the characteristics of the company can positively influence entry mode choice. In particular, better international experiences, larger size and higher longevity of the company increase the ability to handle uncertain situations and reduce the perceived market risks leading towards entry modes characterized by higher degrees of control. As stated by Kogut and Singh (1988) and Caves and Mehra (1986), international experience is an essential factor to facilitate a more effective level of control over foreign assets. As a consequence, larger companies can better deal with the financial and managerial efforts needed to compete on the global markets. The hypothesis is confirmed with reference to each market analyzed. Therefore, Friuli-Venezia Giulia companies tend to prefer internationalization strategies with higher degrees of control in Austria, Croatia and Slovenia when their size and international experience allow them to reduce local market uncertainty and risk perception.

Hypothesis 2 suggests that the characteristics of the local market can affect the internationalization method. In particular, the main features of the economic and commercial framework of local markets can increase the level of uncertainty and perceived risk of foreign companies. As stated by Anderson and Gatignon (1988), Roberts and Greenwood (1997), North (1990), Collins and Rodrik (1991) and Eicher and Kang (2004) uncertain conditions affecting local legislative, institutional and competitive environment, together with the geographical distance from the home country, increase the level of perceived risk. This will force companies, in particular those characterized by smaller size and lower levels of international experience, to adopt strategic decisions focused on a lower degree of control. The study confirms hypothesis 2 only for the Croatian market. The reasons for this result may lie in the characteristics of the different local contexts. In particular, Austrian and Slovenian markets tend to be perceived as less risky and the investment in those countries characterized by a lower degree of uncertainty. It is believed that the fact that Austria and Slovenia are members of the European Union can overcome certain economic and legislative barriers and promote higher levels of co-operation across borders. As stated by Gomes-Casseres (1990), favorable local governments attitudes, with reference to the presence of foreign firms, tend to facilitate entry strategies characterized by a higher degree of control. Conversely, the main characteristics of the Croatian market tend to increase the degree of risk perceived by the companies of Friuli-Venezia Giulia encouraging entry strategies with a lower level of control.

Hypothesis 3 confirms that the cultural distance may influence the choice of foreign markets entry modes. As stated by Johanson and Vahle (1977) and Hennart and Larimo (1998), cultural distance can increase the degree of difficulty in acquiring adequate levels of local market knowledge as well as the perceived costs and risks. In order to reduce the uncertainty surrounding the process of internationalization and to maintain higher levels of flexibility on global scenarios, Brouthers and Brouthers (2001), Erramilli and Rao (1993), Kogut and Singh (1988) and Gatignon and Anderson (1988) suggested that, with increasing cultural distance, companies tend to prefer entry modes characterized by a lower degree of control. The study confirms the hypothesis with reference to each market analyzed. Therefore, even if the cultural distance from Italy is different for Austria, Croatia and Slovenia, Friuli-Venezia Giulia firms tend to consider it as a determinant able to exacerbate uncertainties, misunderstandings and risks.

The study has some boundary conditions that should be considered when interpreting the results. The empirical findings concerning the impact of cultural distance on foreign markets entry methods are mixed. As stated before, cultural distance increase the risk level of the target market, forcing companies to implement entry strategies characterized by a lower degree of control in order to reduce the perceived uncertainty and information costs. Nonetheless, Shenkar (2001) and Brouthers and Brouthers (2001) stressed that part of the literature (Shane, 1994; Padmanabhan, Cho, 1996; Anand, Delios, 1997) suggests that, at least in some situations, high levels of cultural distance are associated with entry methods with high levels of control, in order to better monitor foreign activities, to absorb part of the uncertainty through the centralization of decision-making and to reduce communication costs and opportunistic behaviors. The explanation for these discrepancies lies in the strong contextualization of the results. It is believed that cultural distance can have different meanings depending on the markets and cultures under investigation. Besides, the study uses a concept of cultural distance based on four elements. Reducing a single culture to a limited set of determinants represents an oversimplification, even though this may be considered useful when comparing different cultures. This approach, in fact, does not allow to assess the presence of subcultures and reduces the role of cultural determinants on a regional basis. Further analysis should be implemented to gain a better

comprehension of the influence of cultural determinants on the internationalization process of companies in the North-Adriatic basin.

The implications of this study have been evaluated both from the theoretical as well as the empirical point of view. The study may provide an additional perspective to the existing body of knowledge, by stressing the significance of cultural factors in influencing the strategies implemented in the North-Adriatic area. In particular, most part of previous researches has not investigated the role played by cultural differences in affecting the choice of foreign markets entry modes with reference to the area analyzed. The study also shows that cultural issues should be carefully considered by firms, together with other contextual factors, in order to implement and manage sound entry strategies in the markets involved. Indeed, a better comprehension of cultural differences could provide a competitive strategic tool to overcome cultural barriers and, by this way, to boost companies' competitive advantage.

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A Heterogeneous Perspective of Brand Community

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Abstract

Current view on brand community conceptualizes the construct as a collection of highly homogeneous members despite some recent evidence that community members might be heterogeneous. Extant scholars call for more research to establish sources of such heterogeneity. This article shows that members of a brand community e.g. fans of a sports club, can be meaningfully segmented into clusters based on relationships that consumers may have with a brand community e.g. with the product, brand, organization, and other consumers. Using data from a large survey, we apply cluster analysis techniques to meaningfully segment the fans of a sports club. Further, based on arguments from sports marketing literature, we establish that these clusters can vary significantly in terms of their psychological underpinnings like different motivations to consume sports.

Keywords: Brand community, motivation to consume sports, cluster analysis.

Introduction

Recent research in marketing focuses on how customers are becoming more endogenous to the firm by co creating value through building brand communities (Schau, Muniz & Arnold, 2009). Such an approach has been strongly endorsed by other researchers (Keller, 2003) who recommend that customers and brands are increasingly getting interconnected, achieved by a state of emotional attachment e.g. resonance with the brand. Indeed, such value creation activities are occurring within brand communities (Muniz & O'Guinn, 2001; McAlexander, Schouten, & Koenig, 2002); thereby motivating firms to increase collaboration with their customers. Hence, by proactively creating context for customer interaction, firms can cultivate customer relationship that can strengthen brand community which might in turn potentially translate into brand loyalty and other implied benefits to the marketers (Schouten, McAlexander, & Koenig, 2007).

Marketing scholars (e.g., Muniz & O'Guinn, 2001; McAlexander et al., 2002) currently promote the view that brand communities are collections of highly homogeneous members marked by shared consciousness, rituals and traditions. Recent research has however challenge this notion of homogeneity (Ouwensloot & Odekerken-Schroder, 2008) thereby forewarning that treating brand community members as a single homogeneous group may be a mistake. A similar line of work (e.g., Schau et al., 2009; Sherry et al., 2001) also supports such notion of heterogeneity. We endorse this view and argue that the concept of brand is complex (Muehlbacher et al., 2006) and members can indeed differ in many respects (Schau et al., 2009). We completely agree with recent evidence provided by Ouwensloot and Odekerken-Schroder (2008) that members may have different motives to join a brand community and they can be clustered into different segments based on their attitudes towards the four relationship dimensions which connects a consumer within a brand community e.g. with the brand, product, company, and the other consumers, following customer centric model of McAlexander and his colleagues (2002). In the current work, we take the novel approach to extend the concept of brand community to the sports market (McAlexander et al., 2002). Following cluster analysis techniques, we show that fans of a sports club can be indeed categorized into multiple segments. We further establish heterogeneity of such segments based on different motivations to consume sports (Trail & James, 2001; Funk & James, 2001).

In doing so, we address several current gaps in the literature. First of all, we answer Ouwensloot and Odekerken-Schroder's (2008) call for future research to inquire into psychological aspects of heterogeneity (e. g., based on involvement) amongst brand community members. We note that such psychological underpinning of a

customer's perception towards brand community remains unexplored (Carlson, Suter, & Brown, 2008; McAlexander, Kim, & Roberts, 2003). Second, we study a community where consumers mentally admire a brand (e.g., a sporting club) but are not administratively connected to the organization; an issue again of paramount importance and worth investigating (Ouwensloot & Odekerken-Schroder, 2008). Finally, we also extend theory in brand community area by showing that notion of brand community applies to sports market; again following recommendation from Mc Alexander and his colleagues (2002) to extend its applicability beyond consumer market..

The rest of the article is organized as follows. We begin with review of extant literature on the research topic, followed by the development of hypotheses, explanation of research methodologies, analysis of results and the ensuing discussion, and finish off with a conclusion on the study's contributions, limitations, as well as future research directions.

Theory and hypotheses

Brand community heterogeneity

Muniz and O'Guinn (2001, p. 412) referred to brand community as a "specialized, non-geographically bound community that is based on a structured set of social relations among admirers of a brand." This definition of brand community has been accepted by many field researchers (e.g., McAlexander et al., 2002, 2003; Andersen, 2005; Algesheimer, Dholakia, & Hermann, 2005; Bagozzi & Dholakia, 2006). The concept of brand community has been based on sociological premises of shared consciousness (Hickman & Ward, 2007; Carlson et al., 2008), shared rituals and traditions (Muniz & O'Guinn, 2001), and sense of moral responsibility (McAlexander et al., 2002), all these elements essentially denoting the strength of integration amongst the members in the community, which produces a shared or collective identity (Algesheimer et al., 2005; Bhattacharya, Rao, & Glynn, 1995; Tajfel & Turner, 1985). Recent proponents of brand community theory suggest communities may be conceived and nurtured in the physical world as well as the virtual world and consumption communities are no longer bound by spatial constraints (Devasagayam & Buff, 2008).

While the above body of research strongly suggests the notion of strong commonality amongst members of brand community, recent work suggests that brand community members can be heterogeneous. For example, Schau et al.'s (2009) work suggests that community engagement practices (e.g., members competing on brand devotion, knowledge etc) might act as the basis for individual differences. This notion of intra group distinction and similarity has also been supported through earlier works of scholars like Schouten and McAlexander (1995) and Sherry et al. (2001). In a similar notion, Ouwensloot and Odekerken-Schroder (2008) provide evidence that brand community members can be indeed meaningfully segmented based on their different motivations to join the community. Using relationship variables from the customer centric model of brand community (McAlexander et al., 2002; Muniz & O'Guinn, 2001), the researchers came up with six different types of brand community members e.g. enthusiasts, users, behind-the-scenes, not-me's, average, and socializers and further showed that they differed significantly on consumption motivation.

A few major concerns however underlie the work of Ouwensloot and Odekerken-Schroder (2008). Firstly, the researchers highlight that consumption characteristics alone cannot clearly and unequivocally define the characteristics of segments in a community and therefore recommended future research to scrutinize other sources of heterogeneity. Secondly, their work also neglected the role of involvement, especially its conceptualization as a multifaceted concept, in order to promote a deeper understanding of the characterizations of segments within a community. Finally, we answer their call on research with more brand communities to generalize conclusions drawn from their work. In the current research, we follow a similar procedure as followed by Ouwensloot and Odekerken-Schroder (2008) to segment brand community members e.g. Manchester United football club fans and argue that such segments can differ significantly on sports consumption motivation.

Motivation to consume sports and brand community members

Sport consumption, unlike consumption of traditional products, is one that involves experiential and hedonic dimensions of consumption. According to Schaaf (1995, p. 22), in the context of sports marketing, the

“product” is either the entertainment of competition (the uncertainty), or a product/service associated with the excitement of the event, or both”; a notion supported by other scholars e.g. Chadwick (2009, p. 192). Motivation to consume sports can have different underpinnings like psychological e.g. fulfilment of emotional and intellectual needs, experience of positive feelings and thought states (Smith & Stewart, 2007), socio-cultural e.g. strong family and social interaction, cultural connections, travelling together to see sport (Smith & Stewart, 2007; Fink, Trail, & Anderson, 2002) and social belongingness e.g. sense of identification with the team etc (Smith & Stewart, 2007). Recent work by researchers e.g. Trail and James (2001), tries to capture the many facets of motivation based on earlier work in the field (e.g., Wann, 1995; Milne & McDonald’s, 1999; Sloan, 1989). In fact, Trail and James (2001) develop Motivation Scale for Sport Consumption (MSSC) thereby capturing various motivations like vicarious achievement, knowledge acquisition, drama, aesthetic qualities of the game/sport, appreciation of athlete’s skills, physical attraction to athletes, escape, family, and social interaction.

Current scholarly works in this area show that sports consumers may indeed vary in terms of their motivation and involvement. Firstly, along the lines of Ouwersloot and Odekerken-Schroder (2008), we argue that different motives to consume sports may lead to different levels of appreciations of the aspects of community life i.e. the four relationships consumers may have with a brand community –product, brand, organization, and other consumers. For example, social interaction motive e.g. desire to identify with something bigger than oneself (Wann, Brewer, & Royalty, 1999), to feel part of a tightly bound community (Cooke, 1994; Smith, Patterson, Williams, & Hogg, 1981) may lead one to emphasize on inter-customer relationships. Similarly, a focus on aesthetic quality of sports may warrant close ties with the product while vicarious achievement may demand closer ties with the organization. Given the exploratory nature of this study, we are not focussing on individual hypotheses but rather forward a general notion that the four relationships constructs of customer centric model of brand community will be evaluated in a relatively differentiated fashion based on the sports consumption motivation of an individual.

We therefore propose the following:

- H₁ Members in the brand community of a sports team can be classified into different clusters based on their attitudes toward the four relationship constructs depicted in the consumer-centric model of brand community.*
- H₂ Membership clusters in the brand community of a sports team will differ significantly in terms of their attitudes toward the motives for sport consumption.*

Methodology

Sample

A paper and pencil survey was conducted at a large Western Australian University. A total of 248 responses (28 females) completed the study. For a summary of the sample characteristics, please refer to Table 1.

Survey instrument

The survey instrument was divided into different sections. The first section consisted of 22 items related to the seven motives for sport consumption. In the second part, brand community was measured with 16 items that Ouwersloot and Odekerken-Schroder (2008) used. Finally, participants answered demographic questions. More importantly, we used a screening question that read “Are you a fan of Manchester United Football Club” in order to select fans only to operationalize our brand community construct.

Scales and measurements

The MSSC as originally developed by Trail and James (2001) had nine motives, but the current study only included seven – vicarious achievement, aesthetics, drama, escape, knowledge, appreciation of physical skills, and social interaction. The motives of family and physical attraction to athletes were omitted from the study as they were found to be irrelevant (following current research e.g., Fink et al., 2002). Items were measured using a 7-point Likert scale – ranging from strongly disagree (1) to strongly agree (7). The reliability of the scale was found to be acceptable ($\alpha = 0.78$ to 0.88).

Brand community was measured with 16 items that Ouwersloot and Odekerken-Schroder (2008) used for their study. These items were developed based on the original brand community scale developed by McAlexander et al. (2002). Items were slightly reworded to suit the context of this study. For example, items in the customer-brand relationship, the “brand” was Manchester United; the “product” was changed to “soccer games”. As such, some of the items which would originally be “I consider my (brand) as my number one choice of [product]”, “I love my (brand) [product]”, and “My (brand) [product] is fun to {consume}”, would read “I consider (Manchester United) as my number one choice of [soccer teams]”, “I love (Manchester United’s) [soccer games]”, and “(Manchester United’s) [soccer games] are fun to {watch}” respectively. The scale reported to have good internal consistency with $\alpha = 0.89$ to 0.93 .

Analysis and results

Cluster analysis

Following Ouwersloot and Odekerken-Schroder (2008), we did a cluster analysis with the brand community scale. The four constructed relationship scores were used as a basis of segmentation. Ward’s method of hierarchical clustering technique was adopted with squared Euclidean distances as the dissimilarity measure. Following recommendations by Malhotra (2007, p. 646), an agglomeration table was constructed to determine the number of clusters. The table suggests that the sample is made up of either three or four clusters. In order to decide on the number of clusters extant recommendations (Funfgeld & Wang, 2008; Malhotra, 2007) along with study of dendrogram was undertaken. As such, a three-cluster solution was proposed with respect to the current sample of Manchester United fans in the soccer team’s brand community. This hierarchical clustering technique was then further refined by applying a *K*-means clustering procedure, a non-hierarchical clustering technique; thereby ensuring that the cluster-means are refined and cases are reallocated based on their similarity within cluster and dissimilarity between clusters.

In order to examine and study each of the clusters, Ouwersloot and Odekerken-Schroder (2008) suggested that interpretation of the results of a cluster analysis is based on three inferences. First, the absolute scores on each of the relationships are taken into account. A score around the mid-point of the seven-point scale indicates that the relationship is neither important/relevant nor unimportant/irrelevant. High scores denote that the relationship is valuable or important, low scores mean the relationship is not regarded valuable or important. Second, the scores on each relationship for a given cluster are compared to the average of the whole sample. Third, the scores on the four relationships are compared within a cluster. This may lead to such inference as “for cluster 1, one type of relationship is more important than another relationship.” This interpretation of the cluster analysis is usually summarized by naming the identified clusters to capture their most distinctive characteristics and features (Ouwersloot & Odekerken-Schroeder, 2008). The following section examines and studies each cluster with relation to their characteristics and features and names are given to a specific cluster. A finalized table consisting of the number of cluster cases, the four relationship scores and community average can be found in Table 2.

Clusters of Manchester United fans

Cluster one. The first cluster in the Manchester United brand community consists of members with a relatively high score in the relationship with the product (5.42), represented in this study by the games of soccer that Manchester United Football Club produce, average score in the relationship with the brand (4.81), being Manchester United, and low scores in the relationships with both the company (3.23) and other customers (3.49). This pattern of results are similar to the “not-me” cluster found in the Ouwersloot and Odekerken-Schroder’s (2008) study. It can be assumed that this type of members are still fairly new in adopting Manchester United as their favourite team, thus explaining their slightly higher than average score in the relationship with the brand. However, these members are very much interested in the game of soccer, acknowledging their admiration for the product. It can also be noted that these members are fans of soccer in general, where they show an appreciation for the games of soccer that

Manchester United produce, but are not loyal fans of Manchester United, at least not in a very passionate and fanatic way.

Cluster two. The second cluster in the Manchester United brand community consists of members with high scores across all four relationships in the consumer-centric community model (McAlexander et al. 2002). Specifically, the members in this cluster have mean-scores of 6.64 on the relationship with the product, 6.53 on the relationship with the company, 6.62 on the relationship with the other consumers in the community, and 6.59 on the relationship with the brand. This is consistent with the findings of Ouwersloot and Odekerken-Schroder's (2008) where they too found a cluster of members who had high scores on all four relationship constructs, of which they were labelled "enthusiasts". In comparison with the average mean-scores of the total sample, the members in this cluster have all four scores remarkably higher. In this particular cluster, members are highly interested in the soccer games that Manchester United play, the Manchester United brand itself, the other Manchester United fans, and the company behind Manchester United. These members assess all four relationships in the consumer-centric community model (McAlexander et al., 2002) as important, valuable, or appreciated (Ouwersloot & Odekerken-Schroder, 2008). As this cluster is similar to the "enthusiasts" category found in Ouwersloot and Odekerken-Schroder's (2008) study, it will therefore be referred to as the "enthusiasts".

Cluster three. Specifically, the members in this cluster have high scores on the relationships with the product (6.67) and the brand (6.44), but average scores on the relationships with the company (4.25) and other consumers (5.51) within the brand community. Relatively, in comparison with the average mean-scores of the total sample, the members in this cluster have higher scores on both relationships with the product and the brand, but have average and somewhat identical scores with the average means-scores of total sample on the relationships with the company and other consumers in the community. This is also consistent with the findings of Ouwersloot and Odekerken-Schroder's (2008) where they found a cluster that was labelled as "average", of which the members had low to average scores on all constructs in comparison to the average of the whole sample, where the scores on the relationships with the product and the brand were quite high. As such, it could be inferred that the members in this community have high attitudes toward the product and the brand. That is, these members assess the relationships with the brand and the product as important, valuable, or appreciated (Ouwersloot & Odekerken-Schroeder, 2008). Specifically, these members appreciate the soccer games that Manchester United produce and the Manchester United brand itself, but do not show as high of an appreciation for the company and the fellow Manchester United fans in the community. As this cluster is also similar to the "average" category of brand community members found in Ouwersloot and Odekerken-Schroder's (2008) study, it will therefore be referred to as the "average".

Our results of cluster analysis thus produced three distinct clusters that we refer to as "not-me", "enthusiasts" and "average" following similar pattern of findings in Ouwersloot and Odekerken-Schroder's (2008). Thus hypothesis 1 is supported.

Motivations for sport consumption

Results of one way ANOVA showed significant differences between the three clusters on the seven motives to consume sports.

Results of omnibus F test indicated that there is a significant difference between the three clusters of fans with relation to the motive of beauty ($F(2, 245) = 11.95, p < 0.001$). Results of contrast analysis further showed that there is significant difference between "not me" and "enthusiasts" (Ms of 5.47 vs. 6.11, $t(77.34) = 3.16, p < 0.01$), as well as between "average" and "not me" (Ms of 6.24 vs. 5.47, $t(63.79) = -4.06, p < 0.001$). No significant difference is observed between "enthusiasts" and "average" (Ms of 6.11 vs. 6.24, $t(168.29) = 1.10, p = 0.14$).

Results of F test again indicated that there is a significant difference between the three clusters in the motive of drama ($F(2, 245) = 5.36, p = 0.005$). Results of contrast analysis showed that there are significant differences between "not me" and "enthusiasts" (Ms of 5.46 vs. 6.04, $t(88.59) = 2.87, p < 0.01$) and between "not me" and "average" (Ms of 5.46 vs. 5.84, $t(68.95) = -2.04, p < 0.05$). However, difference between "enthusiasts" and "average" (Ms of 6.04 vs. 5.84, $t(164.13) = -1.45, p = 0.075$) was not significant.

Significant differences were found in the "escape" motive ($F(2, 245) = 13.65, p < 0.001$). Contrast results showed significant differences between "not me" and "enthusiasts" (Ms of 4.51 vs. 5.64, $t(245) = 4.82, p < 0.001$),

between “enthusiasts” and “average” (Ms of 5.64 vs. 4.91, $t(245) = -3.92, p < 0.001$), and also between “average” and “not me” (Ms of 4.91 vs. 4.52, $t(245) = -1.78, p = 0.04$).

With regard to the motive of knowledge acquisition, Omnibus F test revealed that there is a significant difference between the three clusters of fans ($F(2, 245) = 5.75, p < 0.01$). Contrast analysis signified that significant differences were found between “not me” and “enthusiasts” (Ms of 5.51 vs. 6.06, $t(245) = 3.38, p < 0.001$) and between “average” and “not me” (Ms of 5.90 vs. 5.51, $t(245) = -2.49, p < 0.001$). However, there was no significant difference between “enthusiasts” and “average” (Ms of 6.06 vs. 5.90, $t(245) = -1.24, p = 0.11$).

Results of F test again indicated that there is a significant difference between the three clusters in the motive of physical skills ($F(2, 245) = 14.94, p < 0.001$). Results of contrast analysis showed that there are significant differences between “not me” and “enthusiasts” (Ms of 5.59 vs. 6.25, $t(81.13) = 3.13, p < 0.01$), between “enthusiasts” and “average” (Ms of 6.25 vs. 6.46, $t(142.07) = 1.72, p < 0.05$), and between “average” and “not me” (Ms of 6.46 vs. 5.59, $t(58.51) = -4.57, p < 0.001$).

With regard to the motive of social interaction, there was a significant difference between the three groups ($F(2, 245) = 5.36, p = 0.005$). Contrast analysis revealed that there were significant differences between “not me” and “enthusiasts” (Ms of 5.08 vs. 5.81, $t(245) = 3.18, p < 0.01$) and between “average” and “not me” (Ms of 5.68 vs. 5.08, $t(245) = -2.72, p < 0.01$). However, there was no significant difference between “enthusiasts” and “average” (Ms of 5.81 vs. 5.68, $t(245) = -0.71, p = 0.24$).

Finally, members of the three clusters also differed significantly in relation to the motive of vicarious achievement ($F(2, 245) = 10.43, p < 0.001$). Results of contrast analysis again showed that there were significant differences between “not me” and “enthusiasts” (Ms of 5.48 vs. 6.19, $t(70.30) = 3.30, p < 0.01$) and between “average” and “not me” (Ms of 6.19 vs. 5.48, $t(62.71) = -3.40, p < 0.001$). There was no significant difference between “enthusiasts” and “average” (Ms of 6.19 vs. 6.19, $t(179.23) = -0.02, p = 0.49$).

In summary, we receive part support for our second hypothesis. A table summarising the means for the three clusters on the seven motives can be found in Table 3.

General discussion

This study set out to determine if within a brand community, there would be different types of members. In line with work by Ouwersloot and Odekerken-Schroder (2008) we indeed found evidence of three clusters through the application of McAlexander et al.’s (2002) consumer-centric community model, which focuses on four relationships that a brand community member has: with the brand, the product, the company, and other consumers within the community. The three clusters of fans found in our study were referred to as not-me, enthusiasts, and average fans. The results of this cluster analysis were largely consistent with findings of Ouwersloot and Odekerken-Schroder’s (2008).

We further extended the study and provided evidence that brand community clusters can indeed differ in terms of their motivation to consume sports. Evidence from our three clusters e.g. “not me,” “enthusiasts,” and “average” showed interesting findings. Enthusiasts differed significantly from “not me” across all the seven motivations to consume sports, showing that sports occupies central part of their lives, thereby showing deep psychological attachment to it. Significant differences across seven dimension of sports consumption motivation emerged between “average” and “not me” as well, with the former more interested in soccer and the club while the later showed only appreciation for the game. Interestingly, between “average” and “enthusiasts”, the former dominated the later on the appreciation of physical skills motive while the later dominated the former on escape motivation.

Results from our findings can be of practical relevance too. The major managerial contribution of this study is that within brand communities, marketing managers can adopt the application of cluster analysis to segment apparently homogeneous sports fans. The fact that all fans are not identical calls for differentiated segmentation and targeting strategies. Thus based on our results, it certainly makes sense if managers design tailor made marketing communications aimed at enthusiasts who are apparently the most important segment and the key reason to a brand’s survival and flourishing in the market. Next, a suitable strategy would be to convert “average” into

“enthusiasts”. Based on our cluster analysis results, it seems that “average” comprises of fans who are interested in the product and the brand and as such additional incentives e.g. a free ticket to a community gathering may motivate them to join the community. Finally, managers may like to note that there is a third small segment e.g. “not me” who are interested in the sports but have not quite developed psychological connections with other relationship dimensions of a brand community. As such judicious approach is required to see whether this group of people can be nurtured to help them develop more favourable attitude towards the brand in future.

A number of limitations can be identified in this study. Firstly, some of our results suggest that heterogeneity may be attributed to a fan’s psychological attachment which in turn may evolve over time. As such a longitudinal research is certainly warranted for future inquiry. Secondly, the current study is mainly an exploratory one, future studies should be structured in a way that explains the findings included in this study with more details and deliberation. For example, future studies should examine the reasons why enthusiasts and average fans differ in particular motives for sport consumption such as escape and skills appreciation, considering that both groups of fans have near-identical scores on the product dimension of McAlexander et al.’s (2002) consumer-centric model of brand community. Finally future research should replicate our findings in a different context e. g. product category and understand cross cultural implications on brand community membership.

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For a full list of reference please contact author(s).

Appendix**Table 1****Sample Characteristics**

Variables	Absolute Frequency (N = 248)	Relative Frequency (Percent)
Gender		
Male	220	88.7
Female	28	11.3
Nationality		
Australian	51	20.6
Non-Australian	197	79.4
Age Group		
Under 21	60	24.2
21 to 30	169	68.1
31 and above	19	7.7

Table 2**Relationship scores and community average**

Consumer relationship with	Cluster			Sample Average
	1 (Not-me)	2 (Enthusiasts)	3 (Average)	
Product	5.42	6.64	6.67	6.42
Company	3.23	6.53	4.25	4.86
Customer	3.49	6.62	5.51	5.51
Brand	4.81	6.59	6.44	6.18
Number of cases	48	88	112	248

Table 3
Means of three clusters of fans on seven motives of sport consumption

Motive	Cluster (Not Me)	One	Cluster (Enthusiasts)	Two	Cluster (Average)	Three
Beauty	5.47 (1.2123)		6.11 (0.9244)		6.24 (0.76877)	
Drama	5.46 (1.15776)		6.04 (1.04489)		5.84 (0.83693)	
Escape	4.51 (1.40744)		5.64 (1.31910)		4.91 (1.23896)	
Knowledge Acquisition	5.51 (0.86702)		6.06 (0.88821)		5.90 (0.96447)	
Appreciation Physical Skills	5.59 (1.25146)	of	6.25 (1.01490)		6.46 (0.65966)	
Social Interaction	5.08 (1.26136)		5.81 (1.30408)		5.68 (1.25792)	
Vicarious Achievement	5.48 (1.34552)		6.19 (0.89660)		6.19 (0.82590)	

Note: Standard deviations are in parentheses.

What possible integration is there between business marketing and area development? The “Land of Value” (LOV) Case

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Abstract

What possible integration is there between business marketing and area development? The "Land of Value" (LOV) case.

This paper focuses on the theme of territorial marketing from the perspective of local businesses, with the main objective being to highlight the possible role that these organizations can play in using the territory to full advantage. The survey is based on the case of an SME, operating in the high technology sector, which has developed a network that integrates different territorial components (agriculture, tourism, culture, accommodation and catering services, commerce, etc.) in order to offer its visitors a particularly positive experience. The basic idea is that providing a welcoming environment can combine the aims of business with the features peculiar to the geographic area. The study therefore brings to light the possible convergence between territorial marketing and relationship marketing.

Keywords: territorial marketing, relationship marketing, network, local enterprises, business marketing, experience.

1. Introduction¹

For some time now territorial marketing has been the object of numerous studies and debates which have not only emphasized its growing relevance, but also brought to light some issues connected to its realization.

As concerns the first aspect, it is widely recognized that marketing represents a valid support tool for the governance of territories or single geographical areas which find themselves more and more in competition with one another with regard to attracting and retaining the loyalty of resources necessary for their development (Boisot, 1990; Kotler *et al.*, 1993; Caroli, 1999 and 2006; Silvestrelli and Agazzani, 2002). As a matter of fact, there have been multiple cases in which the principles and tools of marketing have been used in order to create synergetic supply systems able to attract new territorial components and capable of enhancing existing ones, including business enterprises and their productions.

As for the second aspect, one point to be underlined is just how difficult it is to integrate the various players (both public and private), necessary to carry out more effective and efficient promotional actions. Another critical area concerns the definition of an organizational configuration that can manage the promotional intervention and that can satisfy the need for coordination (Golfetto, 2000; Gregori, 2005); in this regard, mention can be made of some positive experiments that came to light in several studies, although there is still ample room for improvement.

It should be noted, moreover, that in the scientific literature which deals with territorial marketing the focus has often been placed only on certain aspects, such as lumber and sustainable development, entrepreneurial incentivitation and the capacity to attract investment (Aiello and Donvito, 2007), or promotion of tourist destinations and territorial brands (Baker and Cameron, 2008; Rodríguez-Díaz and Espino-Rodríguez, 2008; Wang, 2008; Pencarelli and Gregori, 2009; Haugland *et al.*, 2011). It cannot escape notice that the perspective often adopted is that of local public administrators.

The present paper favors the local business enterprise perspective, with the intent of highlighting the potential of same which can be expressed through an adequate awareness of its role within the territorial system and an

appropriate management of its relationships with the other players that are part of it, with a view to fostering mutual optimization.

To this end, the case for proposed study is “Land of Value” (LOV), a project carried out by the “Loccioni Group” which is a Marche region, medium sized enterprise in the high technology sector; LOV stands out as a “virtuous” example of integration between business strategy and territorial marketing. In fact, the company has created a transversal network in a multi-dimensional approach to the territory (hospitality, tourism, culture, nature, food industry production, etc.) so as to offer its visitors – be they clients, suppliers or other partners – a welcoming environment and a positive experience during their stay, in an effort to share the values of the area. By using the positive experience as a lever, the company is thus putting into motion a relationship marketing strategy, as it contemporaneously promotes the image of the reference territory, its productions and its local services.

Here follow the principal objectives of this analysis:

- examine the organizational problems and modes of intervention inherent to the development of a similar integration project;
- highlight the derived benefits to the territory;
- underline the impact such a project has on company performance, through a cost-benefit analysis over the long term;
- emphasize the role that could be played by SMEs in territorial marketing.

Regarding the methodology adopted, a number of personal interviews were conducted with the owner and managers of the company under study; particular attention was placed on the points of view expressed by the heads of the marketing and communication areas, by the promoters and by the coordinators of the project. The present contribution can therefore be positioned in the field of research on relationship marketing and territorial marketing; in addition, reference is made to business network theories (Håkansson and Snehota, 1995).

2. Territorial marketing from a business perspective

In recent years a number of studies have been conducted on the topic of territorial marketing for which, nevertheless, no single shared conception has come about (Gregori, 2005); in fact, a variety of different theoretical approaches leading to diverse interpretations are observed, depending on the objectives established and the territorial context used as a reference.

One widely accepted view sees territorial marketing as a technique based on the principles and tools that are typical of a business function – i.e., marketing – in the aim of augmenting the value of a territory or of an area where action is intended by transforming its resources and features into competitive advantage. As stated by Caroli (2006, p. 85), *«the territorial marketing function must fulfill the task of facilitating the evolution of the tangible and intangible factors at work in a geographical area towards the goal of strengthening the capacity of that area to attract and retain within it those components of territorial demand (segments of physical persons and of financial organizations) that are best suited to foster the sustainable development of the area itself»*. Furthermore, the author points to a process of analysis, formulation and activation of a supply strategy aimed at satisfying the needs of a market “internal to” and one “external to” the area of interest.

For territories and single geographic areas there exists, in fact, an ever more pressing need to think out and plan, keeping the laws of competition in mind (Caroli, 1999), and it would seem opportune and essential that these areas adopt a “proactive” approach in dealing with the “market”ⁱⁱ.

It is in this context, then, that territorial marketing is garnering particular attention from the scientific community, but not only.

From a theoretical point of view, the concept has been affected by an important evolution denoted by the passage from a “transactional” view to a “relational-network” view (Aiello and Donvito, 2007).

Whilst in the first case, the territory tends to be considered to be a complex product with which one aims to satisfy both the current and potential demandⁱⁱⁱ, in the second case it is considered to be a network of relationships, where, in particular, the interactions among the various players- both internal and external- are analyzed. It can be further

stated that, «in every geographical context, the relationships among the players represent an absolutely primary aspect of that context, for they strongly influence the social dynamics and the competitiveness of the economic activities carried out within it » (Caroli, 2006, p. 25).

Therefore, the relational-network approach appears to be best suited to fully appreciate the problematic issues and the opportunities for development of territorial marketing because it makes it possible to see how the interactions among the various players could be reflected in the attraction capacity of a given territory.

On this subject, it is worth noting the following points:

- a) for the territorial marketing actions to be successful, it would be useful and necessary to involve both public and private entities, as well as to «overcome conflictive and competitive attitudes in order to enhance and safeguard the territory, a shared asset» (Ferrari, 2000, p. 262);
- b) it is quite commonly recognized as auspicious the idea of aiming for a greater integration among the various territorial contexts (nature, culture, production system, tourism, etc.) in order to obtain a better overall effect, especially with reference to communication and promotion activities^{iv}.

This leads us to affirm that it is the degree to which the various components of the area are able to collaborate and cooperate which makes a difference, in terms of effectiveness and efficiency, when talking about territorial marketing actions.

One would ask, then, what roles the various actors can play in achieving an enhancement of the territory, in consideration of the fact that they are part of relationship networks that interact, in turn, with other networks, and they are also involved in a trade relationship with the territory itself.

Hence, we believe it would be interesting to adopt the local business perspective and analyze the value these businesses attribute to the territory, from the standpoint of their competitive development strategies; this, particularly in light of the important economic and social function they carry out, in an awareness that *they can not only be the recipients of territorial marketing actions, but they can also take an active part in them.*

The fact that the competitiveness of a business depends more and more on the competitiveness of the economic, social and territorial systems in which they are collocated is certainly nothing new. According to the resource-based view, in fact, the specific tangible and intangible resources present in a given area can represent significant sources of competitive advantage^v.

These concepts assume added significance, however, when seen in light of the on-going intensification of the globalization process and the increasing mobility of individuals and companies.

On this point it must be noted that in a context of progressive growth of international trade and relations, a number of companies have adopted strategies in which they re-locate their production activities abroad, moved by the need or the opportunity to operate in conditions deemed more “favorable”, compared to those available domestically. For territories which undergo such processes there is therefore the need to compensate for the loss of businesses which had been located there by attracting new ones (Rullani, 1999).

Other enterprises, especially SMEs, are strongly bound instead to the territory where they were founded, as they grow in symbiosis with it and contribute to its attractiveness, by investing in and developing significant intangible resources, such as cognitive and relational systems, work culture and professional vocations, quality culture and a more widespread tendency to innovate. This occurs with the heightened awareness of the important added value that the territorial system is capable of giving to what they are offering.

Hence, it is in this sense that «enterprises and territories co-evolve in the search for competitive advantage, as each one reciprocally represents a critical resource for the competitiveness of the other» (Valdani and Ancarani, 2000, p. 23).

It would be wise, then, to investigate the strategic relationship between local enterprise and territory, from the viewpoint of mutual enhancement.

Local enterprises, in much the same way as to other internal actors, represent both resource and user in their own territory and their interdependence and interactions, even with external subjects, have an effect on the attraction capacity of the territory itself. Following this line of reasoning, it can be said that the object of territorial marketing should not only be to sell the “territory-product” to external clients, usually identified as multinationals which display a certain amount of indifference, however, towards the territories, but, in the words of Rullani (1999), «should first of all be to look after the relationships with internal clients, by turning to the business enterprises that

are already present in the territory to be enhanced». Besides attracting “external clients”, territorial marketing should therefore «facilitate the development and retention of internal clients» (p. 27), who could otherwise see an advantage in leaving. Thus, the aim of territorial marketing is that of keeping the system vital^{vi}, in the interest of both internal and external demand.

Not to be overlooked is the fact that, often, territorial areas appear to be operating with what is known as a *product-based* approach, whereby attention is mainly focused on creating and improving the infrastructures. Furthermore, «the competitive challenge between territories tends to shift towards incentives, typically fiscal in nature, which nevertheless offer short term advantages and are at risk of degenerating into dangerous price spirals so characteristic of the hypercompetitive dynamics associated with both enterprises and territories» (Valdani and Ancarani, 2000, p. 37).

So, we can plausibly affirm that geographical areas, rather than compete on available facilities and cost advantage, should enhance their specific intangible resources by putting into effect a strategy of qualitative differentiation. More specifically, it would seem most advantageous to develop systems of relationships because it is from these that derive those sought-after resources, i.e. knowledge, competencies and synergies, so necessary for creating more defensible competitive differentials in a Knowledge Economy, not only for the territories but for the enterprises located there, as well^{vii}.

3. The relationship between relational marketing and territorial marketing

Relational marketing offers a concrete response to the newly emerging needs of markets, especially the industrial ones, because it takes a long term perspective and provides tools suitable for managing the interactions between suppliers and clients (Grönroos, 1994). From the standpoint of the theoretical underpinnings which characterize relational marketing, it has been the sociological, economic and organizational disciplines which have contributed to laying down a substratum, although it cannot yet be called an actual, shared marketing paradigm (Coviello *et al.*, 2001; Palmer, 1996). Relational marketing places its primary focus on studying the relationship between business enterprises in more or less industrial contexts, but to treat it as a paradigm would imply associating it with an interpretative schematheory (Aijo, 1996) which, to date, seems not to have yet been conceived. One sure element that emerges, however, is how central and interactive the relationships are that develop between the parties, seeing as both players involved carry out an active role in the transactions that are created. So then, the primary task of marketing, at a strategic level, should be that of *establishing, developing and maintaining* the relationships with clients, rather than focusing on the management of the marketing mix variables (Ford, 1980). What has just been said about managing client relations leads to the necessary evaluation of each relationship from the point of view of its potential, of the resources that it requires and therefore, of the efforts needed.

Basically, the entire organization should develop the ability to understand the “objectives” of each of the single relationships that have come about and this implies an efficient and effective management of the *company's relational assets* (Costabile, 2001). The complexity in which firms operate, besides pushing them to study those relational assets that are directly ascribable to the company itself, has also meant extending the field of analysis to include a study of the multitude of relationships that grow up between players external to the company (Håkansson and Snehota, 1995). The reason for the birth of the network approach to studying relationships is to be found in just such a context where it is difficult to fully understand each single relationship taken out and isolated from the rest of the ties that the company establishes in an business context (Campbell, 1984; Smith and Easton, 1986). Even though the relationships are nearly dyadic, one must consider how they fit as part of network mechanisms far more ample and complex to be analyzed.

The key dimensions of relationships inside a network are:

- the players
- the activities
- the resources

Each player acts within what is defined as the *networks context* (Håkansson and Snehota, 1989), that is, a space in which the player builds relationships with other players (who, in turn have other relationships), exchanges resources

and carries out activities, with the objective of reaching a “position” within the network. The degree of complexity of such a mechanism is very clear, intuitively, for a player’s level of knowledge about the breadth of his network or, his *business horizon* (Ford *et al.*, 1998), can vary significantly.

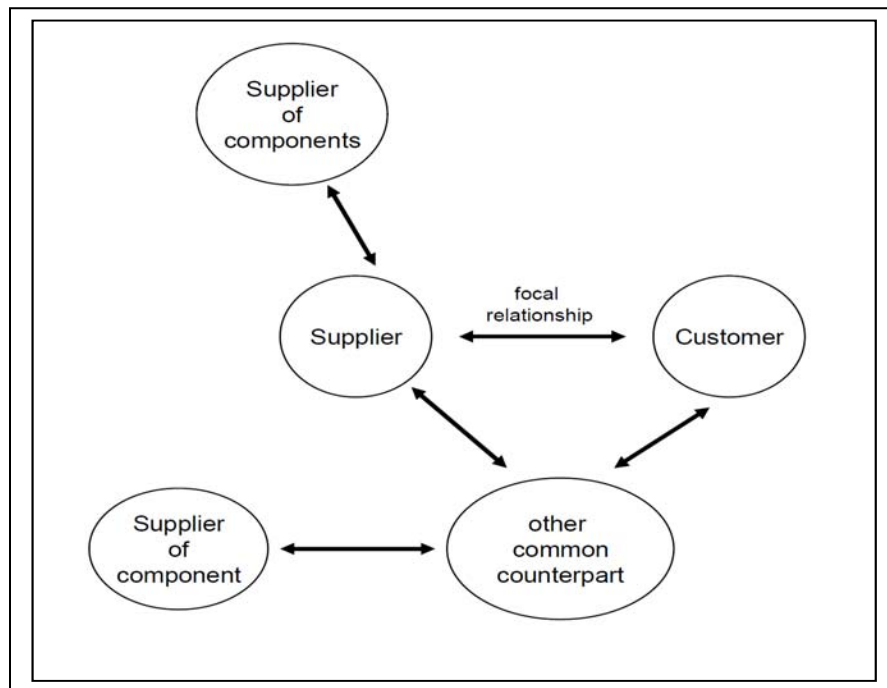
Figure 1 shows a network context in which the multiple relationships which characterize it are clearly evident, starting from the main one between supplier and client. The main aspect that emerges and that must necessarily be central to our conceptualization regards both the complexity of the context and the possible presence of relationships that are external to the central one and which could influence the entire network system.

Clearly, a “non controllable” environment such as the network takes on particular importance vis-à-vis the territorial dimension in which the company itself is naturally involved.

Having taken into consideration the observations made regarding the rise of relational marketing and particularly of its substance, it would appear obvious then that the relational dimension, when speaking of a territory, can be a highly significant one. As asserted by a number of scholars (Caroli, 1999; Vescei, 2001), given the systemic nature of the territorial supply which derives from infrastructures but also from interdependent intangible assets (relationships), the actors like, for instance, business enterprises, are obviously called upon to interact in the territory itself. Knowing how to manage and nurture such relationships thus turns into a fundamental asset for any organization.

The relational dimension which is reinstated and utilized in a territorial context rests on certain basic, rather interesting assumptions. The organizational management of relationships both internal and external to the company, in particular, presupposes an effort made by the company to also utilize management tools as sources of possible competitive advantage. In this view it could prove necessary to adopt new approaches to managing the relationships that a business enterprise owns in a territory. Furthermore, the analysis of information coming from the territory could also prove to be strategic, in consideration not only of the direct and contemporary relations among the various companies, but also of the relationships afferent to the network in which the company operates.

FIGURE 1 – AN EXAMPLE OF A NETWORK



Source: our adaptation of Anderson *et al.* (1994)

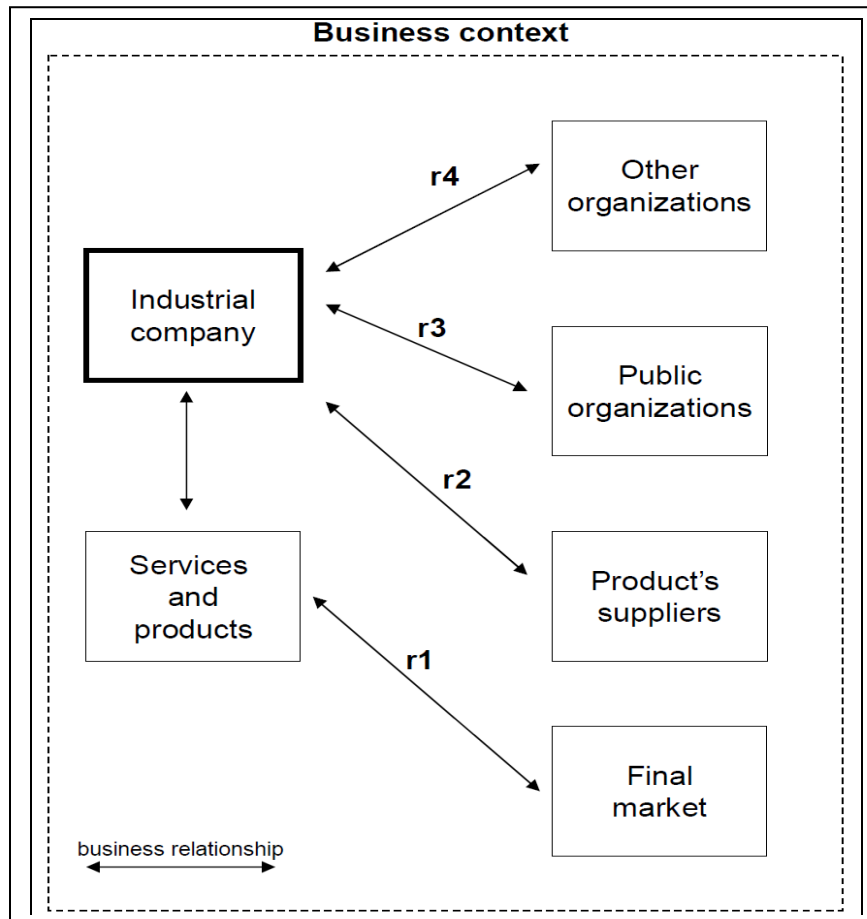
The points of contact between relational marketing and the “marketing” component of the territory would appear to be quite strong, therefore, and could be ascribable to:

- the complexity of the relationship and of the territory in terms of substance;
- the high complexity and value of the supplier – client exchange;
- the mutual effort, on the part of the players, to make the business relationship successful.

Thus, it becomes evident how, in such a context, the importance of a territory is concentrated in the notion of created value for its clients, i.e. its users or those who benefit from its resources. From here, it is a short step to seeing the importance of possessing a thorough knowledge of both the needs and the expectations of the clients who make up the demand, both current and potential.

To understand the importance of the relationships which grow out of a territorial context, Figure 2 could be helpful.

FIGURE 2 – SOME INTERACTIONS BETWEEN ENTERPRISE AND TERRITORY



Source: our data

It is evident that numerous relationship flows develop between the industrial enterprise and the various players in the network, identified as the market made up of industrial clients, the suppliers of goods and services and other organizations operating in the territory. Through the relationships that are created between the enterprise and the players, but also among the individual groups of actors themselves, there takes place an exchange of both tangible and intangible resources such as knowledge and experience. A true circuit is thus created, affecting both the territory and the external environment and, in a parallel manner, the environment in turn affects the relationships that are being formed and those already established (Ford *et al.*, 1998). In order for the interaction mechanism between subjects and territory to fully achieve its highest potential, some additional conditions are also necessary:

- information must be disseminated in a continuous and systematic way;
- the actors must have access to the information in an efficient way.

The principles enunciated by relational marketing can supply both the tools and the methods suitable for managing such complexity.

4. A virtuous example of territorial enhancement: the “Land of Value” (LOV) case^{viii}

The case under study presents an interesting company project aimed at enhancing the territory; it is called “Land of Value”, or LOV.

The project was conceived and promoted by the Loccioni Group (Box 2), a family-run enterprise^{ix} which operates in the high technology sector and is located in the township of Rosora, in the inland area of the province of Ancona, in the Marche region. With an annual turnover of 50 million Euros on average and approximately 300 employees, the Group represents a fairly significant business entity for the territory in question^x. The enterprise has strong ties to this territory, as evidenced by the fact that the only two production facilities are located just a short distance one from the other, in the original area where the company was founded.

Box 2 – Background information on the Loccioni Group

The Group was founded in 1968 by Enrico Loccioni, who also founded I.C.I.E. (which, in 1974, became General Impianti), as an artisanal business for electrical installations. Over the years, it adopted major diversification strategies which helped the Group to grow considerably, as subsequent additions were made: A.E.A. (Applicazioni Elettroniche Avanzate) in 1980, SUMMA in 1991 and BLU SOLUTIONS in 2004. Currently, the Group is actively involved in different types of business activities, in particular, manufacturing measurement systems and instruments, quality testing and monitoring of products and processes, as well as providing integrated solutions for industrial monitoring of quality, for industrial automation and for Information and Communication Technology; the Group also provides solutions for energy savings in terms of rationalized use and management^{xi}.

In addition, the Loccioni Group promotes and integrates a number of networks for companies, territorial entities, research bodies because it firmly believes that the network system represents a tool for growth, improvement and innovation. Examples of such networks are:

- Netpeople (to bring together companies’ competencies and know-how).
- Nexus (a multi-sector network created for local territories to communicate and interact, so as to maximize both the territory’s features and the individual and company-owned knowledge contained therein).
- Crossworlds (to promote innovation through a technological transfer from the automotive towards other worlds).
- U-net (a network that includes universities and research institutions).

Finally, the Group is also actively and intensely involved in collaborating with the Polytechnic University to create study and research projects, as well as to finance scholarship grants for doctoral studies.

Source: our data

In recent years the enterprise has seen an important evolution take place in terms of marketing. Prior to 2005, there was essentially no marketing function within the group as there were only two people who took care of communication activities (website, communication material), organized internal events or decided which trade fairs to attend. Any strategic marketing activity was practically nonexistent.

In 2005 a specific marketing department was established, whose function was to undertake research activities in order to gain an understanding of market dynamics so as to provide useful support, primarily:

- a) to upper-level management: in terms of analyzing possible “market frontiers” or choosing a “niche technology” in which to position themselves;
- b) to the R&D department: by carrying out analysis of new ideas or new projects in the research portfolio, in terms of potential market position;
- c) to the sales division: by studying potential markets.

Over the last two years growth of the marketing area has been intense.

The support tools for marketing activities have been fully implemented (CRM software, planning tools such as budgets) and a person has been appointed to be specifically responsible for this function^{xii}; previously, in fact, one person covered both the marketing and the communication areas.

It should be emphasized that *the marketing function’s principal task is to develop and maintain long-term relationships with loyal clients* (Gummeson, 2006), when considering the company to be “technologically irreplaceable”. The relationships created with current and potential partners are, in fact, seen as a central element in the Loccioni Group’s development strategies and so it is in this sense that marketing is increasingly being recognized as having a fundamental role.

Furthermore, the particular attention paid to relational aspects has heightened the awareness of how important it is, for the success of a company, to share certain values held in one’s own territory. Values like family, quality and respect for the environment have, for some time now, pervaded the group’s company culture and represent pivotal points for the entire organization and contribute to its growth^{xiii}; it follows, then, that there is a greater desire to communicate and give value to the culture which connotes the enterprise and its territory, along with the all of the experiences and sensations that the latter can offer, *with the knowledge that they can represent an important resource for the development of relationships*.

It is this attitude that gave rise to the project entitled “Land of Values” (LOV), aimed at creating a particularly positive experience for visitors coming to meet their business counterparts at the Loccioni Group^{xiv}.

The project consists in creating a network of collaborators with hospitality facilities (mainly *agri-tourism*, B&B and *country house* accommodation) and restaurants that best represent the local territory, so people will come to appreciate the typical aspects and strengths of the area^{xv}. Specifically, a number of different farms and agri-tourism facilities are involved in order to also offer visitors a sampling of local food products in addition to hospitality characterized by a direct contact with nature (an increasingly sought-after and appreciated feature, especially by those who live in a large metropolis)^{xvi}. Further collaborative efforts are planned with tourist associations and several local agencies and operators interested in spreading awareness of territorial assets and heritage (natural, historical, cultural, artistic). So, for example, visitors are taken to the huge underground karstic cave complex known as the “Frassassi Caves” (located in nearby Genga), to museums in the surrounding towns, to cultural and artistic events held locally and on shopping expeditions to area outlets. The intent, then, is to create for visitors – bethey clients, partners or suppliers – a familiar and friendly environment, while at the same time communicating and sharing the values and the culture that characterize the business enterprise and its territory^{xvii}. The basic idea is that by offering a welcoming environment and creating a positive experience^{xviii}, it is possible to combine business interests with the pleasures of the particular features of the geographic area^{xix}. It cannot escape notice, then, that this constitutes an interesting example of convergence between relational marketing and territorial marketing^{xx}. As a matter of fact, with its LOV project the company not only achieves the objective of increasing its relational capital (Costabile, 2001), but at the same time, it takes on an important role in a network that facilitates communication and synergetic promotion of the area of reference (see figure below).

Important advantages are observable for the Loccioni Group and for the operators involved, as well as for the territorial system itself.

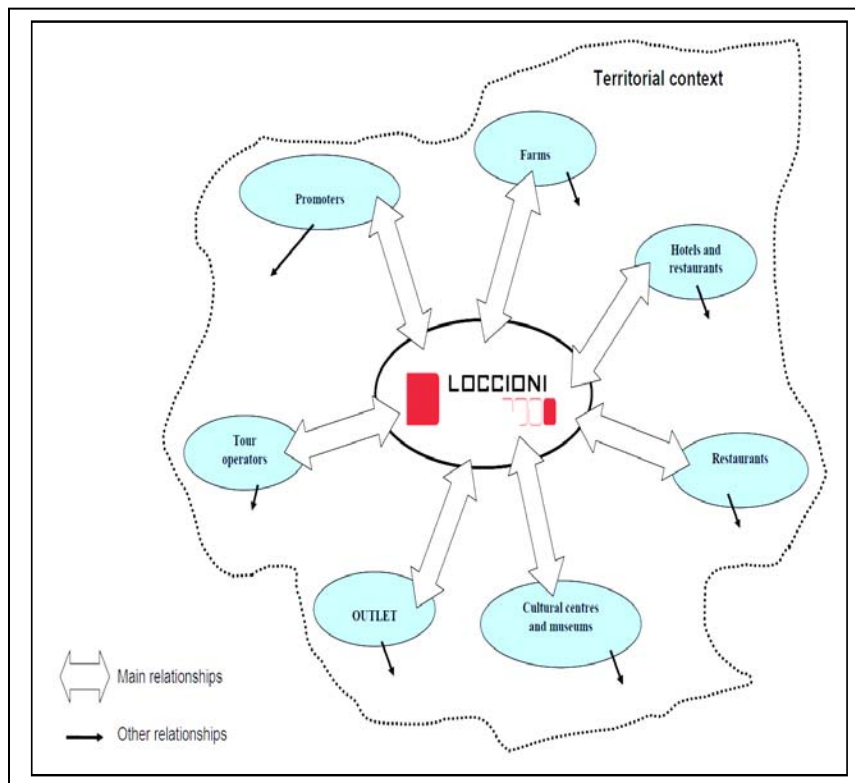
With reference to the first, widely positive feedback was had from guests, many of whom take advantage of the free ‘incoming’ service to organize their personal vacations. The project has received a favorable evaluation from internal collaborators who consider it a valid support for organizing client/supplier visits (in particular because it allows them to optimize the time needed to manage the relationships) and a useful tool for improving interactions with them. Moreover, the project has also boosted the Group’s image, as it has earned recognition as a finalist in the

competition for the 2008 “Sodalitas Social Award” (national award for business projects in the field of Social Responsibility).

Although it is extremely difficult to determine the direct impact that LOV has, or has had, on company performance, it nevertheless appears evident that it has contributed positively to the achievement of important company goals and objectives, in spite of the global economic crisis.

As regards the players and the territory, first of all, there have been advantages reaped in terms of increased visibility. By way of example, between 2007 and 2009 several thousand visitors, including foreigners, were affected by the project, in that they have had the opportunity to become familiar with the area and its features. Thus, increased value is assigned to the territory, its activities and assets contained therein^{xxi}.

FIGURE 3 – LOV BUSINESS NETWORK



Source: our data

With specific reference to tourism operators in the hospitality sector, they have had the opportunity to serve new market segments; the chance to interact with business travellers has meant that these figures can now better understand the needs of the businessman (shuttle service, Internet access, late check-in, etc.) and can respond by offering improved service, thus becoming more competitive^{xxii}. This means then, that the overall attitude towards hospitality in the area is improved^{xxiii}; business tourism can, in effect, be catered to year round^{xxiv}.

For local farm and winegrowing businesses, LOV offers an interesting solution to the issue of promoting their products and represents an alternative source of income.

It bears pointing out how the Loccioni Group has invested in hospitality services for its partners; in quantifying these services for accommodation, including meals and promotional gadgets such as food and wine souvenirs, from

2007 to the present, the investments have amounted to over two hundred thousand Euros. To these sums must be added the indirect economic returns, taken in consideration of the fact that many visitors, once they have come on business, return to the area on holiday, attracted by the excellencies of the territory and the services offered.

From an organizational viewpoint, in the selection phase for who should be involved, the group reference persons carried out on-site visits to farms and wineries, to hospitality and catering establishments, to evaluate the level of quality of the facilities, the service and the products offered; they definitely excluded standardized offers that lacked personality, whilst they gave preference to those who were able to combine simple hospitality with typical and quality products, because the latter were judged to be more suitable, offering the type of hospitality that is in keeping with the values that the territory intends to communicate.

Some difficulties were encountered in obtaining the collaboration of local accommodation facilities. There was a certain attitude of distrust vis-à-vis the project which had generated some erroneous opinions; the common fear was that the various hotels and such would have to contribute to the cost of communication (paper and digital brochures, web pages, dedicated newsletters) and to managing reservations and transfers. This was perceived as a service that was very similar to what is offered by any tour operator. The company put in considerable effort to overcome these obstacles so to make people understand the objectives of the LOV project and see it as something for the complete benefit of the territory, from which everyone taking part in the project stood to gain.

The results outlined above and the fact that the project is now in its fourth year are proof that it has been, and is, successful; they show just how important the capacity for integration among the players is for the enhancement of a territory.

5. Concluding remarks

Making use of territorial marketing territoriale is becoming more and more common, in light of the growing competition among geographical areas to attract and retain the resources necessary for their development.

From a theoretical point of view, the concept has seen a significant evolution which has resulted in attention being focused not so much on the available resources *per se* in a given area, but on the interactions among the players in that area. This would lead to the question of what role can be played by them in the overall enhancement of the territory.

This study, specifically, looked at the issue from the perspective of local enterprises. For them, on the one hand, there is the prospect of relocation to territories that are capable of offering specific advantages; on the other hand, there is the option to continue to co-evolve right along with the territory of origin, by investing heavily and by actively helping to develop relational systems and share the territorial values.

The "Land of Value" (LOV) case study has brought to light a number of interesting aspects.

First of all, it must be emphasized that reciprocal promotion not only provides the opportunity to integrate the various dimensions of the territory (production, nature, culture, etc.), but this interaction also constitutes a significant resource in terms of relational capital growth for enterprises.

Another aspect to highlight is the organizational function that a local SME can carry out in an effort to promote its territory; the Loccioni Group is a specific example of this in that it has assumed an important position in a network made up of a variety of different territorial players and, in doing so, has facilitated a fairly significant degree of synergetic promotion.

In this sense, the project represents an interesting example of convergence between relational marketing and territorial marketing.

Not to be overlooked is the important experiential aspect which becomes a particularly effective competitive factor. In this case, the reason lies in the fact that the experiences had by the various subjects involved in the project, as visitors and consumers, are considered germane to a B2B context.

The case study thus serves to illustrate a correct approach to territorial enhancement which, in turn, has a positive impact on a specific business project; hence, there is growing interest on the part of public operators to support such initiatives.

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For a complete list references, please contact the author(s).

End Notes

ⁱ Even if the research work and paper have been conducted on the basis of a close collaboration between the authors, the paragraph 1 is attributed to S. Cardinali, the paragraph 2 to G.L. Gregori, the paragraph 3 and to A. Perna, the paragraphs 4 and 5 to V. Temperini.

ⁱⁱ They are, in fact, more and more involved in growing competition to attract and retain the resources necessary for their growth, which process has already begun (Marenga, 2005) by:

- a) the progressive physical transferability of tangible and intangible resources;
- b) the breaking down of barriers to the physical movement of individuals and businesses who periodically look for areas which would allow them to carry out their business in the most favorable conditions.

ⁱⁱⁱ Based on this line of reasoning, territorial marketing consists, therefore, of a process aimed at increasing the attractiveness of an area, by defining its (Kotler, Haider and Rein, 1993):

- features in terms of combination of facilities and services;
- “price policy” which essentially coincides with a system of incentives in favor of current and potential users of existing services and infrastructures;
- distribution methods for local services and products;
- communication and promotion activities aimed at creating a positive image for potential users.

^{iv} Integration of the territorial components, even transversally vis-à-vis the various dimensions or contexts, would indeed appear to be increasingly indispensable to the fulfillment of the needs and expectations of the variegated demand in a territory. By way of example, the evolution of demand in the tourism sector has led to a situation in which it is increasingly less likely that expectations can be satisfied by offering a single attraction.

^v As observed by Varaldo (1995, p. 41), when choosing a business location a more integrated vision takes into account the fact that «it is no longer just the natural or physical features, but also the intangible ones (qualified personnel, area universities, technological competencies, advanced services, etc.) that affect the effectiveness and efficiency of a local business enterprise and of a non-local business that operates in a certain area».

^{vi} Golinelli (2002) qualifies a territory as a “vital system”, defining it as «that system which pursues the goal of survival through the production of economic and social value for supra-systems which create expectations and exert pressure in terms of settlement and spatial location» (p. 15).

^{vii} On this point, it must be noted, though, that «the value created by territory-product for its users derives not so much from the potential of the single elements which constitute it, but rather, and above all, from the synergies that are activated (either naturally or, more often, as a consequence of deliberate strategies) among the tangible and intangible components existing inside the territorial system and in those systems to which it is connected» (Caroli, 2006, p. 146).

^{viii} The present case study was the fruitful outcome of the close collaboration, over many years, between the “Loccioni Group” and the Department of Industrial Management and Organization at the Polytechnic University of the Marche.

^{ix} The controlling share of capital is owned by the founder and his family, of which some members are also directly involved in company management, in different capacities and in different roles under various aspects – strategic, administrative and marketing – in close contact with the heads of those functions.

^x To put it in perspective, the township of Rosora has a resident population of just over 1,900; the surrounding area includes a number of peripheral townships and villages (Arcevia, Castelplanio, Cupramontana, Maiolati Spontini, Mergo and Poggio San Marcello) with an overall population of about 23,500.

^{xi} In keeping with this approach, we mention the creation of the “Leaf House”, the first “carbon neutral” residential building of its kind built in Italy, consisting of six apartments laid out on two floors; the building is located in the vicinity of the Loccioni Group headquarters. This eco-sustainable project was the fruit of collaboration among several partners who are members of the network of business relationships, each of which contributed its own competencies; for further discussion on this topic, see Temperini (2009).

^{xii} The current marketing director coordinates about ten people who report to him, interacts directly with the entrepreneur, with whom decisions are made jointly.

^{xiii} Due to the need to save the environment Loccioni has spread on the business context the values around eco-sustainability by organizing strong communication initiatives (Bullis, 1997).

^{xiv} The acronym LOV intentionally makes the phonetic association with the word ‘love’, to evoke the care and attention showered on the company’s visitors and partners.

^{xv} Particularly the role of small family enterprises operating in the tourism sector has been relevant in order to spread culture; also, their attractiveness can be considered (Getz D., Carlsen J., Morrison, 2004).

^{xvi} The growing desire to *go back to nature*, to seek and re-discover the beauties of nature and to somehow re-establish contact can be seen in the rise of so-called “ecotourism”. It is a particularly interesting form of tourism for many Italian communities, also in light of the fact that there exists a segment of tourist demand that is made up of people who *are willing to spend more money in an effort to preserve the local environment* (Sambri-Pegan, 2008).

^{xvii} Companies need to strongly communicate intangible factors such as own cultural values of the territory; it can be strategic to develop also business opportunities (Nes, Solberg and Silkoset, 2007).

^{xviii} The experiential aspect (Pine-Gilmore, 2000) takes on greater and greater significance as an effective competitive factor and has been the object of several consumer studies and market research (Schmitt, 1999); nevertheless, an interesting area for analysis is prospected by B2B contexts.

^{xix} Due to the sharing of territorial values with customers and suppliers a company can enhance the trust of the business relationships (Huang, Gattiker and Schwartz, 2008).

^{xx} In the conviction, though, that territorial marketing cannot be viewed as mere promotion, but rather, as a strategic re-formulation of what the territory has to offer (Bellini, 2000).

^{xxi} We have to consider that local investments on the territory could be stimulated by the integration between companies by managing business relationships; in fact we can observe a positive relation between level of foreign investments and tourism development (Sanford Jr and Dong, 2000).

^{xxii} SME operating in the tourism are creating new business relationships in order to develop other services complementary to the core business: the aim is to offer more value by integrating several activities into the company (Kandampully, 2006).

^{xxiii} It is important to highlight that exchanging knowledge between the network’s actors can have positive effects on the territory (Tzortzaki, Mihiotis and Agiomirgianakis, 2011), also the business network can positively affect the learning process among actors (Lemetyinen and Go, 2009).

^{xxiv} Ferrari-Adamo (2005) make the observation that the highly seasonal nature of tourism demand reduces «the interest to invest in the sector and weakens the supply of services in the low season, further aggravating the phenomenon itself; this is reflected in the extremely low user indices, both gross and net, for hospitality facilities, reduced rates of return on investment, difficulty in finding qualified personnel and many other problems» (p. 86).

Creativity and Competitiveness for Luxury Brands

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Abstract

Creativity is the most important component of luxury products which distinguishes them from mass consumer products. It is the originality and creativity which gives the luxury brands shine and glamour even for those emphasizing heritage and tradition. In this sense, luxury can be considered as a part of creative economy.

The paper identifies the features of creativity and the sources of creativity in the luxury industry. It also tries to find out the intrinsic value and competitive advantages of luxury brands. By combining these factors, the paper help understands how luxury can maintain the highest market level among all industries.

Introduction

After centuries of Industrial development, undifferentiated market is no longer attractive to consumers. Technological advancement is no longer the sole propeller of market development. Entering the 21st century, economists, experts in management and entrepreneurs are all exploring the new momentum for economic and market development. And there is a consensus among more and more people that creativity is the intelligent creation of human mind. It promotes the accumulation of cultural heritage. It is also an economic force which creates wealth and job opportunities, drives sustainable development, technological and commercial innovation, and enhances municipal and national competitiveness.

Creativity and innovation is the main source of competitive advantage for all trades, especially for luxury goods and services. Luxury customers deem luxury products as pursuing their life-time dreams and they are eager for the aesthetical creativity in the brands. Creativity is the most important component of luxury products which distinguishes them from other mass consumption products. Looking back, even before the concept of luxury brands, there had been inseparable ties between luxury products and creativity. Also, creativity is the core value of luxury brands. Successful luxury brands are a combination of tradition and creativity. Tradition is what makes luxury brands classical and gives them everlasting attraction, while creativity gives them brand-new vibrancy and glory in all time.

No trades escaped the impact of the global financial crisis started in 2008. Faced with plummeting sales and worsening financial indicators, the luxury industry which claimed so proudly that it had never be hit by economic cycles had to admit reluctantly that it was no longer immune to market ups and downs. Limited disposable income of consumers and severe credit crunch forced luxury brands to compete for market shares and customers. Due to limited resources, they focused more on innovation and creativity than traditional marketing mix to offer differentiated products and services hold onto their existing customers and create new demands.

Luxury as Part of Creative Economy?

Creativity (UNCTAD, 2008) refers to the formulation of new ideas and to the application of these ideas to produce original works of art and cultural products, functional creations, scientific inventions and technological innovations. Creativity is found in all societies, it is associated with originality, imagination, inspiration, ingenuity and inventiveness. Creativity is also present at all levels of business from the management of a company to the lower level operations of the company. However, creativity is not necessarily an economic activity but may become so when it produces an idea with economic implications or a tradable product. This transition from the abstract to the practical, from the idea to the product, is hard to define. Thus, when comes to the concept of creative economy, there

is no unique definition and it is still evolving.

However, the UNCTAD Report does offer a definition which can be summarized as follows:

- The creative economy is an evolving concept based on creative assets potentially generating economic growth and development;
- It can foster income generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development;
- It embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives;
- It is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages at macro and micro levels to the overall economy;
- It is a feasible development option calling for innovative multidisciplinary policy responses and inter ministerial action;
- At the heart of the creative economy are the creative industries.

As for the definition of creative industries, John Howkins in his book (Howkins, 2007) identified four industries, i.e., copyright industry, patent industry, trademark and design industry to constitute the creative industries and the creative economy. This rather narrow definition was confirmed and adopted by some countries including Britain and Australia. However, according to the UNCTAD Report, “creative industries” are the cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs. Thus creative industries constitute a vast and heterogeneous field from traditional arts and crafts, publishing, music, performing arts to such as film, television and radio broadcasting, new media and design which are more technology-intensive and services-oriented. They comprise a set of knowledge-based activities that produce tangible goods and intangible intellectual or artistic services with creative content, economic value and market objectives.

Looking back, even before the concept of luxury brands, there had been inseparable ties between luxury products and creativity. Also, creativity is the core of luxury brands. Successful luxury brands are combination of tradition and creativity. Tradition is what makes luxury brands classical and gives them everlasting attraction, while creativity gives them brand-new vibrancy and glory in all time. Thinking a bit wider, luxury is not just a trade, it is a market level which is at the top of all trades, and it is a different way of understanding a customer and of managing a business. We can even say that luxury is a culture and a social marker. Almost all successful luxury brands, while adapting to world changes and new cultural trends, they themselves have always been culturally innovative.

Like César Ritz – the King of hoteliers, the hotelier to Kings, the inventor of a new spirit of luxury hospitality – dreamed of creating something new and original, a hotel that would be the quintessence of elegance and would bring together all the refinements that a Prince could dream of for his own House. He successfully brought about an unparalleled series of cultural innovation – F&B, Five o’clock Tea, women’s access to restaurants, pink apricot lamps, carpets, and so on.

In this sense, we can safely say that luxury genuinely a part of creative economy to produce tangible goods and intangible intellectual or artistic services with creative content, economic value and market objectives.

Basic Features of Creativity in Luxury Industry

1. Relevancy

Creativity can come from both spontaneous inspiration and careful observance of daily everyday life. Either way, it is not unconstrained and wild imagination. Rather, it is a combination of earthly factors and intelligent thinking of human mind. The competitive features of luxury determine that its creativity must have very strong relevancy with capital, culture, art, technology, psychology/attitude and law. Every relevant factor has strong influence on the luxury industry and on the other hand, these factors can also become important source of creativity for the industry.

2. Originality

Since the birth of first luxury brand – Hennessy X.O. – in 1724, most luxury brands have had a history of more than one hundred years and even two centuries for some. What give these luxury brands timeless attraction and

international reputation? That is, originality. Creativity in luxury is strongly original which in some cases breaks away from tradition and people's expectation. This originality is embodied not only in the design of products, brand logos, advertising, but also history and culture of the brands.

3. Impact

Luxury clientele are different from consumers of ordinary industrial products. What affect them most are not price and functionality, but their perception and sensation. Most luxury consumers are well-educated and have high disposable income, which often give them exquisite taste. It is sometimes hard to impress them with plain and common products. Thus, most luxury brands try to leave impacts on the minds of their clients. This impact is evoking the deepest of humanity, without it, consumers will not remember the product or the brand.

4. Extension

Almost all luxury brands started with specification in certain field. For instance, Louis Vuitton started with leather suitcase, Hermes with saddles. With the expansion of the brand and the their businesses, the creativity of the luxury brands has extended to almost all possible products and services. Many luxury brands cover a wide range of businesses like clothing, fragrance, eyewear, scarf, bag, cosmetics, accessories and so on. This extension of branding strategy helps luxury brands maintain their traditional advantage in their former fields, while obtaining new advantage in related areas.

5. Artistry

Looking back ,luxury products have always maintained a constant and intimate relationship with art since its birth. They become even more intimate, especially with contemporary art since entering the 21st century. Although historically art was essentially religious, art in its modern conception has become profane, it remains a sign of culture, of the capacity to appreciate the intangibles, and not only to possess them through effect of accumulated wealth. Luxury brands wish to create this vertical dimension. Art also makes it possible to nurture the specific relationship between luxury and time, i.e., the timelessness. Art, by its essence, aims at eternity: the work will survive the creator and, over time, his epoch. This is how luxury attempts to signal that it is not simply merchandise.

6. Icon

Most luxury brands have a legendary iconic figure, like Yves Saint Laurent, Coco Chanel, Christian Dior, Gucci, Armani and so on. These icons and designers are geniuses whose works cannot be copied. Over time, they have become an inseparable part of the brands. They not only built the brands, but also gave them life through their genius creation. The legends of these icons also add value to the products that they represent.

7. High Value-added

Economic principle tells us that the value of certain product is primarily based on people's perception of its utility. For creative products, their market price is often determined by people's perception against the products. With economic development and more affluent material life, consumers put more emphasis on pursuing spiritual enjoyment. Therefore, creative products which are full of cultural and spiritual content tend to have higher value-added. Apart from the superb quality these products possess, people enjoy the satisfaction that they get from the consumption and the desirable way of life. Creativity gives high added value to luxury brands, enable them to pursue highest profit rate in their industry.

Sources of Creativity in Luxury Industry

Creativity comes from many sources, some from unintentional, spontaneous insights. But mostly creativity is coming from intentional thinking or activity looking for answers or to please customers. The sources of creativity in luxury industry to some extent are similar as in all other trades, but some are unique to the luxury.

1. Experience

All creativity is based upon experience to some extent. Though innovation from experience may sometimes be strong and powerful, it takes rather long time for experience to become creativity. On the other hand, experience may also become barriers to creativity and hinder the creative process.

2. Customer Requirements

If salespeople, service staff and product developers listen to customers' opinion and encourage them to talk more, they will find that customers will always become an important source of creativity. Also customers may discern more precisely what and where the problems are. Most companies, including luxury companies understand the importance of customers requirements and consider them as one major source of new ideas.

3. Art

Art, and contemporary art nowadays, has been a very important source of creativity for luxury brands. There are numerous examples like the collaboration between LV and Steven Sprouse and Richard Prince. Art gives unlimited power of imagination to luxury goods, endowed the tangible products with sophisticated cultural content. However, this creativity, from art to luxury goods is not just simple imitation. Rather, the key to the successful interaction between art and luxury is the culture connotation in the art which gives luxury everlasting charm.

4 . Social Culture

As said before, luxury is in itself a culture. Most successful luxury brands have been culturally innovative. They not only adapt quickly to social changes, but most of the time they think ahead of their times and give their customers what they have not even dreamed of, sometimes even influence the social and cultural structure and help create new trends.

Conclusion

Creativity in luxury industry is one of the many contributors that make the luxury products attractive to their customers in all times. It has some unique characteristics which distinguish luxury industry from other ordinary merchandise trades. Creativity in luxury can come from many sources, some are also particular for the luxury alone. Creativity, together with other features of luxury, guarantees its highest market level among all trades.

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Personal and Cultural Values as a Determinant Of Future Work and Consuming Behavior Of An Individual

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Abstract

Values are hypothetical constructs valuable in analysis of human behavior. Being learned through socialization process values are prone to social influence. Values have important role in motivational framework and they are recognizable through goals that person considers important and strives to attain in life. Better understanding of the process values have on motivation may be beneficial to increase goal commitment. Except to human resource managers study of values gives also valuable insights to marketing and sales specialists considering consumer behavior while through values observed in working environment including social interaction, social status, material rewards preference, and self-fulfillment they can learn about consumption patterns. The importance of work in the life of an individual forms a set of attitudes and beliefs that are responsible for the selection of goals in corporate and private surroundings. Despite globalization challenge there are cultural differences in meaning of work across different societies and different times implicating different inputs for organizational strategies. The purpose of this paper is to analyze cultural differences and similarities in working values between Croatian and Chinese senior business students. Living in a collectivistic society forms another pattern of values than does living in an individualistic society having impact on developing organizational strategy as well as some implication on marketing strategy.

Key words: work values, cultural differences, Croatia and China, sales, consumer behavior

Introduction

Values are mental concepts studied throughout many social sciences. Values are considered to be cognitive elements that stimulate motivation for behavioral response. Using concepts derived in social psychology we can explain and to some degree predict human behavior. Therefore prior to undertaking a serious research some social psychology terms related to understanding people and reasoning are to be introduced. Social perception is the process through which we try to understand other people and ourselves. People acquire judgments, attitudes and beliefs through socialization experience. People living and growing in similar environments may learn to interpret any elements of this environment in a similar way. People exposed to different stimuli tend to see world in divergent perspectives. The process of social perception contributes to our thinking about the world. Social cognition is the process through which we interpret, remember and then we use information about the world and ourselves (Aronson et al., 2009). The consequences of human values manifest in many social phenomena. Values are therefore interesting research field contributing to psychology, sociology, economics etc. Values studies are also very applicative in business especially in marketing and human resources. The relationship between personal values and consumer behavior has been to some degree investigated in marketing literature (Kahle et al., 1986). As a means of expression, consumers use brands and products in order to communicate their self-concept to their reference group

Personal Values

Values are usually mixed up with other concepts such as attitude, social norm and need. The definition of values should be distinguished from these concepts but it should as well be systematically related to these concepts. A

value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. A value system is an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance (Rokeach, 1973). Values are attitudes that reflect a principle, standard or quality considered by the individual as the most desirable or appropriate. Values are stable and enduring views that a specific behavior or goal is preferred to another behavior or goal.

An attitude differs from a value in that an attitude refers to an organization of several beliefs around a specific object or situation. A value on the other hand refers to a single belief of a very specific kind. It concerns a desirable mode of behavior or end-state that has a transcendental quality to it, guiding actions, attitudes, judgments and comparisons across specific objects and situations and beyond immediate goals to more ultimate goals (Rokeach, 1973). Apparently values occupy a more central position than attitudes within one's personality and cognition and they are therefore determinants of attitudes and behavior. This greater centrality of values to attitudes has been noted by some other authors as well, e.g. „attitudes themselves depend on pre-existing social values“ (Allport, 1961). Attitudes simply appear to be function of values. When comparing values to social norms it is noted that values are more internal while norms are more externally imposed and they are just a mode of behavior. Values, as standards for establishing what should be regarded as desirable, provide the grounds for accepting or rejecting particular norms. When it comes to distinguishing values and needs a motivation approach is to be referred to while the motivation system seems to have the properties of a need and also the properties of a value what is especially evident at achievement motive. Values are the cognitive representation and transformation of needs and man is the only animal capable of such representations and transformations (Rokeach,1973). The key to identifying the structure of value relations is the assumption that actions taken in the pursuit of each type of values have psychological, practical and social consequences that may be compatible with the pursuit of other value types. Analyses of the conflicts and compatibilities likely to arise when people pursue these types of values simultaneously suggest a potentially universal set of relations among values (Ros et al., 1999).

Values in Work environment

A theoretical setting of personal values is applied in studying work where work goals are seen as manifestation of human values. Because beliefs about work do not belong to the category of innate predisposition but stem from everyday experience, they are largely determined by sociocultural factors (Super & Šverko, 1995). Across different societies work has a different meaning for individuals. People try to attain various goals through their work. They pursue material wealth, social status, social interactions and self-realization. Researchers are trying to structure and organize values people are expressing through their work. To better understand work values of an individual researchers are analyzing what people search for in their work and what is the role of intrinsic motivation compared to extrinsic rewards in job satisfactions.

Work values represent important and relatively stable goals that people seek to attain in their work - economic security, simulative social interaction and use of their abilities. It is generally supposed that the more important such values are to individuals the more important the work role will be in their lives (Super & Šverko, 1995). So, the various work goals are ordered by their importance as guiding principles for evaluating work outcomes and for choosing among different work alternatives.

Cultural differences in Values

It is usually assumed that people around the world don't share the same values implying that there are cultural and national differences in value systems. For many years now, journalists, political scientists, sociologists and psychologist have discussed the differences between two major cultural clusters of attitudes called Western and non-Western values. According to philosophical tradition developed by Weber the most fundamental values of Western civilization are work, achievement, striving for efficiency and consumption of material goods. It is then argued that

in non-Western civilization these values are somewhat important but not considered critical. The essence of non-Western values is respect for tradition, reverence to authority and overall stability (Shiraev & Levy, 2010). As Hofstede (1991) described it following cultural dimensions reflect four major ways people cope with their most important problems: individualism and collectivism, power distance, masculinity and femininity and uncertainty avoidance. In another study Schwartz (1997) argued about cultural differences in individual values and he suggested individual values as being connected to the way various groups cope with basic societal problems. Three basic issues make various social groups different from one another and these are: the extent to which people are independent of or dependent on groups, their views on prosperity and profit and their views on whether it is appropriate to exploit, fit in, or submit to the outside world. Predominant cultural values that have been developed in a community or country can determine people's views on a wide range of social, political and personal issues.

Research goals

The purpose of this paper is to give an overview of previous research on values and to indicate the importance of value research in working environment and consumer behaviour. This paper is based on preliminary research on work values on Croatian and Chinese senior students and will be extended in following papers after the research and all data collecting will be completed.

As in late 1980s the research on working values in Croatia was conducted in this paper we made a comparison between working values hierarchies in late 1980s and hierarchy obtained in 2010. We did not find past working values research on Chinese population using Working Values Scale Inventory, so we will discuss cultural differences and chinese value transition on theoretical base. Two hypothesis were tested in this paper:

1. Working Values in Croatia today will be more intensively oriented toward Self-Actualization values than in 1980s.
2. There will be cultural differences between Croatian and Chinese sample evident in values hierarchy.

Methodology

To measure working values of an individual the international edition of the values scale was used. This value scale was developed as a part of international Work Importance Study (WIS) project under the supervision of Donald E. Super in late 1980s. In the scope of that project International Value scale and 11 national value scales were developed. The WIS Values Scale includes includes eighteen values plus two optional values. The international Values Scale contains fifty four items. The items are sentences that are to be evaluated on 4-point scale (*of little importance, of some importance, important, very important*) to indicate how important particular statement is. After developing value scales several analyses have demonstrated the validity of the Value Scale through internal construct validity, focusing on the interrelation of the inventory items and scales, and external construct validity, dealing with their relationship to other observable behaviors. The factor structure of Value Scale was analyzed and meaningful results were obtained revealing fifteen interpretable factors.

TABLE 1: VALUES SCALES AND SAMPLE ITEMS

	Values Scale	Sample Items
1.	Ability Utilization	Use all my skill and knowledge
2.	Achievement	Have results which show that I have done well
3.	Advancement	Get ahead
4.	Aesthetics	Make life more beautiful
5.	Altruism	Help people with problems
6.	Authority	Tell others what to do
7.	Autonomy	Act on my own
8.	Creativity	Discover, develop or design new things
9.	Economics	Have a high standard of living
10.	Life-style	Living according to my ideas
11.	Personal Development	Develop as a person
12.	Physical Activity	Get a lot of exercise
13.	Prestige	Be admired for my knowledge and skills
14.	Risk	Do risky things
15.	Social Interaction	Do things with other people
16.	Social Relations	Be with friends
17.	Variety	Have every day different in some way from previous
18.	Working Condition	Have good space and light in which I work

There were International (English) and National (Croatian) official Values scale versions available and Chinese version was developed by double back translation. It was translated from English to Chinese by English-Chinese speaking Chinese person and from Croatian to Chinese by Croatian-Chinese speaking Chinese person.

In total there were 342 participants in this research while 231 participant were from Croatia and 111 participant were from China. 60% of participants were female and 40% were male. Participants were 21.5 years old in average and their average GPA was 3.5. All participants were 3rd and 4th year students from Croatia and China studying at Business and Economics Schools at University of Zagreb and Fudan University.

Research Results

In this part the data concerning the hierarchy of values and average importance of values are presented. Sample's means were used to constitute the value hierarchies. In Table 1 is given the hierarchy of values based on the Work importance Study research in 1987. Five most important values as considered in 1987. were Personal Development, Ability Utilization, Achievement, Social Relation and Economics. Three least important values were Variety, Risk and Authority.

TABLE 2: HIERARCHY OF VALUES IN CROATIA IN YEAR 1987

1. Personal Development	10. Creativity
2. Ability Utilization	11. Advancement
3. Achievement	12. Lifestyle
4. Social Relation	13. Physical Activity
5. Economics	14. Social Interaction
6. Working Condition	15. Prestige
7. Altruism	16. Variety
8. Aesthetics	17. Risk
9. Autonomy	18. Authority

The obtained Value importance means range from 8,46 to 10,80 for Croatian Sample and from 4,90 to 6,94 for Chinese sample. In Table 3 it is seen that top five working values among Croatian students are Personal Development, Achievement, Social Relations, Ability Utilization and Advancement while top five working values among Chinese sample are Ability Utilization, Personal Development, Working Conditions, Aesthetics and Lifestyle.

TABLE 3: HIERARCHY OF VALUES IN CROATIA AND CHINA IN 2010.

Croatia		China	
Personal Development	10,80	Ability Utilization	6,94
Achievement	10,58	Personal Development	6,30
Social Relations	10,48	Working Conditions	6,17
Ability Utilization	10,42	Aesthetics	5,68
Advancement	10,41	Lifestyle	5,64
Economics	10,18	Achievement	5,62
Prestige	10,05	Social Relations	5,48
Working Conditions	9,98	Autonomy	5,33
Aesthetics	9,90	Prestige	5,31
Lifestyle	9,71	Physical Activity	5,13
Creativity	9,70	Creativity	5,06
Altruism	9,62	Altruism	5,06
Autonomy	9,45	Social Interaction	5,02
Social Interaction	9,41	Economics	4,97
Physical Activity	9,32	Advancement	4,95
Variety	9,02	Variety	4,95
Authority	8,64	Authority	4,91
Risk	8,46	Risk	4,90

There is a general trend that average importance of values has lower values for Chinese sample and all the differences between average importance of values between Croatia and China are statistically significant. As more data on Chinese sample are being collected this tendency to lower values importance means will be tested and discussed in final paper on this research. No gender differences and socio-economic differences in hierarchy of Values were found between the samples.

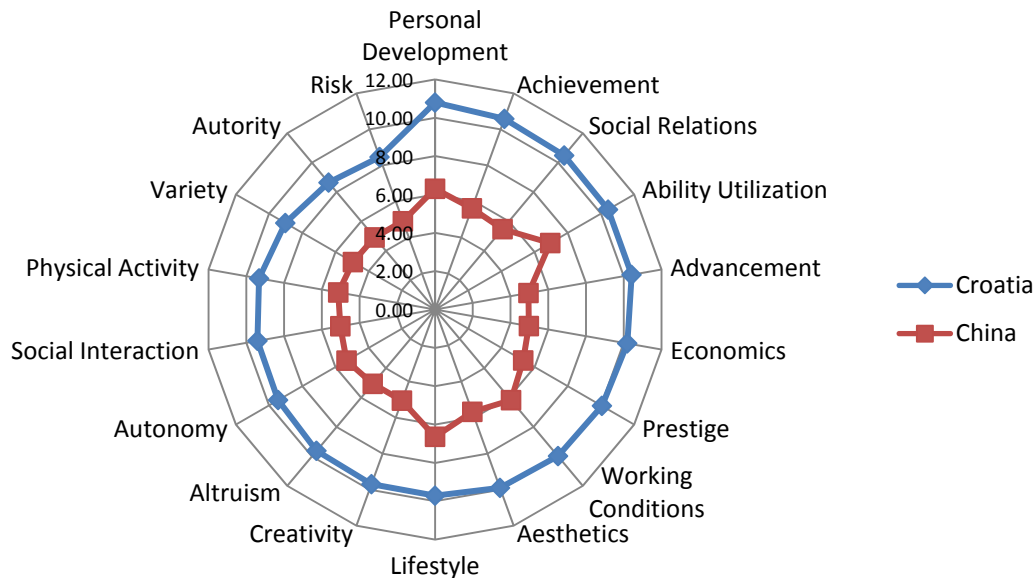


FIG. 1: COMPARISON OF VALUE IMPORTANCE IN CROATIA AND CHINA

Discussion

Most of the Croatian value studies date back to 1970s and 1980s when Croatia was part of former socialist Yugoslavia. These studies were sociological studies stressing the conflict between the values of traditional preindustrial culture and new value system reflecting the introduction of modern industrial technology and socialist ideology. There were also studies that have paid attention to the position of pay in worker's value hierarchies and studies oriented to occupational choices. The most interesting study for our research was study undertaken by Super and Šverko (1987) in the scope of Work Importance Study which was based on the same Values Inventory as it was used in our research. In this preliminary research we refer to the factor structure of Values scale obtained in that previous research and afterwards we will perform factor analyses on our data to check the stability of factors. The five derived factors were labeled as follows: Orientation Toward Self-Actualization (Ability Utilization, Achievement, Personal Development, Aesthetics), Individualistic Orientations (Lifestyle, Autonomy, Variety, Creativity), Social Orientation (Social Interaction, Social Relations, Altruism), Utilitarian Orientation (Economics, Advancement, Authority, Prestige, Working Conditions) and Adventurous Orientation (Risk, Physical Activity).

We believed that because of changed political and economic system and shift from socialist system to open capitalist economy there would be some changes in hierarchy of values. But contrary to our expectations the rank order of importance of values doesn't almost at all appear different today than it was back in 1987. Four out of five top ranked values are the same. Only value labeled Economics indicating satisfied income, safe job and stable life standard has been replaced by Advancement. If we consider the value hierarchies more closely we can notice two very indicating switches and jumps in hierarchy between 1987 and 2010. In 1987 research Advancement value indicating opportunities to improve position on one's work place and to go up in position hierarchy was ranked on eleventh place and in 2010 it was on fifth position. And Prestige value indicating respect, position and influence in society moved from fifteenth position to seventh place. These two shifts in values could actually reflect the changes in political and economic system as well as social changes under the flooding of capitalist materialistic symbols. Top five working values on Croatian students are Personal Development, Achievement, Social Relations, Ability Utilization and Advancement. Among those top five values there are three of four values that are considered to belong to Self-Actualization Factor. These three values are Personal Development, Achievement and Ability Utilization. Values on Self-Actualization factor are typical intrinsic values that are important in the satisfaction on higher-order needs. Other two values in top five selection in Croatia are extrinsic values defined and Advancement that have projections on Utilitarian Orientation and Social Relations that belongs to social orientation factor. Top five working values among Chinese students are Ability Utilization, Personal Development, Working Conditions, Aesthetics and Lifestyle. Among Chinese sample there are also three out of five top important values that reflect Self-Actualization factor. These values are Personal Development, Ability Utilization and Aesthetics and they are all intrinsic values. Other two values belong to Utilitarian Orientation represented with Working Conditions value and Individualistic Orientation represented with Life-Style value.

It is pretty unexpected finding that one individualistically oriented value appears so highly in value hierarchy in Communist country but that could be due to Chinese fast growing and turbulent economy that is involving more and more western values in Chinese traditional Value system. As our sample were senior university students we have to keep on mind that they are new Chinese one child generation that is transforming some traditional patterns and setting new society steps that will affect value system as well. More advanced and versatile job opportunities will impact working values and logically it will also impact consumer behavior while better working opportunities and conditions set different consuming style pattern as well. Working conditions value that rank on third place in Chinese sample and on eight place in Croatian sample also indicates fast changing economic and social circumstances while in last decade China has undergone rapid working conditions change which is still in process. In Croatia on the other hand working conditions are not much questioned while economy is not industrially based and has never experienced difficult working conditions to Chinese degree.

It seems that our participants in both cultures place a strong emphasis on the importance of the higher-order needs of Self Actualization and at the same time they are attaching less importance to other orientations. At the same time people are workers and consumers and it is expected their values will reflect in both areas. Application of the theory and methods of research on basic individual values has the potential of further contribution to the study of work and consumer behavior.

In future extensive research it is planned to make a replication of the study on students and sales force and marketing employees treating them as working population and consumers at the same time.

Conclusion

Countries differ in "mentality" meaning complex set of beliefs, habits, attitudes, values etc. It has been assumed that each culture sets a value on each of the major life roles that vary from one culture to another and are different in different times. Hierarchies of values obtained by ranking the arithmetic means of values appear to be very similar in both samples and they show significant degree of mutual agreement. Our subjects in both samples give priority to values associated with Self-Actualization while putting less emphasis to Social and Utilitarian Values. Our findings indicate that similar value pattern exists at both Croatian and Chinese sample and these results challenge many

stereotypes that may have been valid 30 or 40 years ago. Application of the theory and methods of research on basic individual values has the potential of further contribution to the study of work and consumer behavior.

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Retail Therapy : Do Foreign Brands Give More Satisfaction Than Local Brands?

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ABSTRACT

Consumer spending and buying behavior driven by the desire to alleviate negative mood, known as retail therapy, are widely recognized in today's life. Smart marketers striving to provide best offerings to satisfy this kind of customers, yielding customers' satisfaction with their shopping experience and conclusively create customer loyalty. This research explored whether retail therapy performed by Indonesian's consumers. Moreover, we also investigated the influence of brand preferences, foreign vs local brands, in generating consumer's satisfaction after having retail therapy done. Our findings expand the retail therapy literature within the context of brand preference, that foreign brands give more satisfaction compared to local brands.

Keywords : retail therapy, foreign brand, local brand, consumers' satisfaction

Research Background

Consumer's spending and buying behavior driven by a desire to alleviate negative mood are widely common in everyday's life. Consumers are indulged with alluring shopping programs designed by marketers with the chase of enjoyable shopping experience as important precursor of shopping satisfaction. It is inevitable that on one side marketers spot the opportunity to attract customers attention to their mall, especially those who like to spend and purchase at the time of experiencing a negative mood. Conversely, smart marketers see the opportunity as a distinctive competence to provide best services for these specific customers, create inimitable atmosphere to enhance consumers' satisfaction. At the end of the shopping experience, consumers' satisfaction will become a proper indicator of future consumer loyalty.

Indonesian consumers have several unique characteristics compared to other countries. Kharis (2011) confirmed unique characteristics of Indonesian hedonic consumers as short term oriented, religious, high need of prestige, strong subculture, and high preference of foreign brands. Further, Kharis acknowledged unplanned buyer as another characteristics demonstrated by most Indonesian hedonic consumers. Otherwise, there has not been researched that some these Indonesian shoppers are also shopped consciously in terms of retail therapy. The circumstances that retailers continuously improve their offerings and increasingly create numbers of shopping mall in several major cities in Indonesia, such as Jakarta, Surabaya, Medan, Makassar and many others, instigate the opportunity to explore consumers' retail therapy behavior. Research found that consumers can shop more convenience and get more satisfaction within a large range of shopping programs during retail therapy. Fortunately, increasing consumers' satisfaction with their shopping experiences also generate more benefits for retailers.

This study proves that retail therapy is performed by the Indonesian consumers to overcome their perceived negative mood. This paper will first begins with a brief literature related to retail therapy then followed with hypotheses proposed in the study. The next section will presents research methodology conducted from data collections to hypotheses testing. At the end of the paper we will discuss about research findings, research implications and limitations of the study. The research questions of this study were : 1) Does retail therapy motivation influence consumer's satisfaction? 2) Do foreign brands create different level of satisfaction compared to local brands during retail therapy? 3) What product that gives highest satisfaction for Indonesian consumers in retail therapy?

Literature Review

Mood in marketing research

Research on mood proves that consumers who experiencing negative mood have a higher desire to possess a product, spend money, and consume a product than consumers at neutral feeling (Kacen and Friese, 1999; Kang,

2009; Ragunathan and Corman, 2004; Rucker and Galisky, 2008). Negative mood will improve one's self focus and encourage consumers to take some actions in order to reduce negative effects of this mood (Kacen, 1998; Kacen and Friese, 1999; Luomala, 2002). They will also engage in compensatory consumption (Woodruffe, 1997; Woodruffe-Burton, 1998; Yurchisin, Yan, Watchravesringkan, and Chen, 2008). Negative mood occurs for many reasons, One's experiences coming from internal causes (from their own actions) or external causes (from outside customers). Unpleasant events experienced by consumers in their everyday life such as traffic jams while driving to or going home from work, feeling angry from being disgraced by superiors, frustration from not getting fans concert tickets which was keenly awaited, the sorrow of losing the loved one, and many other reasons which can be happen to anyone in a random manner.

In terms of mood repair, consumers even do retail therapy (retail shopping) consciously with the aim of improving mood when experiencing anger, anxiety, or sadness (Kang, 2009). Kang further finds that marketers are beginning to realize the needs of consumers associated with retail shopping and start creating a variety of facilities to be able to provide a more enjoyable shopping experience for consumers. Because there is satisfaction attainment after engaging in retail therapy, this activity considered as a positive activity since it helps consumers to overcome their perceived negative mood and get back to their daily routines lively. The fact that consumers do retail therapy in their consciousness demonstrates that this activity is different from the compensatory consumption, one that tends to end up with disappointed feeling after making purchases in shopping experiences.

Shopping as mood alleviation method

Shopping behavior to improve one's mood is part of self-regulation methods. Károly (1993) states that self-regulation is a process, both internal and/or transactional, that enable individuals to direct the activities of objectives achievement within a certain time and in the context of the changing situations. Furthermore Luomala et al (2004) defines self-regulation of mood as individual behavior that is driven by the mood which has been done to achieve the goal to extend or enhance positive mood or to remove or overcome the negative mood. In this study, the mood repair hereinafter defined as individual behavior that is driven by the negative mood and performed with the aim to eliminate or overcome the negative mood.

Retail Therapy

Retail therapy literatures come in two approaches, the consumption in the mood repair and compensatory consumption. Within the mood repair literature, retail therapy is a strategy for self-regulation of negative moods. While in the compensatory consumption literature, retail therapy is an activity undertaken as compensation for psychological deficiency experienced by consumers. Research shows that consumers who make purchases in these two situations are both experiencing a negative mood and spending their money to cope with negative mood (Kang 2009). However, as self-regulation's strategy, in retail therapy conscious consumers use shopping activity to cope with negative mood and tend to obtain higher satisfaction after having retail therapy done. Consumers who engage in retail therapy does not always end up with product purchases, browsing experience while in the store for some consumers have been enough to give the effect of mood repair and create a positive evaluation of the stores visited. Definition of retail therapy in this study is then the behavior of consumption, including spending and purchases, to improve one's negative mood.

Retail Therapy Motivations

This research will discuss retail therapy from the viewpoint of mood repair, to emphasize the positive benefits obtained by consumers from shopping activities done. Products purchases in therapy shopping play an important role in improving mood, reinforce the reason that there are different consumers experience when making retail therapy and engaging compulsive buying. Referring to Luomala et al (2004), when consumers activity in the mood repair has the power of therapy, particularly therapy through consumption, mood repair activity through retail therapy can provide such benefits as distraction, self-indulgence, and activation for consumers.

Distraction, self-indulgence, and activation were 3-related benefits that become one's motivation of spending and purchasing in retail therapy (Kang 2009). Distraction is the benefit of gaining pleasure from the thought of purchasing a product. Self-Indulgence is the benefit gained when a person feels happy after going shopping to get something they like for themselves. While browsing in the store to look for information for purchase in the future or learn the latest trends identified as activation benefit. People who want to benefit distraction and self-

indulgence used retail therapy for the purpose of mood repair, while the activation related to the purpose to eliminate the feelings of sadness or depression.

Furthermore, Kang (2009) identifies consumer motivations in making retail therapy as : positive distraction, escape, indulgence, elevation of self-esteem, activation, sense of control, and social connection. Each consumer motivation represents the underlying reason for purchasing activity and consumer spending in overcoming their negative moods or emotional needs through retail therapy :

- Positive distraction is the motivation to forget the negative mood in search of entertainment via shopping.
- Escape is the motivation related to physical activity undertaken as a contribution to the negative mood, through physical experience gained from shopping environment.
- Indulgence consists of the responses that focused on maximizing pleasure in reducing the negative effects of mood, where the shopping experience will give pleasure in a short time and have broad impact.
- Elevation of self-esteem consists motivation to benefit from a varying ways such as feeling happy to meet with someone, feeling to get the desired identity, feeling proud, confident, and others.
- Activation consists of motivation indicating that the shop can make a person active in a variety of ways, such as the stimulation of feelings, learning new things and feeling up-to-date, and mental stimulation and physical abilities.
- Sense of control is intended to gain control over something when someone loses the control he/she had.
- Social connection is the motivation for someone to get an ideal of social relationships through the people they met while shopping, which they do not get in everyday life.

Brands in Retail Therapy

Recently, competition among brands has become more complicated as the number of foreign brands increase in developing markets. Consumers in developing markets possess various motives for purchasing foreign brands, including higher prestige and higher satisfaction. Research into the underlying reasons that drive this purchase decisions is significantly important, since the findings will provide marketer a better understanding of why consumers in developing countries choose to purchase foreign brands instead of local brands (Steenkamp, Batra, dan Alden 2002; Wong and Zhou 2005). Even though research on foreign brands have been widely noted in the literature, there is still a lack of research on consumer's satisfaction between local brand and foreign brands within retail therapy context.

In retail therapy, the higher level of negative mood perceived by consumers, the greater the tendency to engage in hedonic shopping (Kang, 2009). Furthermore, Kang also found that the more expensive the price of a product purchased during a retail therapy, the higher the level of satisfaction obtained by the consumer. This fact bring forth the proposition that differences in brands, local and foreign, will be analogously to the consumers satisfactions as well as price. Consumers' perception that foreign brands have a higher hedonic value than local brands will provide different levels of consumers' satisfaction in retail therapy.

Research Hypothesis

Based on literature review above, we proposed research hypotheses as follows:

Hypothesis 1 : Positive distraction motivation of retail therapy has significant influence on consumers' satisfaction

Hypothesis 2 : Escape motivation of retail therapy has significant influence consumers' satisfaction

Hypothesis 3 : Indulgence motivation of retail therapy has significant influence on consumers' satisfaction

Hypothesis 4 : Elevation of self-esteem of retail therapy has significant influence on consumers' satisfaction

Hypothesis 5 : Activation motivation of retail therapy has significant influence on consumers' satisfaction

Hypothesis 6 : Sense of control motivation of retail therapy has significant influence on consumers' satisfaction

hypothesis 7 : Social connection motivation of retail therapy has significant influence on consumers' satisfaction

Hypothesis 8 : There is significant different level of consumers' satisfaction between local brands and foreign brands purchasing within retail therapy

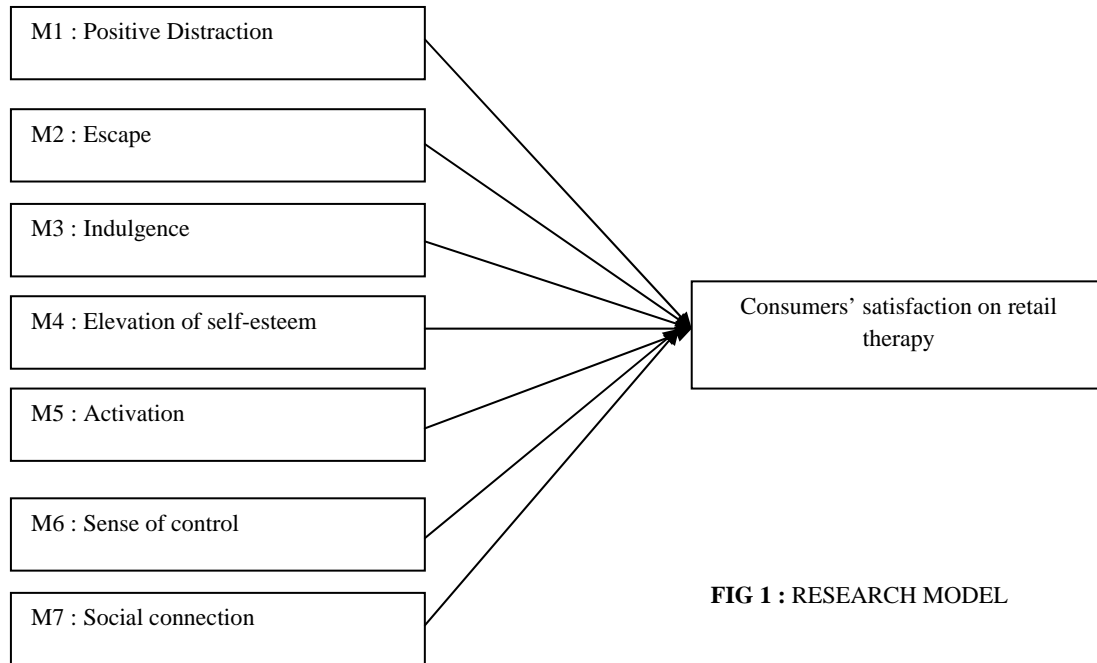


FIG 1 : RESEARCH MODEL

Research Methodology

The population of this study were undergraduate students from private universities located nearby 4 leading shopping malls in Jakarta. Samples were taken randomly using convenience sampling method with a total number of 200 students. Given the nature of retail therapy as mood alleviation method investigated in this study, the use of students as actual consumers is considerably appropriate. The respondents' age ranged from 18 to 22 years old (with an average age of 20 years old), 69.5 percent were female and more than 78 percent came from Jakarta. A mug with handpainted design was offered to each respondent as an appreciation for their participation.

The questionnaire was adapted from Kang (2009). The first part of the questionnaire was designed to clearly differentiate whether the respondent is a retail therapy shopper. The second part measured respondents' motivation on retail therapy, and the last part measured their satisfaction from purchasing local brands versus foreign brands during retail therapy. Respondents were asked to indicate their responses on 7 point Likert scales ranging from 1 (very disagree) to 7 (very agree) which measured their motivations, brand preferences, and satisfactions in the context of retail therapy. Relevant demographic information was also elicited. The data was collected across six product categories : fashion, gadget, electronic and home appliance, automotive accessories, jewelry, and others Variables, definition, and indicators are presented at table 1 below.

TABLE 1 : VARIABLES, DEFINITIONS AND INDICATORS

Variables	Definitions	Indicators
<p>Motivation of Retail Therapy</p> <ul style="list-style-type: none"> • Positive distraction • EscapE • Indulgence • Elevation of self-esteem • Activation • Sense of control • Social connection 	<p>Consumers motivation to take benefit of retail therapy shopping</p> <ul style="list-style-type: none"> • Motivation to forget negative mood via shopping • Motivation related to do physical activity (go shopping) as a contribution to negative mood • Motivation to maximizing pleasure in reducing negative mood • Motivation to benefit from meeting someone, get identity, feeling proud, confident, etc by doing shopping • Motivation that shop can make a person active by stimulating feelings, learning new things, feeling up-to-date • Motivation to gain control over something through shopping • Motivation to get ideal social relationships through shopping 	<ul style="list-style-type: none"> • Shopping will make me forget my bad mood • When I feel upset I go shopping to buy things that will make me happy • When I'm getting angry, shopping will make me feel relieved • I like to go shopping when I am in bad mood • Walking in the shopping mall aisle and find something nice to buy will make me feel better after having bad days in my college • When I feel bad I like to spend hours shopping things to please my self • Shopping is the best medication for bad mood • After having a difficult exam I deserve a great shopping time • I feel proud after buying things at exclusive shopping mall in town during bad mood alleviation • Meet someone I know during shopping get me more confidence feeling • I feel no more bad mood after shopping at leading shopping mall in town • I feel happy after purchasing new released product at my favorite shopping mall • I like the up-to-date feeling of recognizing the latest product trend offered in the leading shopping mall • Go shopping after failing exam get me a feeling that I can have a better control of my next exam • After having bad days I feel better to go shopping with my best friends
<p>Brand Preferences</p>	<p>Consumers preferences on product brand purchased during retail therapy</p>	<ul style="list-style-type: none"> • When I go shopping, I like to buy product with foreign brands better than local brands
<p>Consumer satisfaction</p>	<p>Consumers satisfaction after engaging retail therapy</p>	<ul style="list-style-type: none"> • I feel satisfy with my shopping experience • I feel satisfy with shopping programs offered by leading shopping mall in town • I feel satisfy with the product I buy during negative mood alleviation

Source : Adapted from Kang (2009)

Results, Implications, and Limitations of Research

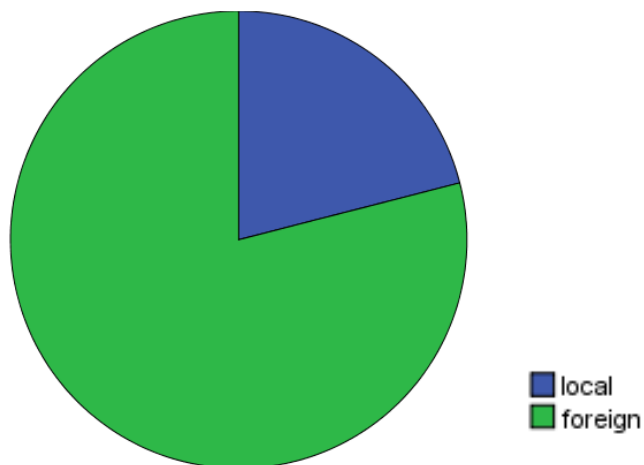
Research measurements for this study are confirmly reliable and valid. Cronbach's alpha estimate is 0.684 and factor loadings of all items confirming strong validity in wich it exceeded the recommended level 0.5. All hypotheses in this study were significantly supported. Each retail shopping motivations significantly influence consumer satisfaction after having retail therapy. Table 2 presents summary of significance level and t value for each motivations (M1-M7). All regression models for each motivation-satisfaction relationship are significance at 95% confidence level. Therefore, hypotheses 1 until 7 are statistically supported.

TABLE 2
SUMMARY OF SIGNIFICANCE AND T-VALUE

Model	Sig.	t-value
M1	.000	14.889
M2	.000	14.215
M3	.000	14.451
M4	.000	13.908
M5	.000	11.998
M6	.000	15.629
M7	.000	11.783

From the statistical test of consumers' preferences between local brands and foreign brands during retail therapy shopping 42 students or 79 percent of total respondents score foreign brands higher than local brands. Figure 2 shows pie chart of consumers' brand preference in retail therapy. Students were also proven to have higher satisfaction when buying foreign brands (Mean 5.5380; sig. 0.00) compared to local brands (Mean 5.1190; sig 0.00).

FIG 2 : CONSUMER'S LOCAL VS FOREIGN BRAND PREFERENCES

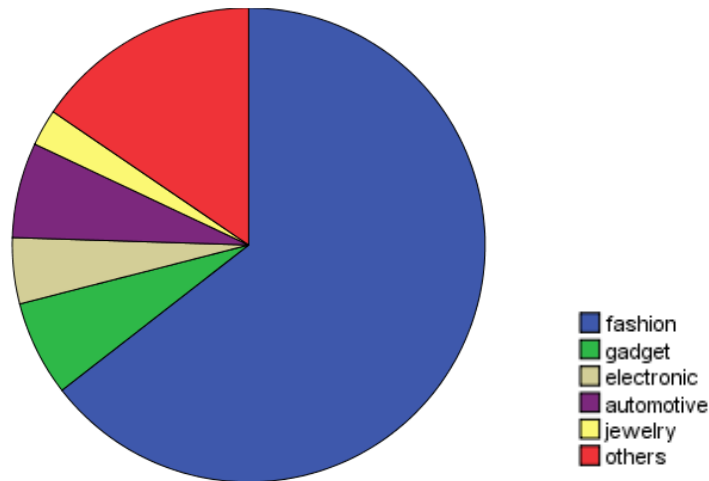


Consumers' product category choices during retail therapy was significantly high on fashion product, both for local and foreign brands (64.5 percent). In table 3 we can see frequencies of each product category chosen by respondents and figure 3 presents this product category pie chart.

TABLE 3 : PRODUCT CATEGORY CHOICE FREQUENCY AND PERCENTAGE

Product category	Frequency	Percent
fashion	129	64.5
gadget	13	6.5
electronic	9	4.5
automotive	13	6.5
jewelry	5	2.5
others	31	15.5
Total	200	100.0

FIG 3 : PRODUCT CATEGORY CHOICE CHART



When we take a closer look on product brand choices, students preferred to buy foreign brands (49.5 percent) than local brands (15 percent). Other comparisons of students' choices between local brands and foreign brands are presented at table 4 and 5 below.

TABLE 4 : FREQUENCY AND PERCENTAGE OF LOCAL BRAND CHOICE

Product	Frequency	Percent
fashion	30	15.0
electronic	2	1.0
automotive	2	1.0
jewelry	2	1.0
others	6	3.0
Total	42	21.0

TABLE 5 : FREQUENCY AND PERCENTAGE OF FOREIGN BRAND CHOICE

Product	Frequency	Percent
Fashion	99	49.5
Gadget	13	6.5
Electronic	7	3.5
Automotive	11	5.5
Jewelry	3	1.5
Others	25	12.5
Total	158	79.0

Results of this study invigorate the retail therapy literature in the relationship between consumers' motivations and consumers' satisfaction after engaging retail therapy (Kacen 1998, Kang 2009, Yuchirsin et al 2008). Marketers can use this evidence to develop a more appropriate retail marketing strategy Indonesian consumers. Since consumers' satisfaction can be the precursor of consumers' loyalty in the long term, this study give directions about how Indonesian consumers' perceived that foreign brands will create better satisfaction compared to local brands. International marketers might see positive opportunities to introduce their products in Indonesian markets, especially for fashion products as fashion products were also proven by Woodruffe (1998) and Kang (2009) to be highly chosen by consumers.

According to this study, Indonesian consumers did not buy local brands' gadget, but 6.5 percent of gadget with foreign brands were bought during retail therapy shopping. This can be explain from varying point of views, that Indonesian consumers might perceived foreign brands have higher quality than local brands, inadequate information about local brands, or as simple as prefer to buy other things for their retail therapy. Further study can investigate the underlying reason for this circumstance to better understand Indonesian consumers' product preferences. Other product categories such as electronic and home appliances, automotive accessories, jewelry and others also differ in percentage between local brands and foreign brands. There are extensive area to be research within the context of consumers' preferences of local vs foreign brands.

This study have several limitations. First, we only collected data from students of several major universities which locations are closely to 4 leading shopping malls in Jakarta. Students' purchase power might have influence on product category chosen. There is a need to investigate a broader range of consumers, from different age group or different environment (employment status, ethnic groups, income levels, etc). Secondly, previous research noted that women have higher satisfaction than men after purchasing product at retail therapy condition. This study only recorded a higher frequency of women respondents. Finally, this study was done only in Jakarta which might not accurately represented Indonesian consumers as a whole. To give a better information about Indonesian consumers for local and international marketer, further research is needed to be done in other major cities in Indon

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Abstract

In view of this transformation in the distribution and supply area, we have observed therefore an increased complexity in market management issues which make the relationship between the marketing, sales, logistics and production functions more critical. Managing the flow of product returns is increasingly recognized as a strategically important activity that spans different functions within and across firms, particularly marketing and operations. In order to explore the phenomenon of returns management fashion sector, particularly in the footwear industry, a qualitative research methodology was chosen to generate depth of understanding given the limited current understanding of the research topic under consideration. Our results suggest that managing returns is recognized as an increased role in sales management activity in order to keep customer and how the phenomenon is linked with different business functions within firm

Introduction

Italian and international footwear industry has characterized by substantial changes relative to demand, supply and distribution in the last forty years (Moore and Fairhurst, 2003; Buxey, 2005; Camuffo et al., 2008; Gregori et al., 2009; Hsu and Chang, 2008). As regards demand, it has become increasingly more frequent to see a consumer who is more aware, who exhibits more varied behavior patterns and for whom the “experience”-based buying process is becoming more and more significant. As for the competitive system on the supply side, there has been a rise in international competition with the advent of new players in Eastern Europe and Southeast Asia; these manufacturers, initially specialized in low quality (and low price) products, have improved their production processes which are now capable of also turning out higher quality footwear. Finally, a shift has been recorded in retailing as well, with the birth of distribution chains, the creation of partnerships such as franchising chains and the development of factory outlets (Gregori et al., 2009).

It should also be noted that the intangible components of the products, such as image and post-sale service, become competitiveness elements among different firms. One of the complexity elements that we have found, and that is becoming increasingly more relevant, is the management of returns, that is, the whole of material flows connected to financial and information flows that for any reason travel back along the supply chain. The interest in this sector and phenomenon also stems from the observation of a few current trends: sales predictions that are increasingly more difficult to make, given the variability and unpredictability of the market; a difficult integration between marketing and logistics/production; the unavoidable need of the firms carrying recognized and prestigious brands to control the flow of returns, and the need to guarantee a high value-added post-sale service. Wehlage, 2009). The product returns process has emerged as a key element that can influence the customers’ purchase decisions and thus, an effective product returns process is viewed as a competitive advantage. Post-purchase behavior could be influenced by a variety of factors including product-related variables, consumers’ personal characteristics, and variables associated with the store (Kang and Johnson, 2009; Kincade et al., 1998).

Many companies see, from a practical perspective, customers’ product returns as a major inconvenience and an eroder of profits; after all, products returns cost manufacturers and retailers more than \$ 100 billion per year, on an average loss per company of about 3.8% in profit (Petersen and Kumar, 2010; Blanchard, 2007). Customer returns

routinely reduce the profitability of retailers by 4.3 percent and that of manufacturers by 3.8 percent (Richardson, 2004). In view of this transformation in the distribution and supply area, we have observed therefore an increased complexity in market management issues (sales predictions, orders management) which make the relationship between the marketing, sales, logistics and production functions more critical. Managing the flow of product returns is increasingly recognized as a strategically important activity that spans different functions within and across firms, particularly marketing and operations. Returns management can make it possible to gather information from the customers in an efficient way through the return flows.

We focus specifically on managing commercial returns in the shoes industry in a business to business context.

Returns management includes several activities characterized by an inter-functional logic. These activities are *return avoidance* (activities aiming at minimizing upstream the number of returns) and *gatekeeping* (activities for the control of returns flow) as well as *reverse logistics* (*collection, transport, receipt, sorting*) and, last, the activities to redirect and allocate returns. Particularly we focus on avoidance that aims at to find ways of minimizing return requests (Lambert, 2004), this activity differentiates returns management from earlier reverse logistics, because by successfully applying avoidance, the returns are not sent backwards. While gatekeeping is the screening of return requests and the returned item with the aim to assure that only allowed returns are accepted (Rogers et al., 2002). There are many types of returns, Rogers et al. (2002) grouped in five categories: consumer returns, marketing (commercial) returns, asset returns, product recalls and environmental returns. We focus our paper on commercial/marketing returns, for example unsold products or job-outs or product quality reasons that retailers return to manufacturer. Briefly commercial returns are all those returns where a buyer has a contractual option to return products to the seller (Flapper et al., 2005; De Britto and Dekker, 2004).

By its own nature, a returned product involves several functions inside an organization, managing returns might be complicated by the boundary spanning nature of this process within different business functions and across supply chains (Rogers et alii. 2002). Indeed recently the literature suggests, across several related disciplines, such as logistics (Guide and Van Wassenhove, 2001; Stock and Mulki, 2009), marketing (Petersen and Kumar, 2009), operations management (Kocabasoglu et alii, 2007; Frankel and Russo, 2011), and particularly supply chain strategy (Hofmann, 2010), that the returns process is, in fact, cross-functional.

Analyzing the role played by the returns management process within the customer value creation is certainly of some interest not just for the inter-functional aspect but also for the role it plays in relationship management strategies. We make no distinction between consumer-originated returns (e.g., defective product and/or buyer's remorse) or customer (retailer) originated returns (unsold product being returned from the retailer). Thus, we want to understand how a shoemaking manufacturer can manage commercial returns in order to improve functional integration.

Many are the causes that make returns management inefficient (and not effective), such as a lack of coordination among the various actors of the supply chain in terms of information, material and financial flows, a strategic management of the operations connected to this phenomenon, an integration between the various process functions, the management and the agreements of the marketing channel, the promised service level regarding customer complaints. For this reason, the problem of managing returns should involve the whole firm, as well as the retailers and suppliers, without limiting the issue to the mere management of logistics operations when the problem arises, and stressing even the most strategic aspects with a view to recovering efficiency, improving effectiveness and creating value (Jayaraman and Luo, 2007; Mollenkopf et al., 2011c).

The focus of our paper is to investigate the returns management process in the shoemaking context. In particular, our research questions are:

- what is the role of commercial returns across the different business functions?
- what is the role of returns management process in sales management strategy, specifically regarding gatekeeping, returns avoidance and returns policy in the footwear industry?

The gap in the literature we wish to fill specifically refers therefore to the management of returns in the footwear industry, paying special attention to functional integration, gatekeeping and avoidance in managing returns in the different activities in a business-to-business context.

In the following sections we will review the relevant literature and foundations of our research, describe our research site and methodology and discuss implications in five different shoes companies.

2 Literature review

The literature on product returns is rooted in both marketing, customer service, production and logistics disciplines, with an early focus, respectively, on reverse channels and reverse logistics (Lambert and Stock, 1982).

Several studies consider the management of returns as a way to minimize and control their environmental impact, from cradle to grave (Andel, 1995; Barry et al., 1993; Witt, 1993; Jahre, 1995; Walther et al., 2005) and green logistics (Gungor and Gupta, 1999; Geyer and Jackson, 2004; Murphy and Poist, 2003). Other authors (Stock, 1998; Carter and Ellram, 1998) have identified the drivers (legislators, customers, suppliers, enterprises) and the hindrances (mainly cultural and regarding the commitment of stakeholders and the upper management) to the development of reverse logistics programs. Other contributions have proven important (Thierry et al., 1995, Rogers and Tibben-Lembke, 1999) to better investigate the strategic impact of reverse logistics in terms of competitiveness and cost reduction, inventory management, particularly in a remanufacturing context (Kleber et al., 2002; Kiesmuller and Scherer, 2003), concern for environmental and packaging problems (Kocabasoglu et al., 2007). Particularly noteworthy are further studies by Stock et al. (2002), which stress the existence of a strong correlation between good returns management and returns policies, not only as a cost but also as a tool to improve customer service (Petersen and Kumar, 2009; Anderson et al. 2009; Russo, 2008). Further research has been carried out by other scholars that are closer to quantitative rather than managerial approaches and focus their attention on the mathematical models that support reverse logistics; particularly interesting are the approaches relative to the concept of closed-loop supply chain (Dekker et al., 2003). Blackburn et al. (2004) recommend the need to make disposition decisions as soon as possible in the returns process due to the time-sensitivity of most returned goods.

In the supply chain literature, Rogers et al. (2002) see the returns management process as a part of the overall supply chain strategy of a firm. Their focus on returns avoidance, gate-keeping, reverse logistics and disposal demonstrates the need to manage returns across multiple functional areas and within firms across the supply chain. Returns avoidance is a relevant part of the returns management process and includes the activities that prevent and eliminate the causes of returns (defective product and packaging design, compliance with legal requirements, poor demand management). While gatekeeping involves the screening and authorization of products entering the return flow, disposition refers to inspection activities, the decisions to refurbish/remanufacture or resell or scrap the products that are returned from customers (Rogers et al., 2002). Product returns are a critical component of customer service in retail environments (Yalabik et al., 2005) and retailers have extended liberal return policies to their customers (Piron and Young, 2000). While customers value return policies that are lenient, such policies are costly to operate and subject to customer exploitation (Kang and Johnson, 2009; Wood, 2001).

However, the majority of scholars tend to focus on one aspect only of this phenomenon, such as the correlation between returns policies and customer retention (Petersen and Kumar, 2010), product recovery to reduce production costs (Guide and van Wassenhove, 2003), reverse logistics (Stock, 2009) and the relationship between reverse logistics and green logistics (Jahre, 1995; Geyer and Jackson, 2004; Murphy and Poist, 2003). Consequently, Rubio et al 2008 call for more strategically focused research in order to develop a framework for future research.

The notion of functional integration and its associated benefits has been addressed by the marketing, logistics and operations literature for many years (Kahn and Mentzer, 1998; Ellinger, 2000, Verma et al., 2001; Kim et al., 2003; Lambert, 2004; Piercy, 2006; Menon et al., 1996; Kahn, 2009). Much of the early literature on functional integration focused on factors that hinder or enhance functional integration, such as conflict or cooperation between departments, the role of top management and the impact of the traditional silo mentality within firms and the resulting lack of interaction between functional areas (Gupta et al., 1986; Ruekert, 1987; Dastmalchian, Boag 1990, Dewsnap, Jobber 2000; Rouziès et al. 2005; Malghe 2009; Troilo et al. 2009).

Mollenkopf et al. (2007) provide evidence of the cross-functional nature of returns management across strategic and operational levels within a firm. At the strategic level, an organization must develop policies, processes and structures to handle the reverse flow of product, information and finances. At the operational level, the returns management process involves the physical flow of product, information and finances. Stock et al. (2009) have made various proposals showing how marketing, logistics, accounting and production need to be involved to manage returns. Yalabik et al. (2005) also study the optimal amount of logistics investment (which reduces the costs of returning) as well as the optimal marketing investment (which decreases the probability of returns) and they identify different components of an integrated returns-management system: the refund policy, the marketing promotion strategy, and the logistics process of physically recovering and handling the returned goods. More recently, Mollenkopf et al. (2007b) addressed the importance of functional integration for Internet retailers' marketing and operations in consumer service recovery situations.

3 Methodology

In business-to-business research, study profiles are continuously evolving, with new practices. This research is of an explorative kind, just like other case studies of the literature (Gummesson, 1991; Eisenhardt and Graebner, 2007; Graebner and Eisenhardt, 2004; Ellram et al., 2008; Daly et al., 2009). Therefore the multiple case study seemed to us a good study method to analyze a phenomenon that has never been investigated in the footwear industry (Yin, 2003; Meredith, 1998; Borghini et al., 2010; Piekkari et al., 2010).

In order to analyze the phenomenon of returns management, a qualitative research methodology was chosen to generate depth of understanding, given the limited current understanding of the research topic under consideration (Flint et al. 2002, Strauss and Corbin, 1998). The main reason was the unexplored nature of this phenomenon in the footwear industry and the poor knowledge of the operational context inside the company.

We conducted interviews with 16 senior managers from different functions of 5 firms in the shoes industry in order to cover production, financial, marketing and customer service areas. The cases selection process wants to achieve the target to cover the typical business models in Italian footwear industry (SDA Bocconi report, 2007): Company 1 (so called "partner" business model), Company 2 (so called "brand integrated" business model), Company 3 and Company 4 (so called "niche" business models), Company 5 (so called "generalist" business model). Briefly we would like to show how different business models should create customer value through managing returns in business to business context. To ensure rigor and solidify our knowledge in this specific industry, we also thoroughly interviewed a senior consultant, with a considerable experience in the different firms and the specific industry. The involvement of several firms allows analysis of returns management methods in the same competitive sector although with different distribution, production, logistics and commercial practices.

It should also be noted that returns management becomes particularly relevant when examining the role played by this process across different functions (logistics, marketing, production, sales, finance).

This fact-finding purpose called for a qualitative research method (grounded theory approach, Dubois and Gadde, 2002; Strauss and Corbin, 1998) which aims at discovering models and good practices rather than verifying theories.

The study of the enterprises was as follows: on desk, involving the gathering of secondary sources (questionnaire data, Internet sites, other) to profile the enterprises before the interviews; bracketing interviews, whereby each researcher has preliminarily presented his/her expectations from the interviews and research, in order to avoid the emergence of preconceptions that might induce interviewees to back the researcher's theory (Briggs, 1986); laying out of the open structure of the interview to identify the relevant research variables (taken from the research macro-areas); in this way we avoid the emergence of preconceptions that might induce interviewees to back the researcher's theory.

Interviews were held individually with participating managers, with each interview lasting 60-120 minutes. The in-depth interviews were open-ended and discovery-oriented, starting with a grand tour technique borrowed from ethnography (McCracken 1988). An interview protocol guide with the main topics of research was used to follow up the grand tour technique. These topics were taken from previous research works on returns management, functional integration and sales management (Carter and Ellram, 1998; Weiz and Bradford, 1999; Rogers et al. 2002; Flint and Mentzer, 2006; Piercy 2006; Mollenkopf et al., 2007a). During the research, new topics emerged from the interviews. These were digitally recorded and transcribed verbatim, as were the debriefing discussions held by the research team after each set of interviews (Strauss and Corbin, 1998). The debriefing sessions reflect our attempt to solidify our perceptions and thoughts with respect to what we were hearing. All interviews were conducted in Italian.

4 Results and discussion

4.1 Functional integration and returns avoidance

In footwear industry returns classification is not limited exclusively to the so-called “defective or low-quality products” or “product replacement” but it included end-of-season unsold merchandise (marketing returns). In our research, bearing in consideration the actor which create the returns process, we found two kinds of returns: 1) *consumer returns* come back to the retailer after the use has taken the product home. The consumer might have a change of heart about the product, or there might be a defect issue (sometimes this is a perceived defect issue, in which the supplier can find no fault with the product upon inspection and testing). 2) *store-level returns* represent unsold product or defect product that the retailer wishes to clear off its shelves or out of its back rooms. We focus on commercial/marketing returns, particularly on the return situation across the retailer/supplier echelon in the supply chain.

In general, for this kind of returns, the manufacturer adopts policies towards single-brand points of sale that allow them to order any product quantity, guaranteeing in return the collection of returned items at no additional cost. However also for unsold items, just like for returns due to quality problems or products to be replaced, in a cost management perspective, we should consider the loss of sale of displayed shoes that have no market, picking, packing and temporary storage at the point of sale, freight cost, cost of returns authorization procedures and subsequent payment of credit and, finally, the activities to decide the following destination of the merchandise which is usually shipped to the outlet stores.

Keep in consideration the main results of our research an important focus is on returns avoidance activity; as Stock et al. (2006) defined this is the “basic strategy” of managing returns. In the footwear firm returns avoidance is transversal to the enterprise and involves production, research and development, distribution and, finally, end customers. The contributions of production, quality control and research and development should be mainly guided by these activities, with a commitment to improving product quality and design in the light of the reasons that have caused products to be returned. Every function or actor may give his/her contribution, from production, management control up to product distribution in the best way, in order to avert products from being fatally introduced in the returns flow and therefore generate a cost. In a few instances, even customers are those who provide precise instructions or information on how to improve a product that proved non-functional with respect to its intended use.

Product quality and usability are different issues than a mere quality control at the production level and evidently call for an integration of information and objectives among the company functions. Marketing policies for the launch of new products should also be based on information on the causes of returns and related complaints during the campaigns of previous years.

The sales areas for the Italian and foreign markets are certainly more exposed to the problem and deal with it on a daily basis, perceiving it completely unstructured and out of control especially in the foreign markets. Furthermore, the effort to understand the causes of returns, given the peculiarity of the shoes, requires an inter-functional collabo-

ration which however proves to be complicated and slightly rewarding, as a after sales manager told us: *“We go to the production and modeling departments and we say ‘look, we had this problem, how should we go about it? Moreover, no one is ever responsible for anything. You go to production and they say it is the modeling’s fault, you go to modeling, and they say it is the cutting’s fault. In other words, it is nobody’s fault, even though people when they see that a product has been returned –however annoying this may be – ought to acknowledge what is going on.”*

Only those in charge of customer service have understood the added value embedded in the returns and know how to learn from them in view of an overall product quality improvement: *“One always looks at the negative side, certainly, because a returned shoe is always a nuisance, one may say ‘damn it, they returned it!’ However if one looks at the – quote!- ‘positive side’ saying ‘ok, we really shouldn’t use at all this type of hide for this shoe because it is impossible to use it here, or on this model, this type of hide is not suited for it, this shoe designed with these holes is not ok, this may even open a discussion and allow correction of mistakes that maybe, due to a lack of time or... they were overlooked before. This is the philosophical quality of returns”.*

All production activities play a critical role in avoiding returns, by improving product quality/design/comfort and monitoring the qualitative performance of suppliers if people are aware that product quality needs an interfunctional contribution in order to be achieved. However, the customer service and sales area would like to see *“more collaboration from production.. if only we could get more collaboration ..”*

It is a common occurrence in the shoe-making industry that much attention is paid to the design and aesthetic features of the shoes, with little importance attached to convenience and user’s experience. Returns are a good sign of the existence of a wearability or usability problem and should be considered a valuable indicator of the production cycle performance. Instead, many sales managers observed: *“Sometimes, more attention should also be paid to the convenience and use of the products, because shoes are certainly very beautiful, boots are very beautiful but when wearing them problems may arise that maybe one didn’t think of before.”*

It should also be said that another relevant element for returns avoidance is the ability to follow fashion trends as well as recommend to the customers the best choices to support sell-out, in terms of lines, models, colors, materials and sizes. Therefore the knowledge provided to retail customers on main fashion trends and real market opportunities constitutes a critical element to transfer knowledge to the customers also in view of preventing commercial returns. However it should not be overlooked that a driver for value creation comes from market knowledge. This aspect becomes particularly relevant for small clients such as multi-brand points of sale or small chains. The Sales Manager of the Company 2, speaking of a client, remarked: *“you haven’t sold it because you made it of a color that has been made only by you, that is, I mean ...”*

At least in four out of five enterprises we observed therefore a lack of an effective returns avoidance process. Only in Company 1 we found a real effort to learn from returned shoes for quality problems, implementing a structured attention to the selection of raw materials suppliers, from hides and vamps to leather.

Overall, we noticed that the returns process is perceived by the various functions in a different way. For example, the administration and control area accepts it passively, as a financial manager reported to us: *“We deal with returns passively, when a customer notifies the sales area saying ‘we are returning a few pairs because they are ripped”.*

It seems that each function or area perceives, manages and organizes returns autonomously with respect to the functional objectives, thus creating within an enterprise closed silos that do not ease the flow of information from one department to another, in order to draw a benefit in terms of effectiveness and efficiency. It is not clear, for example, how production receives useful information from the market to improve products. As for our entire sample, especially Company 2, Company 3 and Company 4, this informative activity is carried out in a non-structured way. In fact, it is neither formalized nor shared by the upper and operational management. Moreover the sales staff may act with a variable level of autonomy which is formally recognized only in part: *“our boss ... is aware of this occurrence (replacement of unsold items) but he would prefer this not to be done”.* This is confirmed by the person in charge of sales in the major foreign market of Company 4: *“In theory, quality control is done and also in practice. However if I were to identify in the department the person who is in charge of quality control I would not find it.”* This result highlight the lack of functional alignment in many footwear firms.

4.2 Marketing, sales and gatekeeping

The involvement of the marketing function, which also includes customer service, mainly consists of an attention for post-sale activities. The marketing/sales area is usually in charge of authorizing returns of merchandise to the enterprise.

The marketing area takes care of authorizing returns and somehow passively deals with “*small and large packages*” and writes reports. On the contrary, the production planning and quality control function considers returns “*very low in terms of percentages because the enterprise..*”

Process control and visibility should be a value-added element for a product with a prestigious competitive positioning for the firms interviewed which it is necessary to control the distribution as well as the returns channel. Instead: “*I’ve got it all handwritten, but I have no idea of how many pairs return or how many I manage to replace, repair and therefore reship to the customers. That I don’t know.*” In effect, we observed that in Company 2, Company 5 and Company 4 much care was taken of the returns from customers, to protect the brand and enhance the relationship with the retailers. However, in practice we seldom found the company functions aligned in the pursuit of the common goal of making returns management one of the value-creating elements.

In many cases, there seems to be no processing of the data originated from the returns, such as for examples the causes that have led a given (single or multi-brand) point of sale to recall a product or a customer to report it as defective. It is indispensable to adopt a common standard among the various geographic areas to guarantee visibility to all actors along the supply chain, as well as a homogeneous classification of returns.

The marketing area is mainly in charge of providing the information on customers’ complaints as well as timely and factually informing the customers on the advancement of repair works. On the contrary, the production planning and quality control area considers the returns issue: “*very low in terms of percentages because the enterprise, going back to the quality issues we mentioned before, has many check points*”.

It is clear that this perspective is strictly a manufacturing perspective that somehow recalls the traditional consideration on returns, i.e., a problem of excess production requirement or, more specifically, a problem of quality control during the manufacturing of shoes.

Moving on the sales activities it could be notice that, procedures (in many cases only informal and occasional) largely differ from one another and oftentimes managing returns and liaising with the customers is the responsibility of several people (sales manager, customer service, marketing). We also found that the returns process is handled by the staff with a personal approach. In many instances, the returns management method is the result of a subjective choice, which varies based on the person adopting it as well as on the customer/market that has generated the returns.

Also gate-keeping is an interfunctional and inter-company activity and sales department plays an important role in this process, i.e., an activity occurring within the enterprise functions and between manufacturer and retailer (points of sale). The main purpose of gate-keeping is to evaluate whether returns are rightly returned. This activity mainly consists of carefully examining the returns that may potentially enter into the pipeline of returns’ flow. Gatekeeping activities refer to the ability of an enterprise to limit the number of returns (Rogers et al., 2002). Regarding the activity of gatekeeping, the authorization to accept the returns is given by the sales department only. In this case, the preferred choice is always to accommodate the customer’s request and to instruct the administration and finance departments to pay back the customer. In this situation, abuses on the part of customers are not infrequent. In fact, during not particularly happy seasons, customers may transform unsold items in defective items, exploiting to their advantage the intrinsic characteristics of shoes (“each hide differs from another”, “it is therefore easy to reject a pair of shoes for any reason”).

Authorizing returns and the following decision to accept returned merchandise from customers has clear implications for the sales management and operations of an enterprise. In fact, these activities will have an impact on the duties of the staff in charge of recovering, shipping, receiving, assessing, repairing and allocating the returns.

Effective gatekeeping requires a good knowledge of the costs connected to returns activities. Only if marketing, sales and operations work together, sharing information, it will be possible to decide whether the merchandise is authorized to enter the return flow or not. Sales procedures (in many cases only informal and occasional) largely differ from one another and oftentimes managing returns and liaising with the customers is the responsibility of several people (sales manager, customer service, marketing).

Some products may generate higher costs when recovered because they have no intrinsic value that may justify the authorization to return. This is why a strict collaboration between the point of sale and sales staff is desirable to avoid further costs for the enterprise and therefore wastage of value.

However, apart from knowing the value of returns over sold merchandise, we have found no activity aiming at determining all the costs (activities and persons) that are connected to the returned products: loss in sales, reverse logistics, inspection, renovation, shipment to outlets, and finally, disposal. The preferred choice on the part of those who receive the complaints seems to be offering a customer service: *“In any case, it is a shoe worth 250 Euros or 300 Euros or even 500 Euros in the case of boots. Would you keep it like that, paying it 500 Euros, with a ripped accessory, with any type of defect? Even we must get into the mentality of those who buy and in any case comply with it”*.

We found no relevant gatekeeping activity at points of sale, but just an effort to avoid acceptance of *“shoes in indecent conditions.”*

One of the key elements – although slightly considered – to contain the number of returned products is a good management of sales predictions (demand management), especially in a fashion sector like the footwear industry. However, Company 4 sales policy for single-brand stores so requires:

“In order to sell one thousand pairs of shoes it is necessary to have in stock two thousand pairs – according to the sales manager. In other words, to offer, to have a real thousand pairs of shoes good for sale, twice as many must be kept in store, i.e., twice as many available shoes”

On a strategic level – despite the peculiarity of this industry – returns are a symptom of a lack of coordination among marketing, sales and operations and reveal the need to manage distribution as well as return flows.

5. Key findings, managerial implications, limitations and future research

In this section we will review the main key findings and managerial implications of our results. We will then describe limitations and future research.

One of the element that has emerged from our investigation is certainly that the functions involved consider returns a multidimensional aspect that generates much complexity to manage the process. We have found in fact a rather variegated classification of commercial returns, which may be due to quality problems, non-compliance with orders, late shipment and delivery, unsold items from customers, and unsold items from direct or single-brand points of sale not always easy to identify. This classification – often scarcely structured – is coupled with the nature and resulting value of returns, which can be items to be disposed of, repaired or sold at a discounted price (second-choice or last season products).

Another element to be noted is the importance of returns management in the relationship between supplier and customer and the key role of marketing/sales/customer service. In fact, it is part of the elements embedded in the customer service of the shoe-making enterprises and therefore an element that creates value between buyer and seller. At the same time, commercial returns are a relevant part of the relationship with the customer. In fact, “the voice of the customer” may be heard during this process and constitutes a substantial part of the value creation and transmission process between supplier and customer. However we have mentioned several times that this objective is not shared by all enterprise functions, which results in the shoemaking enterprises not putting into practice effective policies of returns avoidance, improved product quality, gatekeeping and containment of reverse logistics.

Then the third element to be considered is the operational and strategic role of products return. So the main operational problem in managing returns in the footwear industry are the so-called “defective or low-quality products” or “product replacement” excluding end-of-season unsold merchandise (*marketing/commercial returns*), which however account for a considerable percentage of the marketed products. However, only customer service managers have understood the added value embedded in the returns and know how to learn from them in view of an overall product quality improvement

Despite this, managing returns is often considered, as in the case of Company 2, Company 3 and Company 4, exclusively a post-sale competence, disregarding the fact that the causes of returns may also lie in other functions. This is one of the reasons that should most induce the managers to consider returns management and avoidance a transversal process of the enterprise that can actually create value for the customers, through improved product quality and service, and similarly contain the number of returned products to be recovered by the enterprise.

On a strategic level – despite the peculiarity of this industry – returns are a symptom of a lack of coordination among the various functions and reveal the need to manage distribution as well as return flows. Seasonal overstocks, unbalanced sell-in and sell-out levels at points of sale, weak gatekeeping activities are a few elements that reveal the inability of the enterprise to create value, effectively managing returns. This situation is often generated by a lack of coordination among the various company functions which results in end-of-season returns, particularly considerable for the Company 2 and Company 5 enterprises. Let us take for example the cost to return, inspect and assess the merchandise, indirect administration costs (issue of bills, invoices, packing lists, credit notes, etc.) and time-related issues (shipment/return may take weeks).

We wish however that our study may help future research to confirm in other contexts the evidence we gathered.

Future research in this specific industry should certainly investigate more in-depth the retailers to also describe the methods by which customers perceive the value transmitted through returns management. Furthermore an issue that we have analyzed only in part is the analysis of the value attributed to after-sales and returned products in contexts that are different from a geographical and competitive standpoint.

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Sourcing Reform Competency and Effective Collaboration: A Resource Based View

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Abstract

Firms in the Asia Pacific region are rapidly globalizing their sourcing processes and effective collaboration with suppliers across borders is necessary for superior sourcing performance. Recent work in Resource Based View calls for business process level research into the resource-performance link and for survey research into global sourcing. We report on a survey research study with managers in several countries the region, and develop a model that links a latent managerial resource, *Reform Competency*, to competencies based in practices, such as *De-Constraining*, *Re-Branding* and *Re-Optimizing*, in order to test hypotheses based on predictions of RBV. We find that *Reform Competency* is positively associated with these competencies and a sourcing performance measure, *Effective Collaboration*. We discuss the contributions and highlight the managerial implications of our results for managers engaging in specific practices.

Introduction

Previous research has examined a broader question of the link between firm resources in general and firm level performance within the Resource Based View (Wernerfelt 1984; Barney 1991). In more recent work, Ray, Barney and Muhanna (2004) redirect research to the larger question of functional level performance measures. Our focus here on sourcing practices, goals and performance furthers this direction of research. As companies globalize, perceptions of managers regarding change in functional practices in different regions of the world are of great interest. Nath, Nachiappan and Ramanathan (2009) point out the dearth in perceptual survey research in the domain, and Quintens, Pauwels and Matthyssens (2006) call for non-western locations for further survey research, notwithstanding the pioneering survey research of Luo et al (2005) in China. Our research study develops a theoretical model based in RBV. Specific managerial competencies we find theoretical and empirical support for are De-Constraining, Re-Branding, and Re-Optimizing. These competencies are more than short term initiatives, and are driven by an intangible managerial capability we term the “Reform Competency” sourcing resource. This resource also has an impact on sourcing performance, as captured by “Effective Collaboration” in sourcing. We report on scales to measure practice driven competencies, resource and performance constructs. Overall, our results shed light on practices and support the resource based view that sourcing resources do have significant effects on performance at the functional business process level of sourcing.

Following sections develop the theoretical model and hypotheses; presents our model estimation and results; and discuss the implications of our findings, their limitations and future research directions. The paper concludes with a summary of the main contributions.

Theoretical Model and Hypotheses

In this section we define and support how practices form four primary unidimensional goal constructs: Effective Collaboration, De-Constraining, Re-Branding, and Re-Optimizing. We then hypothesize a model where a latent sourcing resource, Reform Competency, drives the last three goals, and delivers superior performance measured by Effective Collaboration.

Effective Collaboration: Effective Collaboration captures a dimension of business process sourcing performance. The measure is homogenous, has a single dimension, and is related to the buyer’s goal of capturing additional value, namely value creation of an incremental nature, for a downstream customer through effective collaboration with suppliers accompanying changes in sourcing. This is one candidate measure of superior performance at the sourcing business process or functional level. The practices that underlie this construct are sourcing outcomes with suppliers

rather than competencies. We use three indicator items - speed of supplier response to changed customer requirements; supplier participation in obsolescence planning; and supplier involvement in specification development.

Value is created when suppliers respond more quickly to changes in the business environment. Previous work has revealed that manufacturing time is a quarter of total lead time in made-to-order goods, and supplier lead time is crucial (Zhaohui 2001). Often innovation in modular design serves to improve response time to design changes. The sourcing function is more highly valued as suppliers respond more rapidly to changes in requirements.

Compression of technological cycles, to sometimes as low as six months or less, offers scope for continual product improvements. The sourcing function improves its performance by phasing out older products from suppliers, and replacing them with improved versions. Participation by suppliers in product enhancements and obsolescence planning makes the process more effective. Changing regulation and customer expectations provide the necessary pressure for raising the bar on specifications. In the life cycle of the offering, as products mature, value shifts to modular component suppliers – where innovation is more likely taking place (Fine, Vardan, Pethick, and el-Hout 2002). Careful planning by equipment and component suppliers is necessary for financial lock step with other complementary modules in the sourcing cycle.

Decision making on what aspects of design and engineering should be outsourced involves the sourcing function. Takeishi (2001) studies the automaker's integrated internal processes with suppliers is related to effective coordination “between engineering and *purchasing* functions [emphasis in original], implying that effective external coordination needs effective internal coordination.” The outsourced components require active participation of suppliers in specification development. The role of early supplier involvement (ESI) is well known. Due to long lead times in excess of a year being the norm on engineered-to-order procurement, value gains to the firm’s product from outsourcing engineering are often difficult to trace. However, growth in outsourcing - as much as 150 % according to one study (Dekkers 2002) – is an indication of the value suppliers can bring to the specification development process.

Clearly, it is strategically important for suppliers to be closely involved with any specification development or modification in the buyer’s RFQ. This is obvious for modified rebuys, or new buys. But even straight rebuys from incumbent suppliers offer potential for re-specification. Sourcing managers are interested in quality enhancing and process cost reducing improvements in re-specification of procured items. External learning is strategically important to the firm, and is mainly driven by sourcing. Especially important is “*supplier input into new product or process design and supplier involvement in quality and in continuous improvement practices and routines* (Schroeder, Bates and Juntilla 2002).”

Rapid response, participation in planned obsolescence and supplier involvement in specification development constitute Effective Collaboration at the functional level of sourcing. This performance would improve with sourcing Reform Competency as a latent, multidimensional resource driving the other sourcing goals (we discuss this below). Following the definition from Ray et al (2004), we view sourcing resources as intangible assets which are inherently heterogeneous that firms use to develop and implement their sourcing strategies. Hence,

Hypothesis 1: Effective Collaboration has a positive association with Reform Competency.

To qualify as a strategic resource an organizational process competency must be difficult to substitute, scarce and not easy to develop in the short run. Therefore, we need to link resources to sourcing competencies that are distinct, and under infrequent conditions combine with each other to represent a heterogeneous sourcing resource. The next three competencies - De-Constraining, Re-Branding, and Re-Optimizing - form multi-dimensional exogenous indicators of an underlying sourcing resource, Reform Competency. We next identify the dimensions of sourcing practices for these goals, and hypothesize their relationship to Reform Competency.

De-Constraining: The De-Constraining goal construct captures the firm’s ability to tackle capacity constraints. Its key dimensions are expanding the firm’s physical supply base by qualification of suppliers; and progress payments to suppliers to help smaller suppliers manage their financial capacity.

Qualifying more suppliers will improve the capacity in the supply base potentially available to the firm. Inventory management can be improved with additional sources, where more than one supplier is used for equivalent purchased products. Some intuition into this practice is that better quality increases product cost, and a substitute lower net cost (even if lower quality) product is desirable as buffer in volatile markets. The lower quality

stock is surplus inventory, but sometimes used to meet peaking demand. If additional suppliers are used, inspection or rework could be applied only to main bulk sourced items, thus obtaining economies by foregoing inspection or rework on the additional lots (Chen, Yao and Zheng 2001).

Earlier work has noted advantages from tackling capacity constraints by allowing smaller suppliers to participate in sourcing (Yildirim 2003), and it might often be the buyer's policy to support additional small sellers. Liquidity for smaller suppliers and facilities funding are frequent constraints. Many governments, for instance, procure from small businesses and must frequently provide work-in-progress payments to finance supply.

Resource constraints have historically been circumvented with work-in-progress payments by large buyers, such as government and institutions. The US Department of Defense has long had policies on work-in-progress payments that reduce the contractor's dependence on debt financing (The Defense Financial and Investment Review, DFAIR 1985; IV-6). Such financial arrangements serve to provide incentives to suppliers, making the firm's business more attractive. This adds financial capacity to the expanded physical capacity in the supply base that comes from qualifying more suppliers. Overall, De-Constraining can potentially be achieved through qualifying more suppliers and assisting them with progress payments.

The association between De-Constraining and Reform Competency are captured in the following hypotheses.

Hypothesis 2: De-Constraining has a positive association with Reform Competency.

Re-Branding: Re-Branding is the firm's ability to enhancing its brand objectives by encouraging suppliers to showcase their competencies. Representative dimensions of supplier competencies that gain visibility and enhance brand image are eco-sustainability advantages; and supplier quality certification awards.

There is growing concern about sustainability in global business practices, and product life cycle assessments from depleted resources and carbon emissions. "Green procurement" policies provide incentives to suppliers to adopt ecologically sound practices, and all members of the supply loop benefit. Environmental stewardship is documented in previous work on sourcing as particularly relevant to the firm's brand image, as the entire value chain for the product is assessed in carbon footprinting (Rothenberg 2007).

Kroll, Wright and Heiens (1999) find support for relative product quality and a broad range of competitive business performance measures. Their performance measures include pre-appropriable measures (see Ray et al 2004) such as market share, as well as other measures such as variance and absolute value of return. Specific company wide programs, such as Six Sigma or the Capability Competency Model, are oriented toward infusing all firm functions with a quality assurance concept. Suppliers must provide assurances though certification. As sourcing markets globalize, the number of firms competing in any program multiply. Buyers are often procuring novel products and services and have little experiential base to accurately discriminate supplier quality. Global quality certification standards vary greatly due to their international origins. There is buyer pressure to develop a comprehensive governance structure both for cross certification comparisons, as well as cross-functional comprehensive quality certification. In sum, Re-Branding is indicated by encouraging suppliers to adopt green policies in sourcing, and to participate in certification processes. Hence,

Hypothesis 3: Re-Branding has a positive association with Reform Competency.

Re-Optimizing: Re-Optimizing captures the firm's ability to use learning in the supply chain so as to better align supplier self-interest and endowments with the value creation objectives of the firm. This re-optimization may be achieved through appropriate adjustments of agency incentives and productive resources available in the supply chain. Practices that support re-optimization are renegotiations; and horizontal or vertical resource sharing.

The need to provide right incentives through contracting to suppliers for innovation is well-recognized in the Organizational Economics literature. There appears to be strong information acquisition based reasons to recommend multiple sourcing with short-term contracts as a governance mode (Ramsay and Wilson 1990). Renegotiation of contracts becomes necessary as learning in the sourcing process leads to design changes. Gulati, Lawrence and Puranam (2005) study governance of adaptation in sourcing and find performance differences across modes of procurement. Poppo and Zenger (2002) find support for the proposition that modes, such as formal contracting and relational governance, are complementary and can support each other. One survey showed contractual safeguards with single sourcing appear to be inadequate, and long-term relations as well as short-term

ones with suppliers are governed by short-term contracts (Park, Reddy, Sarkar 2000). The use of short term contracts leads to frequent renegotiation.

One way to share resources is to subsidize an initially higher cost supplier with more than its due share of business in order that it benefit from learning curve effects. Managers factor in the learning curve for suppliers in their cost reduction strategies (Dobler, Burt and Lee 1990). Sourcing managers are concerned about maintaining an expectation of cost competitiveness in their supply base, and often resource sharing with suppliers to speed them on the learning curve may be necessary. Initial parallel sourcing may provide incentives for sellers to invest in quality improvements while learning in a sequential fashion. The buyer parallel sources for a predetermined number of time periods and then awards the entire supply contract to the best single source. This hybrid sourcing form may be better than awarding the entire contract to a single source at the start. Deng and Elmaghraby (2002) derive optimal terms for parallel sourcing to lead into sole sourcing, and describe industry applications and examples of such hybrid sourcing. Under such arrangements, buyers may provide incentives for horizontal resource sharing between suppliers in order to reduce costs. A rationale for equal production splits in multi-sourcing with learning specificity is that sourcing unequal volumes from different suppliers not bestow unequal advantages to suppliers. If the buyer uses an unequal production split, the supplier with the larger production award would likely have lower marginal costs at the time of re-negotiation. This expectation of unequal marginal costs would then lead to non-competitive behavior by the disadvantaged bidder (Lee 2000). Overall, renegotiations and resource sharing are indicators of Re-Optimizing. Hence,

Hypothesis 4: Re-Optimizing has a positive association with Reform Competency.

Hypotheses 2, 3 and 4 relate goal commitments as multiple exogenous indicators to our latent sourcing resource.

These hypotheses together provide a framework for linking Reform Competency with underlying managerial practices and situational factors. De-Constraining the supply base offers the opportunity to Re-Optimize, and communicate the improvement through Re-Branding. The framework further allows us to gauge the impact sourcing efficiency has on Effective Collaboration. Figure 1 summarizes the model and our hypotheses. The next section develop the empirical sections of the paper.

Results

An online survey instrument was developed, and posted on the university web site. All communications were in English. Data collection was done from July 2008 to November 2009. Purchasing Managers' names and phone numbers were generated from the *OneSource* online database for countries in South East Asia. These managers were based in Singapore, Malaysia, Indonesia, Thailand, Hong Kong, and Philippines. A total of 265 such potential participants were identified as the sample. Responses to the first page item on how the downturn was affecting procurement spend indicated 133 respondents visited the site and began the survey, an item response rate of 50.12 percent. There were 51 usable responses for section 3, which was the crucial section for our hypotheses. This indicated an overall completion rate of 19.25 percent, and of 38.35 percent from those who visited the site. The sample of 51 firms with complete responses represented about US\$ 28 billion in total revenues; employing about 94,000 persons; sourcing from about 1,400 supply locations; with a procurement spend of about US\$ 13 billion.

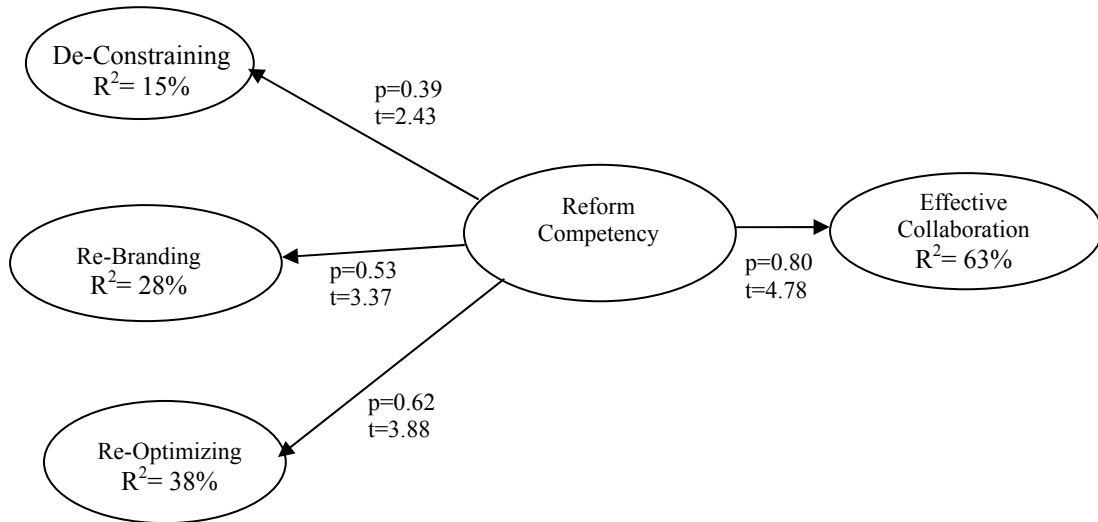
We operationalized our measurement scales using the process recommended by Gerbing & Anderson (1988). A structural equations model was estimated on the data using LISREL 8.52 (Jöreskog and Sörbom 2002). We find that all path coefficients are significant at the 0.05 level for one tailed tests and as hypothesized (see Table 5). All the usual goodness of fit indicators for our model are at acceptable levels (RMSEA = 0.00; NFI = 0.95; AGFI = 0.91; and $\chi^2/df = 1.84/2$; Mueller 1996).

TABLE 1: MODEL ESTIMATION AND FIT STATISTICS

Hypothesized Path	Standardized Estimate	t-statistic	Conclusions
H1: Reform Competency → Effective Collaboration	0.80	4.78	Supported
H2: Reform Competency → De-Constraining	0.39	2.43	Supported
H3: Reform Competency → Re-Branding	0.53	3.37	Supported
H4: Reform Competency → Re-Optimizing	0.62	3.88	Supported
<u>Goodness of Fit Statistics</u> Degrees of Freedom = 2 Minimum Fit Function Chi-Square = 1.84 (P = 0.397) Root Mean Square Error of Approximation (RMSEA) = 0.00 Normed Fit Index (NFI) = 0.95 Non-Normed Fit Index (NNFI) = 1.02 Comparative Fit Index (CFI) = 1.0 Standardized RMR = 0.058 Goodness of Fit Index (GFI) = 0.98 Adjusted Goodness of Fit Index (AGFI) = 0.91			

Reform Competency as a resource has a significant and positive effect on Effective Collaboration. The completely standardized coefficient is 0.80. Hypothesis H1 is supported at better than the 0.05 level. Reform Competency explains 63 percent of the variation in Effective Collaboration.

FIGURE 1: MODEL AND ESTIMATES.



The latent construct Reform Competency drives three goals of sourcing. The highest effect is of Re-Optimizing (standardized coefficient of 0.62). A close second is Re-Branding (coefficient of 0.53). The third effect is of De-Constraining (coefficient of 0.39). Reform Competency therefore underlies the practices that comprise all three sourcing goal competencies. The squared multiple correlations indicate it explains 38, 28 and 15 percent respectively of the variation in these goals (Figure 2 summarize the effect sizes, significance and the predictive value of the model). We next turn to a detailed discussion of these results.

Discussion

Improved Reform Competency is positively and significantly associated with goals which orient the firms towards De-Constraining its supply capacity, Re-Branding of suppliers, and Re-Optimizing supply. Reform Competency is also positively and significantly associated with sourcing Effective Collaboration. These results provide support to the Resource Based View of the firm, specifically to the proposition that a set of sourcing goals viewed as a resource improves operational level performance of the sourcing function. In this sense, sourcing is strategic, based on the recognition that “... *prior activities, routines, and business practices can become part of the path-dependent processes through which a firm develops its resources and capabilities, which in turn condition its ability to implement future activities, routines and business practices* (Ray et al 2004; p. 36).

Intangible managerial resources of goal commitments and ensuing emphases on practices have been studied by Crook et al (2008). Reform Competency is a managerial resource and in our model it is inferred as a latent variable from multiple sourcing goals. In other words, specific multidimensional practices associated with goals are impacted positively and significantly with this resource. Suppliers may expect these practices to be encountered more often with buyers who excel in Reform Competency. Buyers can be expected to qualify more suppliers, and provide them with progress payments (goal of De-Constraining); encourage suppliers to adopt ecologically sound practices, and participate in quality certification and awards competitions (Re-Branding); and renegotiate frequently and receive shared resources for cost reduction (Re-Optimizing). The efficacy resource mediates the degree to which these goals and associated practices are observed, and a large portion of the variation observed in these goals is due to the Reform Competency of the buyer ($R^2 = 15\%$, 28% and 38% respectively).

Effective Collaboration entails collaborative support provided to the firm from practices adopted in the sourcing function. In this sense it is a functional level performance measure not affected by the accounting practices of appropriability (Ray et al 2004). A high ($p=0.80$) and significant ($t=4.78$) path coefficient between resource and performance in sourcing, and a high explained variation (63%) supports the claim that the strategic resources-performance relationship is strong when performance measures are unaffected by potential appropriation (Crook et al 2008). Practices that we find constitute a uni-dimensional Effective Collaboration goal are suppliers' rapid response to changing requirements; supplier understanding of technology cycles and planned obsolescence; and supplier involvement in specification development. All these practices provide sustained sourcing performance in the long term, and hence are Effective Collaboration. As Effective Collaboration is an outcome measure, and is uni-dimensional, our model does not treat it as a latent variable. It is completely mediated by Reform Competency which explains close to two-thirds its total variation ($R^2 = 63\%$).

Managerial concerns: Practices based strategic recommendations are arguably superior to initiatives based recommendations in the long run. In a recent article, a director of the supply chain practice of Deloitte Consulting in Southeast Asia points out that while initiatives such as e-procurement, B2B exchanges, and reverse auctions have followed each other, sustainable savings to bottom line impacts on COGS or SGandA have been elusive. Instead, the article recommends sourcing management in recessionary times should take a long term approach for sustainable savings. To quote:

“Spend management *is not structured around initiatives but rather around on-going management processes for spend categories* for which objectives, stakeholders, roles, responsibilities, and new processes are developed (Rawlings 2009; italics in the original).

The article stresses the importance of identifying *performance goals* and monitoring them to guide the organization. Our operationalization of sourcing resources and performance driven by goals and practices serves this purpose.

Limitations and Future Research: The research has some important limitations. The sample size was smaller than expected. Mueller (1996; p. 26) indicates that the ratio of sample size to number of estimated parameters in a model should be 5:1 as a minimal requirement. While this ratio was more than doubled in our hypotheses tests, additional sample size and higher ratios is preferable would have allowed a more elaborate model with moderation effects to be tested. Further research on how sourcing practices can link with sourcing goals is necessary to develop more robust measurement scales. Clearly, the measures and model will benefit from larger

datasets that allow scale validity and reliability checks across geographies and business cultures. Finally, as the study assured anonymity and employed the survey approach, it was not possible to link extensive financial information for classification. It was not possible therefore to use standard organizational performance measures for the resource-performance link and test the mediating and moderating effects of sourcing performance on business performance. We conclude with the key insights from the research.

Conclusion

Purchasing practices are well known to direct effort at better management of material flows and inventory; at quality improvement; at improving supplier relations; at lowering total cost of ownership including reducing administrative cost; and at improved competitive advantages. Texts in Business Marketing (for example, Hutt and Speh 2008, p. 36) discuss purchasing practices from an operational perspective. However, many questions of a strategic nature are unanswered: Is there a specific goal driven structure to sourcing practices? How strategic are sourcing goals as resources affecting functional level performance? With these motivating questions, the research develops measures that operationalize goals and practices. De-Constraining, Re-Branding and Re-Optimizing are goals that are associated with specific practices, and are exogenous indicators of a latent sourcing resource, Reform Competency. Resource multi-dimensionality and the impact of the sourcing resource on sourcing performance are hypothesized as path effects in a Structural Equations Model and tested with empirical survey research with purchasing managers based in South East Asia. We find that Reform Competency is positively associated with Effective Collaboration. Overall, the results support predictions of the Resource Based View of the firm.

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Quality and Ethical Sourcing among Smallholder Coffee Producers in Papua New Guinea

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Abstract

In order to participate in the emerging speciality coffee market, there is a requirement for traders to implement third party certified quality assurance systems to verify that appropriate practices to protect the environment and worker welfare have been followed. This paper explores both the opportunities and impediments associated with the introduction of ethical procurement systems in the Papua New Guinea coffee industry. While remoteness and inaccessibility supports sustainable production systems, without a significant improvement in the way in which smallholder farmers process their coffee, price premiums in the long-term cannot be justified. Poor infrastructure, high costs and the high likelihood that collaborative marketing groups will fail present additional impediments.

Introduction

Consumers today are becoming increasingly conscious of the need to promote sustainability. This emerging paradigm captures consumers growing concerns about the long-term sustainability of global food production systems, the depletion of natural resources, greenhouse gases and climate change, pollution and the destruction of wildlife habitats. Concurrent with this, is a growing concern for the manner in which our food has been produced. This includes such aspects as food safety and the adherence to prescribed religious practices, worker welfare, child labour, non discriminatory working practices and rewards commensurate with effort. For others, it also includes the humane treatment of animals and appropriate livestock husbandry.

Generally speaking, ethical consumerism is about using purchasing power to make the world a better place (Lewis, 2006). Consumers want to see food companies becoming more ethical, caring and compassionate about the product, the consumer and the world we live in. However, consumers are not the only drivers of the demand for more sustainable food production systems. Consolandi, Innocenti and Vercelli (2009) report that there has been a sharp rise in Corporate Social Responsibility (CSR) to upgrade the ethical standards of firms beyond that which is required by law. CSR refers to a business philosophy that aims to create a better society and a cleaner environment (European Commission, 2001). Being very large, high-profile organisations, most food manufacturers and retailers are very sensitive to any criticism or exposure by the media, lobby groups or from their customers. Consequently, most either have or are in the process of establishing one or more third party certified quality assurance systems to ensure that the food is safe and that prescribed labour practices and environmental management guidelines have been followed. However, Browne et al. (2000) adds an additional dimension, arguing that ethical trade is primarily concerned with the trading relationships between the developed and developing worlds. Ethical trade is a development tool, often supported by NGO's as a means of facilitating the entry of disadvantaged Third World producers into modern food markets.

Coffee is one of the world's most widely traded commodities. In 2009/10, over 134 million bags (60 kg) of coffee were produced of which 97.5 million bags were exported (ICO, 2011). With consumption estimated to approach 130 million bags, coffee prices have steadily increased over the last twelve months. While coffee consumption in much of the developed world is stable, per capita consumption in the emerging economies is trending upwards, fuelled by the global diffusion of a café culture. The most significant impact of the café culture has been a marked increase in the demand for specialty coffee. These superior quality coffees, which often offer unique cup characteristics, have most often been grown at higher altitudes under ideal climatic and soil conditions (Giovannucci and Ponte, 2005).

However, in order to achieve a premium price, there is a parallel requirement for these specialty coffee chains to introduce third party certified quality assurance systems that focus not only on the desired product attributes, but also include various environmental and social criteria. Reynolds (2009) reports that the market is “booming” for sustainable coffees with desirable social and ecological traits. Organic coffee is the most popular sustainable coffee, with sales of 72,000 tons per year. A further 52,000 tons of certified Fair Trade coffee is consumed each year. Some gourmet coffee companies use Fair Trade certification along with organic, shade-grown and other labels such as Rainforest Alliance or the Smithsonian Institute Bird Friendly coffee to satisfy consumers demand and to convey their coffee’s multidimensional profile.

Confronted with the need to maintain a positive image or at least to avoid negative publicity, many large corporations have also established their own quality labels, the most notable of which is Starbucks’ CAFÉ practices. Furthermore, private labels for responsible, sustainable and/or ethical coffee are rapidly expanding their combined market share (Ruben and Zuniga, 2011).

This paper will explore both the opportunities and the constraints associated with the introduction of ethical sourcing in the Papua New Guinea coffee industry.

Coffee Production in Papua New Guinea

Papua New Guinea (PNG) currently produces around 1 million bags of Arabica coffee per annum. Coffee is the second most important agricultural export crop in PNG, earning an average of K 340 million per year, which is 43% of agricultural exports, 10% of all exports and 5% of the nations GDP. More than 397,000 rural households cultivate coffee and over 2.5 million people depend upon coffee as their major source of income (Batt et al., 2009).

In PNG, coffee is produced by three groups: smallholders, block-holders and plantations. Over the past ten years, the contribution made by the latter two groups (often called the estate sector) has fallen to around 165,000 bags (9,900 tonnes) or 15% of total production. Smallholders, on the other hand, are responsible for 85% of total production (935,000 bags or 56,100 tonnes). The decline in the estate sector, which was largely responsible for establishing PNG’s reputation in the market as a producer and supplier of some of the finest coffee in the world, has resulted in a perception among buyers that the quality of PNG coffee has fallen and as a result the price of PNG coffee has fallen relative to the world price.

Traditionally, smallholder coffee growers in PNG harvest their cherry and through some very rudimentary on-farm processing systems, pulp, ferment, wash and dry the coffee to produce parchment (Batt et al., 2009). Once dried to 12-14% moisture content, parchment can be stored at the village level for several months. Whenever the need arises for cash, the parchment is then sold to roadside traders or directly to the dry factories, where the parchment is machine dried, hulled and polished to produce green bean. After processing, the green bean is purchased by exporters, who then blend, bag and transport the coffee to Lae, where it is subsequently re-packed into bulk shipping containers for export. In this generic market segment, price competition is intense, with roasters generally buying from whichever exporter offers the lowest price on the day - subject to confirmation after inspecting a sample. With only five roasters controlling 54% of the world market, traders and exporters have little countervailing market power.

For those smallholder growers close enough to deliver cherry to a wet mill on the same day of harvest, or where the wet mill arranges transport to collect the cherry, the wet mills, most of which are affiliated to an exporter, can produce coffee not dissimilar to the plantation grades. At this level, the key difference between that coffee which is destined for the generic market and that which is destined for the specialty market is the more consistent means by which the smallholder cherry is processed. Otherwise, with the exception perhaps of bean size (for the plantations and block-holders are more likely to use fertilisers and more appropriate agronomic techniques to improve productivity per unit area), there is little difference between smallholder cherry and plantation cherry.

However, in the specialty market, buyers invariably require their suppliers to institute various quality assurance programs. Currently, the most commercially significant quality assurance system operating in PNG is CAFÉ Practices. Introduced by Starbucks, CAFÉ Practices seeks to reward preferred suppliers who can demonstrate that the coffee has been sourced from growers who produce the coffee in an environmentally sustainable manner. In addition to the standards which specify the characteristics of the bean, permitted defect levels and the cup quality,

producers must meet strict controls on the use of shade, land management practices, chemical and fertiliser application, water use and pollution, conservation and biodiversity (SCS nd). In addition, processors and traders must ensure that growers have been treated fairly and equitably and have the right to collectively bargain. Additional conditions must also be met with regard to worker welfare (including the use of child labour) and minimising the impact of processing on the environment. For those businesses fortunate enough to meet the rigorous standards established by Starbucks, accreditation provides significant financial benefits, not only in higher prices, but it may also provide a means of securing working capital in an industry which most financial institutions are reluctant to enter.

Through such mechanisms as Fair Trade and Organic, it is also possible for smallholder coffee growers to enter the specialty market. Fortunately, in many of the more remote locations of PNG, while the high costs of transport may significantly reduce the net return to growers, the high costs of transport also preclude the use and purchase of inputs. As a result, such “natural” coffees, with appropriate certification, may readily find a niche market. Although organics is the most rapidly growing segment of the market, it commands at best only 2% of the market (Wheeler, Kufinale and Alu 2003). Furthermore, this segment of the market is beset by inconsistencies and confusion in the proliferation of different labels which attempt to either enhance or claim affiliation with the product without the rigorous application of the certifying procedures which define the term organic. Despite the high costs associated with certification, the Coffee Industry Corporation (CIC) reports that organic coffee receives a price premium of at least 32% over the generic Y grade (fob Lae)(Dambui et al. 2006). However, the value of the premium is very much dependent on: (i) the quality of the coffee itself; (ii) the overall price level in the market; and (iii) the customer to whom the coffee has been sold.

Additional value may be extracted by pursuing registration under one of the Fair Trade labels. Like the organic movement, the Fair Trade initiative authenticates the product, but does not actively trade in it (Wheeler, Kufinale and Alu 2003). Fair Trade aims to provide smallholder coffee producers with an opportunity to negotiate better terms of trade and to extract higher prices from roasters. Under Fair Trade: (i) the roaster (or buyer) must facilitate access to credit for up to 60% of the value of the contracted coffee; and (ii) the purchasing price must be fixed in accordance with the standard conditions of trade set by the Fair Trade initiative. Fair Trade has established a minimum price when coffee prices are low. This is currently set at USD 1.21 per pound. When prices fall below this level (for example around USD 0.60-0.80 per pound at the beginning of this decade) growers received a considerable premium. However, when prices are above this level, registered growers receive a Fair Trade premium of USD 0.15 per pound. Of this, USD 0.05 goes to the growers and the remaining USD 0.10 covers the additional costs, but discretionary payments may then be made to growers as a reward for better quality. Organic certification adds a further premium of USD 0.15 per pound, providing a total premium of USD 0.30 per pound for coffee that has both Fair Trade and Organic certification.

Impediments to Ethical Trade

PNG currently supplies the majority of green bean as a generic Y grade coffee at a discount ranging from USD 0.05 to 0.18 per pound (Batt et al., 2009). While opportunities exist to improve the quality of the smallholder coffee produced through training and the adoption of standardised processing systems, the potential gains available to the industry range from only USD 0.05-0.12 per pound. A far greater economic benefit can be achieved by moving more PNG coffee from the generic to the specialty coffee market. On the demand side, the specialty segment of the market is expanding. However, the key limitations in this market are; (1) the ability of smallholder coffee growers to produce parchment which delivers the desired taste in the cup consistently; (2) the costs and the investment in time required to achieve certification; (3) the annual costs of auditing and verification; (4) the need for functional collaborative marketing groups; and (5) on-going financial and technical support from the trader or exporter.

Smallholder processing

In the 2007 calendar year, certified Organic and Fair Trade coffee accounted for 3% of PNG green bean exports, with 26% classified as Organic, 57% as Fair Trade-Organic and 17% as Fair Trade (Dambui et al., 2006). While

there is much debate about the extent to which the market for both Organic and Fair Trade will continue to increase, there is an opportunity for more PNG producers and exporters to target this premium market. However, unless the quality of the coffee delivered meets customer's specifications, appealing to consumer's environmental or social conscience through eco-labelling or Fair Trade will ultimately fail. In coffee supply chains, quality is ultimately determined by the cup characteristics: taste, body and aroma. As many of these characteristics are intangible until the parchment is processed, most smallholder growers seem largely unaware of the impact that improper processing and handling may have on the cup quality.

In order to produce good quality parchment, only uniform red ripe cherries should be picked and processed on the same day of harvest. This requires access to running water and a pulper, both of which can be problematic for smallholders. Pale under-ripe cherry will not pulp. Under-ripe material that does go through to green bean will introduce raw, green or grassy flavours. On the other hand, over-ripe cherry is not only difficult to pulp, but the parchment will be badly discoloured. Mixed pickings containing under-ripe and over-ripe cherry will ferment unevenly and introduce bad flavours and taints (CRI, nd).

Fermentation requires the parchment to be held for 34-36 hours to allow the mucilage or mesocarp to ferment and disintegrate so that it can be washed off the bean. This is undertaken in specially constructed fermentation pits, bags, wooden boxes or other perforated containers. Generally speaking, the quicker the fermentation process proceeds, the less chance there is of taints and off-flavours developing. Prolonged contact of the beans with the solubilised mucilage and other fermentation products will damage the quality of the coffee by discolouring the parchment and introducing a "fruity" or "winey" flavour. During the fermenting process, the coffee should be washed every day with clean running water. Delays in washing can result in flavour taints similar to over ferment, while the use of dirty water can introduce a "muddy" taint.

The parchment must then be dried, generally in a two-stage process. For the first 2-3 days, the parchment is dried in the shade to prevent shrinking and cracking of the bean. The parchment is then sun dried, preferably on raised benches to reduce the moisture content to 12-14%. Sun drying improves the visual quality of the parchment, reducing much of the brown discolouration and enhancing the blue-green colour of the coffee bean. However, delays in drying the parchment, especially during the early stages, can introduce musty smells and taints, and, in the worst case, introduce the phenolic Rio taint, which in the 1980's, resulted in the suspension of PNG coffee imports to Germany.

At the point of purchase, the quality of parchment is assessed on a number of physical parameters such as: colour, odour, moisture content and freedom from trash and defects. According to an overall assessment of the sample(s), most of which are very subjective, the parchment will be classified and the growers and or roadside traders paid the prevailing market price. Ideally, as cupping is the most critical component of the quality control process, processors should take a sample of the parchment and dehusk, roast and taste it. However, as the quantity that the mills receive from individual smallholder growers often amounts to only 1 or 2 bags, it is simply not practical. At the roadside, equipped with only a set of scales, traders have no capacity to identify and segregate the better quality parchment and hence, most smallholder coffee farmers perceive that there are few incentives to produce better quality coffee.

As both Fair Trade and Organic growers use similar processing systems to those used by producers for the mainstream generic Y grade coffee, customers are likely to complain about the inconsistent cup quality and markets will be lost. Lewis (2006) similarly describes how, if Fair Trade is to become mainstream, producers must overcome consumers' perceptions that product quality is low. However, higher prices do provide both the means and an incentive to overcome these issues. Fortunately, each of the major faults: (1) immature and over ripe fruit; (2) over ferment and inappropriate washing; (3) inadequate drying; and (4) poor storage can be reduced by training and the adoption of standardised processing systems. However, without electricity and without water, growers are unable to pulp cherry on the same day as harvest for they are often too tired after spending all day in their coffee gardens and in many instances, they have had to manually carry the cherry some distance. Unfavourable weather conditions can make it difficult to sun dry the parchment. Enclosing wet coffee in sails on the ground for extended periods of time can result in moulds and in the most severe case, phenolic coffee. Furthermore, there is a high likelihood of product deterioration through poor and inappropriate storage in the home (smoke damage), for parchment is to most growers, the major means of providing cash to meet anticipated household and social expenses.

Fortuitously, by following well established best manufacturing practices, it is possible for smallholder cherry to be processed to the same standards as cherry derived from the plantation sector. On a per kg equivalent basis, the prices received by smallholder growers selling cherry are 35% higher than the prices received by growers selling parchment (Batt et al., 2009). In addition, those growers selling cherry do not incur the costs of either transport or processing, as most wet mills collect the cherry directly from the farm or some designated collection point. However, despite the higher price paid for cherry on a per kg basis, most growers seem unable to calculate the added value.

For the processors, purchasing cherry entails significantly less risk, for quality can be readily assessed by observation at the point of delivery. Processors should only purchase uniform red ripe cherry. Although 2-4% of under-ripe and over-ripe cherry is acceptable, larger amounts will introduce pulping problems, uneven fermentation and reduce the cup quality. For the growers, the sale of cherry results in significantly less work and thus, where labour must be employed, a significant savings in cash reserves. However, the key constraint is time, for the cherry must be processed on the same day of harvest. Ordinarily, the wet mills will only purchase cherry within a radius of 20-30 km from the mill, depending on whether the road is trafficable to trucks.

In a market that is currently constrained by a growing shortage of coffee, given that most of the coffee in PNG is sold under the terms of the European Coffee Agreement, traders and exporters face significant penalties if they are unable to deliver coffee to their customers on time. Keen competition between the wet mills to secure the smallholder growers cherry is driving the price upwards, but it is also resulting in a marked increase in the incidence of cherry theft. Stolen cherry is generally of poor quality, for when strip picked, it contains a higher proportion of under and over-ripe cherry. Processors buying poor quality cherry will find it difficult to achieve a premium price in the specialty market, for the cup quality will inevitably be compromised. Unless cherry theft can be curtailed, there is evidence to suggest that growers at all levels (smallholders, block-holders and plantations) are reducing the level of investment in their coffee gardens. Replanting, pruning and weed control are simply not being undertaken, for growers fear that they will not recoup their investment.

Furthermore, there has been a marked increase in inter-firm trading between coffee growers. Those growers selling cherry to their neighbours are more often the smaller growers. Many of the larger growers to whom the cherry is sold are registered growers under one of the many schemes operated by traders and exporters. Under their generic quality assurance program CAFÉ Practices, Starbucks require all their suppliers to be registered as a means of providing traceability, thus providing a means of verifying that the social and environment conditions have been met. As various incentives are payable to the exporter, a proportion of which is transferable to growers, depending on the level of registration achieved, it is in the growers best interest to sell as much cherry as possible.

Issues associated with certification

Within each of the ethical quality assurance programs is a desire to support more sustainable methods of production and to enhance worker welfare through the payment of minimum wages and the assurance of a safe working environment. The additional premiums available to growers from the implementation of these quality assurance systems vary considerably depending on the market acceptance of the standard as do the costs and time required to achieve certification.

Irrespective of whichever quality assurance system a trader or exporter may seek to implement in PNG, there are a number of institutional impediments which must first be overcome. At the farm level, the payment of a minimum wage is problematic. In many instances, landowners permit other members of their extended family to reside on the property without the payment of rent in exchange for the provision of labour. Similarly, for those who do not own land, they may be remunerated for their labour through the provision of fresh vegetables rather than cash. Furthermore, it is not unusual for school children, particularly during the vacation period, to assist their parents in harvesting the coffee, often without remuneration.

As the majority of smallholders practice mixed subsistence farming, often growing vegetables between or adjacent to the coffee trees, the application of chemicals and fertilisers to the vegetable crop may contravene the requirements under both Organic and Fair Trade certification. Furthermore, where chemicals are applied, there are

problems associated with the disposal of containers and even the storage of chemicals will prove problematic, as most growers store them in the house.

At the village level and in those instances where the quality assurance scheme is group based, there must be a functional cooperative or collaborative marketing group. Considerable time, costs and support is required to establish and maintain these groups. Leadership is critical and needs to come from the growers themselves rather than to be imposed from outside. Within each of these groups, practices and procedures must be followed and any product which fails to meet the prescribed standards must be excluded. Under Fair Trade, the group must be able to show that it has democratically decided how to invest the Fair Trade premium.

At the processor, trader and exporter level, not only must they have confidence in the people appointed to monitor quality at the village level, but they must implement a means by which they can trace the product to its source. This requires not only the registration of growers, but a means by which each growers output can be verified. Not unexpectedly, where higher prices are paid for either cherry or parchment, individual growers may find that they can profit by purchasing coffee from neighbouring growers. Unlike HACCP-based quality assurance systems where the main reason for traceability is to either identify the source of the contamination or the need to recall contaminated product, in the PNG coffee industry, the main reason for traceability is to ensure that the premiums paid to traders and exporters have indeed been paid to the individual growers and or the communities from which the coffee was sourced. By necessity, this requires accurate records of all transactions with growers to be maintained, at considerable extra cost for the exporter.

In addition, in order to achieve accreditation under each of the various environmental impact components and to address work safe practices, traders and exporters are required to assist their growers. Training is required in agronomic practices that prevent erosion and the subsequent contamination of waterways and streams; the appropriate application of chemicals and the responsible storage and disposal of containers; and the provision and use of protective equipment (gloves and masks).

While achieving Fair Trade certification takes from 3-6 months, Organic certification takes from 2-3 years (Batt et al., 2009). As smallholder growers are motivated primarily by price, it is necessary for traders and exporters to pay above market prices in order to secure the growers' coffee during the transition period. Furthermore, the growers themselves are unable to pay for the annual costs of auditing and verification. Even for Fair Trade, inspection costs up to AUD 500 per day plus airfares and accommodation. Because of the remoteness and the large number of growers involved, the process often takes considerable time and effort.

At the wet factory, and at considerable cost, processing lines often require modification to prevent the contamination of waterways. In several instances, processors have sought to identify alternative uses for the disposal of the pulp. For those traders and exporters who sell certified Organic coffee, it is important to realise that it is the entire supply chain which is certified. By necessity, this requires certified Organic coffee to be physically separated from other coffees, often requiring a significant investment in additional processing and storage capacity.

Collaborative marketing groups

Because of the small volume of parchment each individual grower produces, smallholder growers are unlikely to benefit from any improvement in quality without a commensurate increase in scale. This is best achieved through the formation of collaborative marketing groups, where the members, either collectively or individually, follow a strict quality assurance system to reduce the variation in quality. By offering a long line of more consistent quality parchment, direct to processors and exporters, it is possible to secure a higher price.

However, the formation and on-going management of these collaborative groups is not without problems. In the past, most collaborative marketing groups in PNG have failed as a result of mismanagement, incompetence, corruption and conflicts of interest. There is also some doubt as to whether collaborative groups are a viable form of organisation in PNG, given the traditional tribal structure of society and the role and importance of the "big men". Of particular importance is the issue of leadership to ensure that group members are not only fully informed, but that, in the event of the leader's demise, the group has the capacity to continue (Murray-Prior, Sengere and Batt, 2009).

More fundamental however, is the need for collaborative marketing groups to provide returns that are at least equal to, if not greater than those the members could achieve by transacting individually. While the expectation

of higher prices is the major motivation for the formation of collaborative marketing groups, the inability of the groups to deliver higher prices will correspondingly provide one of the major factors leading to their demise.

Appropriate recording systems must be established to ensure that members are paid what they are due and appropriate control systems established to ensure that those growers who follow the prescribed quality systems are adequately rewarded and those who do not are sanctioned. Not unexpectedly, collaborative marketing groups cannot function without good management, a willingness among the members to work together, and mutual trust and respect.

Financial considerations

At the individual farm level, the major problem for smallholder coffee growers is the need for cash to meet anticipated household and farm expenses. As household expenses (including school fees) and social obligations receive first priority, there are often insufficient funds available to provide for the costs of labour to prune the coffee trees and to provide fertilisers and chemicals. Even if growers can be encouraged to save a greater proportion of the income generated from the sale of coffee, under the prevailing social system in PNG this will prove to be difficult, as related family members are still able to call upon any readily accessible funds. To overcome this constraint, several processors and traders are voluntarily withholding a proportion of the income received from coffee sales to pay for anticipated household and farm expenses. Not unexpectedly, those growers who choose to leave some funds with downstream buyers are not only more likely to receive cash advances, but they are also signalling their intention to enter into a long-term relationship.

In agricultural markets where prices are determined primarily by supply and demand, growers are more certain of their costs than they are of their returns. Not unexpectedly, with limited financial resources, the amount of money smallholder coffee growers are willing to invest to sustain their coffee trees is very much dependent on the prices they expect to receive. At the individual farm level, the CIC (2002) reports that there is a significant and positive relationship between productivity and price (after a one year lag), with price explaining 82% of production levels. Historically, as farm gate prices have declined, smallholder coffee growers have allowed their trees to go into a sedentary stage during times of low prices and will only harvest sufficient coffee to meet their immediate requirements for cash or to meet social obligations. As a result, soil fertility has declined, trees are ageing, there is minimal pest control and with general mismanagement, productivity per unit area has generally declined.

Even although prices have increased over the last few years, there is little evidence of any renewed interest or enthusiasm to invest in coffee. At the farm level, an increasing demand for cherry has simply resulted in a marked increase in cherry theft. Unable to protect their investment, growers are reluctant to rehabilitate their coffee gardens, knowing full well that they are unlikely to benefit. Furthermore, the benefits of rehabilitation are generally achieved two to three years after the intervention. In a highly volatile market, there is an element of risk that any investment may not be recovered. Even when prices do rise, a household will only harvest as much coffee as they can carry and process in a day.

Institutional impediments

At an industry level, discussions with industry players identified three major variables that currently constrain both the production and the quality of the coffee produced in PNG: (1) the poor state of the roads and transport infrastructure; (2) lawlessness; and (3) insecurity of land ownership and tenure.

The poor state of the roads limits the capacity of smallholder coffee growers in remote areas to: (i) access wet mills and thus by default, the growers must produce parchment; (ii) even when parchment is produced, during the wet season, the roads are often impassable and hence: (a) the growers cannot get their coffee out; (b) the parchment must be stored for long periods of time in often substandard conditions with a commensurate reduction in quality; and (c) where it is possible to fly the coffee out, the costs of transport are substantial, thus reducing the potential return to the growers.

Lawlessness needs to be considered from the perspective of both cherry and parchment for the issues are vastly different. In the case of cherry, with the expansion of the specialty market, high cherry prices have encouraged

theft from both smallholder coffee growers and the larger block-holders and plantations. Cherry theft most often results in strip picking, where both red and green cherries are mixed in the bag. When processed, any more than 4% green cherry is said to adversely influence the cup taste, introducing raw or grassy flavours. However, many roadside traders and wet mills continue to buy inferior quality cherry, thus providing a means for the disposal of illicit cherry. In the case of parchment, theft by both individuals and organised gangs is not uncommon from the grower's property, drying beds, in transit, or from the processing factory. However, the theft of green bean is more opportunistic and most often associated with accidents or roll-overs in transit.

Problems associated with land tenure are most often demonstrated by a failure to invest in the rehabilitation of coffee gardens on the basis that another tribe or clan may harvest the coffee and thus secure the benefits. However, at an individual level, tribal conflict may result in the complete destruction of coffee gardens.

The lack of finance was evident at three levels: the individual level, the cooperative level and the community level. For individual growers, the lack of capital relates to the inability to purchase inputs (pesticides and herbicides, fertilisers and labour to rehabilitate the trees) and hand pulpers. At the cooperative level, the lack of finance prevents cooperatives from being able to pay the growers on delivery for either the cherry or parchment that is supplied. At a community level, the lack of infrastructure includes the lack of water and electricity and in some communities, the lack of appropriate roads to transport the parchment to dry factories.

However, it is also evident that there is a significant cultural difference between most smallholder farmers, the plantation managers and exporters (Murray-Prior and Batt, 2007). Most of the large plantations, processing factories and export operations are managed by expatriates whose cultural backgrounds are vastly different to the clansmen. With only a limited understanding of the dynamics of the world coffee market, many smallholder growers believe that they have been taken advantage of by traders and exporters. However, there is evidence to suggest that smallholder coffee growers in PNG receive between 68-80% of the fob price (Lae)(Batt et al., 2009).

Conclusions

While it is possible to move more smallholder coffee into the specialty/ethical coffee market, the generic market should not be excluded. For various reasons including equipment failure, power cuts, or an over-supply of cherry, the quality of the parchment produced by the wet mills may fail to meet the quality standards demanded by the specialty market. Rather than to risk damaging their reputation in the market, exporters will divert such coffee from the specialty market into the generic Y grade market to recover some of the costs.

Even where a smallholder coffee grower may choose to sell their cherry directly to a wet mill, the need for an alternative route to market is also evident. During the off-season, it is not unusual for some cherry to be produced. Known as the fly crop, the quantities of cherry available may be insufficient to recover the cost of despatching a truck to collect it. Thus the only option for the grower, if they have time, is to harvest and process the cherry themselves. When the need for cash arises, the parchment is then sold to roadside traders.

A similar situation may arise for those growers selling parchment through collaborative marketing groups. When sudden and unanticipated social obligations arise, parchment may be sold through the roadside traders for immediate cash. While the net returns may be higher selling through the collaborative marketing group, given the delays in payment, the grower would otherwise be unable to meet their social obligations. Consequently, there are some very strong social and economic drivers supporting the retention of two parallel coffee supply chains in PNG.

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Cross-Functional Coordination through Sales and Operations

Planning

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Abstract

We analyze the design and pilot-implementation of Sales and Operations Planning (S&OP) at a South-East Asian site of a global producer of ingredients. In this single case study research we find that when S&OP participants become more knowledgeable about other functions' capabilities they become more successful in *negotiating* with external partners. Also, the perceived *fairness* of decision making is found to contribute to the willingness of participants to engage and commit to S&OP. We further find that the engagement of *product designers* in S&OP can lead to better supply chain performance as they identify and approve alternative components or processes to *ease supply constraints*. Finally, we observe that an *advanced organization structure* and *vigilance about forward momentum* can help companies implement and sustain S&OP in challenging environments.

Key words – Sales, Operations, Planning, Cross-functional, Coordination

1. Introduction

To match supply with demand in the intermediate term, companies must develop well-coordinated demand and supply plans. To facilitate this coordination at an organizational level, many companies have implemented “Sales and Operations Planning” (S&OP) processes. These are cross-functional processes in which participants from Sales, Marketing, Logistics, Manufacturing, Purchasing and Product Development engage in regular, structured communication and decision-making to achieve effective coordination and improved profitability. Over the past twenty five years, companies have increasingly experimented with such planning processes, consulting companies have specialized in them (Ling and Goddard, 1988), and several books providing practical implementation guidelines have appeared (Wallace and Stahl, 2008a; Dougherty and Gray, 2006). In addition, researchers have developed dynamic models that describe the maturity of S&OP processes (Grimson and Pyke, 2007;

Lapide, 2005) and explain their success (Oliva and Watson, 2007). Descriptions of S&OP processes have also started to appear in textbooks for Operations Management (Jacobs and Chase, 2008) and Supply Chain Management (Simchi-Levi *et al.*, 2007).

The wide adoption of S&OP by practitioners offers interesting opportunities for empirical studies to further develop the theory on cross-functional coordination in organizations. Through direct observations of the structures created, processes used, information exchanged, and decisions made in S&OP, researchers can generate new hypotheses regarding the content, structure and process of cross-functional coordination. This paper reports on such a research study.

We report on the findings of an empirical, case-based study of S&OP implementation in at a production site in Southeast Asia. The company successfully introduced a structured S&OP process and the positive results of the implementation after four monthly planning cycles led to a decision to expand S&OP to other Asian sites, with significant benefits expected. Interestingly, the company was able to introduce S&OP at a production site that faced a wide range of difficulties and tense relations between the functions (most executives agreed it was “a burning platform”).

In our study, we directly observed the design and pilot implementation of this S&OP process and subsequently compared it with documented standards in order to learn from the variance and thus generate novel hypotheses regarding the structure, content, and process of cross-functional coordination.

With respect to *structure*, our observations support the hypothesis that an advanced organization structure for S&OP can contribute to the success of S&OP in challenging circumstances. By comparing with existing S&OP maturity models (Grimson and Pyke, 2007), we noted that the company gave priority to developing the organization dimension of the S&OP process while adopting a slower development path on the dimensions of meetings, measurements, technology, and plan integration. This implementation course coincided with positive outcomes in an environment that was not conducive to cross-functional coordination.

With respect to the *content* of cross-functional coordination, we found that S&OP contributed to an improved awareness of operational delivery capabilities within the Sales group, thereby increasing the group's confidence in dealings with customers. This reveals an interesting new role for cross-functional communication: improved knowledge about capabilities of other functions not only leads to better decisions but also increases organizational confidence levels and thus, negotiating positions with external partners. In a second *content*-related finding we confirmed an important role for product designers in S&OP: in the case of supply challenges they can identify and approve alternative components or processes in order to ease supply constraints.

Our study also offers insights for the *process* of cross-functional coordination. Oliva & Watson (2007) found that the success of S&OP in achieving coordination between functions driven by different incentives relies on an organizational process that creates a virtuous cycle of participant engagement leading to organizational benefits, which then further increase engagement. They found that this virtuous cycle works well if fueled by three types of process quality: informational quality, procedural quality (the steps by which information is converted into plans), and, perhaps most importantly, alignment quality (the extent to which the different functions commit themselves to a set of well-aligned functional plans). Our study's observations of four S&OP cycles led to two additional hypotheses regarding the nature and role of process quality in the success of S&OP. A first hypothesis proposes that "fairness" or reciprocity between functions is an important component of procedural quality and a second hypothesis suggests that there is a threshold level of process quality below which S&OP cannot sustain itself without maintained top management effort and involvement.

In the remainder of this paper we first present a targeted view of the existing literature on S&OP in Section 2. We then explain the case study methodology in section 3 and present the case study in Section 4. In section 5 we analyze the case to generate hypotheses and discuss and conclude our findings in Section 6.

2. Literature Review

2.1 Aggregate Planning and Cross-Functional Coordination

S&OP is a sophisticated, effective and efficient process for aggregate production planning (e.g. Jacobs and Chase, 2008; Simchi-Levi *et al.*, 2007). By forecasting and planning demand according to product families 12-18 months ahead, the organization can plan sales, production levels, inventories and capacities for that same time horizon. S&OP differs from traditional aggregate planning by emphasizing the *process* of planning – the process steps, as well as participants' roles and responsibilities in S&OP, are highly specific. More so than in traditional aggregate planning, S&OP acknowledges that planning success depends on key communication links between different functions, high-quality and timely inputs from knowledgeable and engaged participants, interactive forums to discover and discuss relevant issues, and executive authority to drive and implement decisions.

Many observers also indicate that S&OP delivers benefits beyond those of traditional aggregate planning. According to Bower (2006), S&OP builds an atmosphere of collaboration, adds accountability for performance against measurement and fosters the desire to improve. Vollman *et al.* (2005) assign a strategic role to S&OP because it supports the creation of detailed functional plans that are driven by “one set of numbers” and because it allows management to make critical trade-off decisions and better align business activities with the firm's strategic objectives. These observations indicate that S&OP is becoming a wide-spread organizational tool for coordinating the different functions in an organization. The study of S&OP implementations can thus not only offer new insights about aggregate planning but also about the content, structure and process of cross-functional coordination (Galbraith, 1973, 1977; Thomson, 1967).

In the remainder of this literature review, we offer a brief description of the standard process steps, reported benefits, key success factors, and dynamic models for S&OP. In addition, we

will describe specific aspects of S&OP in innovation-driven, finish-to-order (FTO) environments as they are relevant to the company in the study.

2.2 S&OP Process Steps

At the start of every S&OP cycle, in the *data gathering* step, the IT function is responsible for updating relevant files with production, sales, inventory, backlog, and other data from the previous month (Wallace & Stahl, 2008a, p.55). The fresh data supports the generation of initial sales forecasts that are unbiased, unconstrained and adjusted for changes in relevant external variables – this is best achieved with the support of statistical models (Lapide, 2004).

The *demand planning* step comprises updating forecasts with information on customer orders, the market environment or other demand-influencing events (Oliva & Watson, 2007). It is potentially the most challenging S&OP task for large organizations with differing demand forecasts between departments. The step includes: forecasting performance review, addition or updating of new product forecasts, forecasting of new order volumes, iterative application of external factors/assumptions, financial conversion and reconciliation, and executive authorization (Wallace & Stahl, 2008b).

The *Supply planning* step ensures that all resources and materials required for production to meet the aggregate demand forecasts are available. This involves the creation of master production schedules by product family and may incorporate production rules for sequencing, lot sizes and manufacturing frequency. The master schedule then triggers plans for the appropriate mix, components and resources, using tools like materials requirement planning (Dougherty & Gray, 2006).

In the *pre-meeting*, Sales, Marketing and Operations representatives meet to make decisions regarding supply and demand mismatches, agree on a single set of recommendations for the executive meeting and prepare outstanding areas of disagreement for resolution during the

executive meeting (Wallace & Stahl, 2008a). This allows the executive meeting to run efficiently and effectively.

Top executives and departmental directors participate in the *executive meeting*, which aims to review key metrics, resolve disputes, achieve consensus, make key business decisions, approve S&OP plans and hold people accountable. Also, alternative scenarios should be reviewed and trade-off decisions and impacts of demand, supply or financial alternatives analyzed (Tohamy & McNeill, 2008).

Finally, most authors stress the importance of *measurement of results* of S&OP by monitoring key performance indicators (KPIs) (Tohamy and McNeill, 2008). Forecasts of sales, production and inventories/backlogs are easily evaluated using methods such as mean squared error or mean absolute error (Diebold, 2008). Other common measures include expediting frequency, quality and utilization. Development cost, time-to-market and ramp-up time are critical metrics for new product development (Grimson and Pyke, 2007). S&OP implementation progress can also be assessed by asking participants for opinions and suggestions for improvement, informally or formally (Wallace and Stahl, 2008a).

2.3 S&OP Reported Benefits

This section details the main benefits of S&OP, with references to case studies from academic and practitioner literature relevant to firms operating in innovation-driven (with frequent new product introductions), FTO environments.

Eli Lilly and Company, a global pharmaceutical company heavily reliant on product innovation, credited *improved customer service* to their implementation of S&OP (Dougherty and Gray, 2006, p.225). S&OP helped to cushion unpredictable demand, especially during periods of new product launches and high asset utilization. At Engineered Materials Solutions, Inc. (EMS), an innovative North American producer of clad metals, S&OP-driven collaboration between Sales and

Operations resulted in more strategic placement of inventory, thereby increasing on-time delivery (Dougherty and Gray, 2006, p.245).

Well-functioning S&OP processes have also enabled some companies to *increase sales*, since minimum service levels are necessary for survival, and superior customer service through operational excellence can constitute competitive advantage (Bower, 2006). Over 21 months of S&OP implementation, the use of appropriate data management tools allowed Eclipse, Inc., a design, fabrication, and assembly company, to better anticipate and prepare for increased customer demand, coinciding with a 39% increase in sales volume and an increase in profitability by several percentage points (Dougherty and Gray, 2006, p.222).

During supply planning under S&OP, reviewing slow-moving inventory can prompt discount and distress channel sales initiatives, thereby *reducing discards of obsolete inventory*. Obsolescence can be further reduced through review of the product portfolio (usually during the pre-meeting) to decide which SKUs to discontinue – from there, the target SKU and its components are actively managed to ensure the lowest cost of run-out and exit (Bower, 2006). For example, S&OP helped Norse Dairy Systems, a producer of filling and packaging equipment for ice-cream dairy products, reduce discards by 55% (Dougherty and Gray, 2006, p.266).

At AGFA US Healthcare, a Belgium-based producer of medical imaging products, continuous review and updating under S&OP improved forecast accuracy, *lowering inventory* from 120 to 40 days' over three years (Dougherty and Gray, 2006, p.174)). Similarly, a 62% reduction in inventory at EMS increased operating cash flow while meeting customers' delivery expectations (Dougherty and Gray, 2006, p.244). The equipment group of Norse Dairy Systems increased inventory turns by 22% and reduced average inventory by \$600,000 over a year (Dougherty and Gray, 2006, p.266)).

At EMS, better cross-functional collaboration increased reliance on demand projections from Sales rather than on Operations' forecasts, *improving forecast accuracy* by 90% across all product subfamilies (Dougherty and Gray, 2006, p.244)). At a consumer electronics company in Northern

California, adherence to S&OP plans and better forecasting improved forecast accuracy by 40 percentage points (Oliva and Watson, 2007).

S&OP gives rise to other *soft benefits* as well. Through S&OP, people learn about other functions' roles and therefore know "who to talk to" for information and authorization, leading to better and faster decision-making and improving interdepartmental teamwork. As S&OP increases performance reliability, customers become more likely to collaborate in forecasting and new product development, leading to improved communication and satisfaction. At Eli Lilly, S&OP increased the clarity and speed of decisions and plans by increasing sales affiliates' accountability and enhancing their understanding of forecasting's impact on manufacturing (Dougherty and Gray, 2006, pp.234-235)). Also, at BASF, the world's largest chemical company, the wide implementation of S&OP has created formal and comprehensive cross-functional structures for communication and collaboration, increasing responsiveness to market conditions and aiding survival in difficult economic climates (Atkinson, 2009).

2.4 S&OP Key Success Factors

The literature also identifies a set of key success factors for S&OP implementation.

When top managers, the leaders and decision makers in S&OP, advocate complete participation and compliance, the process is said to enjoy *high-level executive endorsement*, and other organizational members, recognizing S&OP as the main process for reconciling supply and demand problems, will be fully committed (Dougherty and Gray, 2006, p.49). At Norse Dairy Systems, senior management leadership was considered instrumental in ensuring participation from all functions (Dougherty and Gray, 2006, p.267).

Wallace and Stahl (2008a, p.84) stress that obtaining *departmental buy-in and participation* is essential as S&OP is a "people project" – the human element is often what derails process implementation. Without identifying the "customers" of S&OP (i.e. participants from different

functions) and addressing differences in their interests, preferred measurements and modes of information delivery, S&OP risks delivering information that is neither clear nor actionable. In a smooth running process, the S&OP process owner or executive champion identifies disagreements that might cripple S&OP (e.g. opinions about forecasts, metrics of S&OP success, information presentation format), and generates solutions to bridge the interdepartmental gap (Harrison, 2009).

Continuous feedback and improvement is important to increase process quality – improvement can be internal (improving process conduct) or external (improving business performance). Internal improvement occurs when the S&OP process owner or design team takes note of participant feedback and has the courage and determination to refine the process accordingly. The initial issues are usually meeting mechanics, formats, data accuracy, and process requirements. As S&OP gradually helps management hit performance targets, the focus shifts to external improvement, i.e. finding methods to achieve higher targets (Boyer, 2009). S&OP works well if it becomes a vehicle for improving underlying processes – for example, S&OP participants can investigate how existing service levels can be sustained with lower inventory levels, or how production rates can be more flexible within a given time fence (Wallace and Stahl, 2008a, pp.154-155).

Since S&OP requires accurate and timely data, *IT support* is found to be essential. Large companies implementing S&OP may find themselves quickly overwhelmed by large volumes of manual data entry, increasing delay, errors and inefficiency. Hence, it is recommended to automate data gathering and entry as early as possible, preferably during the pilot stage (Wallace and Stahl, 2008a, pp.105-106). At a global producer of mechanical drilling devices for petroleum and natural gas extraction, multiple acquisitions meant the company used many different information systems, and the resultant lack of prompt historical data limited the benefits from S&OP. Because of the firm's conflict-averse culture, the S&OP executive champion did not confront IT, so data entry was never automated and interest in S&OP withered before the pilot phase (Wallace and Stahl, 2008a, pp.73-74).

The success of S&OP also depends on *integration with the development and introduction of new products*, for which demand and supply planning is challenging because of the lack of sales history and the uncertain impact on required resources. Through S&OP, participants can revise launch dates, review forecasts' impact on manufacturing, suppliers and sales resources, and determine the steps necessary to surmount the uncertainty. At Coca-cola, MIDI, Interbake, Norse Dairy Systems and UMC, formal new product reviews are synchronized with monthly S&OP meetings (Dougherty and Gray, 2006, p.84).

A final factor that drives increased benefits of S&OP is *customer and supplier involvement*. The planning of supply and demand that takes place in S&OP is thereby extended both up and down the supply chain, usually after the internal process has reached a sufficient maturity level (Lapide, 2005).

2.5 S&OP Dynamic Models

In addition to the static view, the literature also contains various dynamic models of S&OP success. First, maturity models suggest that S&OP can be implemented gradually, with increasing levels of effectiveness, by following a sequence of implementation actions coordinated across different dimensions. Lapide (2005) highlights three dimensions of S&OP maturity: meetings, processes and technology, while Grimson and Pyke (2007) identify five dimensions. To the dimensions of "meetings and collaboration" and "information technology", they add "organization", "measurements" and "S&OP plan integration" (the mutual adjustment of functional plans for profit maximization).

One dimension of maturity-type thinking is the effective use of S&OP applications – these possess process automation and simulation functions to manage several supply and demand elements, (Lapide, 2004-05). Process maturity models help companies decide when they are ready to acquire expensive, advanced S&OP applications. Firms in the "marginal" (sporadic meetings, disjointed demand and supply plans) or "rudimentary" stage (routine meetings with spotty attendance, internally reconciled demand plans, supply plans aligned to demand plans) are served

well with spreadsheets or standalone planning software, which are limited in performance, version control and data harmonization. Only “classic” processes (full and regular attendance, jointly-aligned demand and supply plans, supplier/customer collaboration) can effectively leverage integrated software applications (Lapide, 2005).

A second type of dynamic model is Oliva and Watson’s (2007) system dynamics framework, which suggests that departments’ misaligned incentives may increase their participation in S&OP to advocate their own interests, thereby achieving integration across departments. Their empirical study also proposes that participants will remain engaged as long as S&OP delivers informational, procedural and alignment quality. If these findings are confirmed, S&OP can be an important mechanism for cross-functional coordination in companies where direct incentive alignment is not an option. They also propose that alignment quality is more powerful than informational or procedural quality.

2.6 S&OP in Innovation-Driven, Finish-To-Order Environments

The company in our case study introduces new products frequently. In such innovation-driven environments (e.g. pharmaceuticals, medical equipment, aircraft), competitive advantage hinges on developing, marketing, producing and delivering new products in the demanded quantities and with the required speed. With future demand, profitability, resource consumption and cannibalization sales uncertain, such companies need processes facilitating the reporting, tracking and revising of new product forecasts and assumptions (Kahn, 2006).

Also, the company uses an FTO production strategy – they must finish products only after receiving customer's orders, i.e. with a much shorter lead time than with MTO. Hence, they must manage raw material and component inventory to balance timely delivery with holding costs (Wallace and Stahl, 2008a, pp.27-32). Further, given natural forecast inaccuracy, the planning process must be sufficiently flexible to respond rapidly to demand changes by altering supply chain

strategies (Dilger, 2009). S&OP fosters such flexibility by facilitating frequent and effective interdepartmental communication and collaboration.

3. Research Methodology

We applied the single case study research methodology (Yin, 1984) in this paper. Mentrix' S&OP implementation is suitable for single case study research because it is both representative and critical. It is *representative* because the company set out to implement a planning method purported to bring benefits to a wide range of manufacturing companies and it is *critical* because the implementation was attempted in an environment that was not conducive to cross-functional coordination. The case study was also revealing because it was not retrospective but prospective. As researchers we had the opportunity to influence the starting point of the S&OP design by presenting the S&OP literature review (section 2) to the project leadership and also at an executive briefing for the project. This created an interesting experiment since we could then observe precisely where the company would vary from the documented standards and generate hypotheses by analyzing these variations.

We used a diverse set of data collection methods to gain a cross-validated understanding of the industry, the company, its organization structure, supply chain and existing planning processes, as well as the factors driving the S&OP project. We visited one of the companies' manufacturing plants and were given a detailed briefing on the S&OP initiative. We also conducted semi-structured interviews with four senior managers from key functions in Food Ingredients Asia regarding the need for S&OP, and analyzed reports from interviews the company had conducted with 11 project stakeholders. We then directly observed the project kick-off meeting, and two of the authors worked with the S&OP design team during a 12-week engagement. In addition, we maintained regular email correspondence and meetings with project leaders and were given access to archival data of the Executive Meetings (meeting minutes, presentations, and voice recordings of the meetings). After the second cycle, we obtained formal feedback on process implementation from

nine key participants through phone interviews or email questionnaires. After the fourth cycle, we conducted semi-structured interviews with four key participants to better understand the content, process and results of S&OP up to that time.

4. Background and Situation

The company studied is a global producer of ingredients for consumer goods. To disguise its identity we use the fictional name Mentrix and we have also changed names, locations and figures.

4.1 Industry Overview

Mentrix operates in a particular, highly innovative, \$20bn sector of the food ingredients industry. Five producers dominate this market sector with over 60% of market share and spend about 7-8% of revenue on R&D to constantly develop new products.

4.2 Company and Pilot Site

In this sector, Mentrix has a well-established history and is one of the leading companies with manufacturing and sales presence in more than 40 countries through more than 50 sites and over 5000 employees. Mentrix spends 8% of revenue on R&D, constantly innovating new products and techniques. has a highly matrixed organization structure, operates an extensive supply chain network and delivers innovative products in a mainly finish-to-order (FTO) strategy. The observed S&OP pilot implementation took place from May to October 2010 at a production site in Jakarta, Indonesia which faced many demand and supply reconciliation issues due to rapid growth in the region.

Approximately five years ago, Mentrix acquired a major competitor, Table Industries, as part of its strategy of focusing on developing markets and capturing opportunities in key segments. The Jakarta site, which served Table's customers in Southeast Asia, was selected for the S&OP pilot.

4.3 Organization structure

Globally, Mentrix is divided into Operations and Commercial, with consolidated responsibility only at board level. Commercial is organized regionally, comprising three functions – Sales, Marketing and

Development & Application (D&A) – while Operations is organized locally but supported regionally (Planning, Quality Management and Engineering).

Mentrix Indonesia has a highly matrixed organization structure, where Operations, Sales and D&A report to Singapore-based regional managers. Resolution of site-level issues might require, for example, interaction between the ASEAN Sales Director and the APAC D&A Director, who both report to the Asia Commercial Manager. Operational issues could potentially be resolved only at the global level.

Sales interacts directly with customers and responds to requests for new products by documenting project briefs in the Opportunity Management System (OMS), through which D&A manages new wins. The Indonesia Sales Manager reports to the ASEAN Sales Director, who then reports to the Asia Commercial Manager. Sales' performance is measured by revenue, customer satisfaction, and service level.

Marketing identifies, develops and launches new product concepts through market research on consumer trends and formulates pricing policies. Marketing is organized by end-use (beverages, snacks, confectionery etc) and the Head of Marketing reports to the Asia Commercial Manager. Marketing's KPIs are revenue, profit margin, and new wins.

For each customer project brief in the OMS, the D&A team creates, modifies and/or recommends ingredients from its vast library of ingredients. The Indonesia D&A Manager reports to the Asia D&A Director, who reports to the Commercial Manager Asia. KPIs for D&A are the win rate and the opportunity pipeline.

Operations is responsible for production, planning, order management, warehousing, logistics and distribution. The Indonesia Operations Manager, along with local support functions, report to the Head of Operations Asia, who in turn reports to the Head of Global Operations. Their KPIs include service levels, raw material inventory levels, discards and order expediting costs.

Procurement sources for appropriate vendors and negotiates contractual terms, with the aim of attaining reliable and affordable long-term supply. Procurement's KPIs include costs and lead time of inputs (raw materials, packaging and equipment).

Finally, Planning verifies sufficiency of raw material to fill each order and orders as required. Once all raw materials are available, Planning creates and releases shop orders to Production for manufacturing. Planning also sets raw material inventory policies and creates shop orders to maintain inventory of intermediate products independent of sales orders. The Regional Planner reports directly to the Head of Operations Asia.

4.3 Existing Planning Processes and the Need for S&OP

Before a new forecasting tool was introduced in Q1 2010, Mentrix Indonesia's forecasting process mostly relied on Sales' subjective inputs. Also, forecast horizons for different customer-SKU accounts varied significantly and poorly matched the lead times required by Operations. Likewise, missing forecasts were filled by Operations in a process that was not interactive. The new forecasting tool used simple statistical updating models to create an initial set of forecasts that Sales was then allowed to update as they saw fit. However the demand planning process was still largely based on Sales' inputs and assumptions and other functions did not review or adjust the forecasts.

Although over 80% of raw materials (by weight) are procured from nearby vendors, products requiring proprietary ingredients from Mentrix affiliates in Europe or America comprise just under 70% of revenue. Proprietary ingredients' long lead times (up to 3 months) makes their availability unpredictable, further complicating raw material planning. These frequent raw material challenges and concerns about production capacity constraints created a need for more regular, reliable and organized supply planning.

Finally, new product introductions further complicated demand and supply planning due to the lack of historical sales to assess the level of resources required. Mentrix expected that S&OP could mitigate this problem through regular structured communication between participants.

4.4 Pilot Site's Challenging Environment

In the Food Ingredients industry, customers are often food manufacturers with tight production schedules and prompt delivery expectations. Timely order fulfillment is difficult because of unpredictable raw material lead times due to dependence on naturally fluctuating supplies of agricultural commodities. Furthermore, high inventories of raw material are necessary due to unpredictable new product demand while their perishability implies frequent discards.

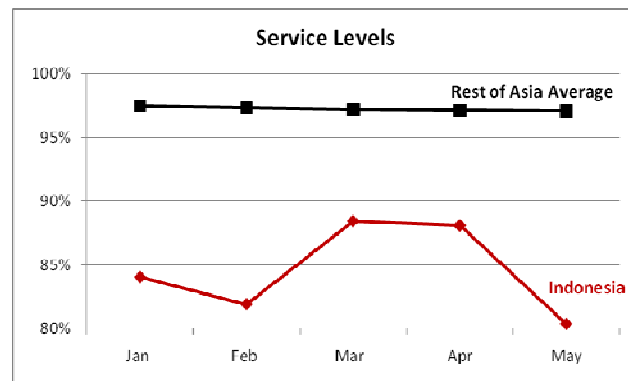


Figure 1: Service Levels for Indonesia and Average of all other Asian sites (Jan-May 2010)

In Indonesia specifically, performance consistently lagged behind other Asian sites (Figure 1), suffering significantly in the peak season of Q1 2010. Problems were further aggravated by exceptional sales growth (averaging 7.5% during 2005-2008) and constraints in labour, time and other resources. In addition, compliance with trade and customs regulations in different country markets complicated performance to plans.

Moreover, tighter market conditions and intense regional competition resulted in customers becoming increasingly demanding, frequently requesting for early delivery. This phenomenon disrupted production schedules and dampened Sales' confidence in Operations' ability to fill orders promptly. Furthermore, some customers further burdened Mentrix's capacity by placing orders and then refusing receipt until needed, effectively treating Mentrix's storage facilities as their free warehouse. This customer postponement behavior increased tension between Sales and Operations, and could not be resolved at the site-level due to the matrixed organization structure.

4.5 Project Description

The Head of Operations Asia, one of the key drivers behind the project, was familiar with S&OP's value proposition from his previous experience of guiding an S&OP implementation at a medical device company, and later as a management consultant. At Mentrix Indonesia, he noticed how the rift between Sales and Operations caused performance issues similar to other pre-S&OP environments – subsequently, internal interviews revealed opportunities for S&OP to improve interdepartmental communication and understanding. Mentrix Indonesia itself made a suitable pilot site due to its simple production processes, large room for improvement and manageable scale. In 2009, the Global Head of Operations approved the S&OP project in Indonesia since it involved little funding and financial risk.

In May 2010, the S&OP project began with an Executive Briefing in Jakarta to convince participants of the potential benefits so as to attain their genuine interest in and commitment to S&OP. The participants responded positively, enthusiastically voicing their expectations and concerns about the process (which were addressed promptly). The following S&OP team structure was established:

Role	Owner	Responsibilities
Overall Process Owners	<ul style="list-style-type: none"> • Head Sales ASEAN • Head Operations Asia • Head Technical Asia 	<ul style="list-style-type: none"> • Approve demand and supply plans • Make joint decisions to resolve cross-functional gaps
Overall Process Coordinator	<ul style="list-style-type: none"> • Supply Chain Manager ID¹ 	<ul style="list-style-type: none"> • Ensure discipline in S&OP conduct • Ensure action plans are executed accordingly
S&OP Meeting Chair	<ul style="list-style-type: none"> • Head Sales ASEAN 	<ul style="list-style-type: none"> • Leads the S&OP meeting
Demand Review Owners	<ul style="list-style-type: none"> • Sales Manager ID • Technical Manager ID 	<ul style="list-style-type: none"> • Produces demand plan in the standard format according to published timelines
Supply Review Owner	<ul style="list-style-type: none"> • Operations Director ID 	<ul style="list-style-type: none"> • Produces supply plan in the standard format according to published timelines

Figure 2: Roles and responsibilities for S&OP pilot in Mentrix Indonesia (ID)

The design team, consisting of a project manager (PM) and supply chain analyst (SCA), created a dashboard application in a Microsoft Access environment, combining data from Sales' forecasting tool, Operations' materials planning system and Finance's monthly reports to generate comprehensive reports on raw material impact, fill rates, the demand plan (see Figure 3 below), and capacity constraints.

¹ The current supply chain manager resigned for unrelated reasons before the first Executive Meeting; this role was played by the SCA in the interim.

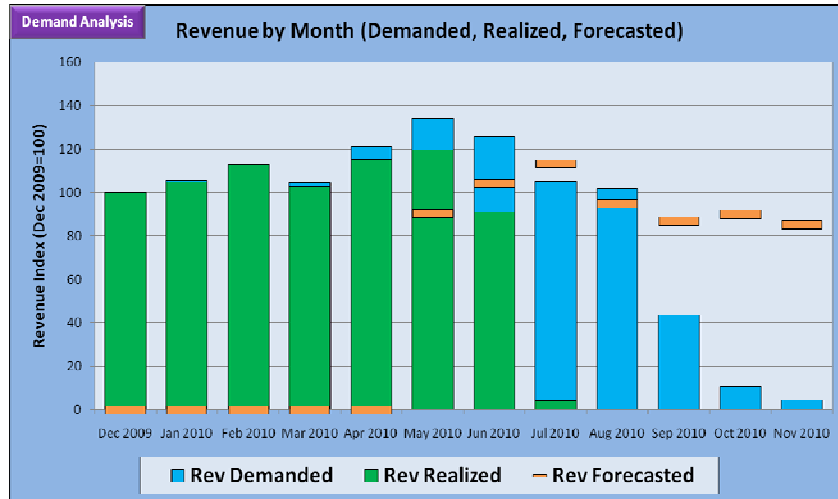


Figure 3: The S&OP dashboard (Demand Plan view)

The proposed monthly S&OP cycle comprised four main steps:

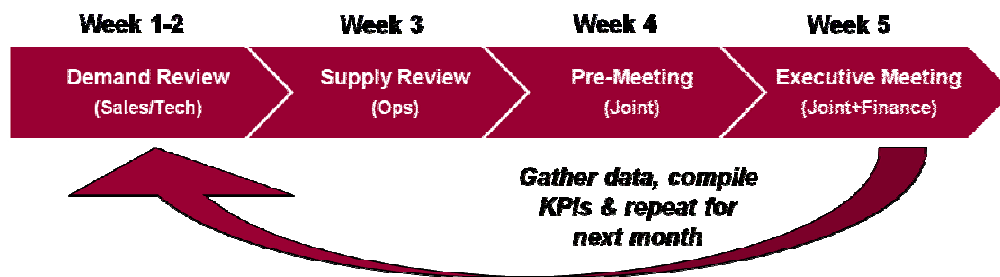


Figure 4: Simplified process structure for S&OP pilot in Mentrix Indonesia

For the Demand Review, Sales used the new forecasting tool to generate six-month demand forecasts. Although D&A was to participate in the Demand Review, D&A's OMS had yet to be interfaced with Sales' forecasting tool. Hence, the demand plan did not consider products under development.

Next, in the Supply Review, the forecasts were fed into Operations' material planning system to generate a six-week materials requirement plan. The six months' of forecast data was used when identifying capacity constraints and assessing the impact of raw material constraints on fulfillment.

The Pre-Meeting was a series of unstructured, informal cross-functional communications via email due to the limited opportunities for the participants to meet physically, especially for those based in Singapore. The main objective was to set the Executive Meeting agenda.

During the Executive Meeting, participants (including those from HR, Finance and Procurement) reviewed previous action items and KPIs, and highlighted problematic raw material and capacity constraints using the S&OP dashboard. The agenda overwhelmingly addressed operational issues as these were the main source of service failures.

The data for key KPIs originated from disparate sources and were unavailable at the start of the month, so data was gathered throughout the cycle. Hence, the full set of KPIs was ready only a few days before the Executive Meeting, so most KPIs reviewed throughout the cycle were for the previous month.

At the point of writing, Mentrix Indonesia has undergone four cycles of S&OP (June 28, July 27, September 6 and October 4, 2010). Incremental changes were made between cycles, according to what participants felt was needed to improve process effectiveness and resolve the site's specific issues. The process shows signs of stabilization – in the latest cycle, the newly appointed Supply Chain Manager took over the role of overall process coordinator. This structural change allowed the S&OP design team to move smoothly on to planning for ASEAN S&OP.

In the next section, we analyze the S&OP implementation by comparing it with the factors and frameworks from the literature review in order to derive new hypotheses regarding the content and process of cross-functional coordination.

5. Analysis

In this section we compare Mentrix Indonesia's S&OP implementation with documented standards for S&OP process structure, reported benefits, key success factors, and implementation dynamics. In many instances this comparison provides confirmation of established theory but it also generates

distinct observations that enable us to formulate five novel hypotheses regarding the structure, content and process of cross-functional coordination.

5.1 Comparison with Classic Process Structure

Figure 5 shows the typical steps in an S&OP process as well as the salient aspects of the Jakarta implementation at Mentrix, which we describe in more detail below.



Figure 5: Variances with classic S&OP process structure

The *data gathering* phase in the Jakarta S&OP involved updating monthly KPIs just in time for the Executive Meeting. Mentrix expected that, by further speeding up the data gathering process, it would be able to highlight KPI issues as well as address their causes and decide on remedial actions in the executive meeting.

Demand planning followed a clear process and the new forecasting tool and reviews of forecast accuracy and service failures had increased Sales' forecast accountability. Mentrix used a six-month forecast horizon (shorter than the typical 12-18 months) because most raw materials and capacity expansions could be procured within this time horizon. In future enhancements for demand planning Mentrix intended to define meaningful product groupings in order to benefit from forecast aggregation and incorporate data on "near wins" (deals that the Sales group was close to winning) to reduce the service level vulnerability for new products. Financial conversion and executive authorization could also be added in future S&OP cycles if additional involvement from Finance and Commercial could be secured.

In *supply planning*, Mentrrix planners used demand forecasts to plan raw material orders six weeks ahead – this process revealed potential savings from using more reliable suppliers and more timely submission of customs documentation for import and export. Hence, Procurement joined S&OP from the second cycle onwards, introducing a hitherto uncommon type of cooperation. The full six-month forecast was used to aid capacity planning – during the Executive Meeting, Operations reported on the addition of labour and machinery to alleviate production bottlenecks.

In the first four S&OP cycles, it was decided not to use a *Pre-Meeting* in order to keep the overall process manageable. Combined with staff turnover issues that led to the lack of an S&OP coordinator with cross-functional legitimacy, this meant that there was no natural mechanism to achieve interdepartmental consensus or ensure that all participants performed their assigned duties prior to the executive meeting. Hence, the *Executive Meeting* agenda featured many operational issues (e.g. capacity plans, customs issues, raw material constraints) and participants spent a significant amount of time reconciling different points of view (e.g. should D&A approve alternative ingredients or should Procurement secure alternate suppliers?). In their feedback on the initial process, participants expressed some dissatisfaction with the highly operational nature of the agenda of the Executive Meeting, not because the issues were not important but because it kept them from addressing issues with more cross-functional relevance, such as joint risk-taking for profit maximization.

5.2 Comparison with Reported Benefits

Customer service in Jakarta improved during S&OP implementation due to better KPI tracking and operational improvements independent from but parallel to S&OP (service levels increased to 90% in June and over 95% in July, August and September).

It was not yet possible to observe if there have been reduced discards since Jakarta does not discard expired inventory until the end of each calendar year. However, inventory levels, which had

risen 130% from February to July, saw a gradual decline of 9% from July till October, coinciding with the introduction of S&OP.

Forecast accuracy improved Mentrix Indonesia – the measure for forecast accuracy increased from 30-35% to around 50% over the first two months of S&OP implementation. Review of forecast accuracy KPIs, more rigorous forecasting procedures and better interdepartmental communication under S&OP helped Sales generate better forecasts after realizing that accurate forecasts can increase service levels without increasing inventory. Further improvement could be expected when the forecasting process is enhanced with the use of product groups and customer involvement.

The creation of a regular forum for cross-functional communication, often impeded by interdepartmental barriers in Mentrix's highly-matrixed structure, also led to important *soft benefits*. In particular, S&OP allowed D&A and Operations to jointly identify possible raw material bottlenecks for new wins, engendering mutual trust. Participants also reported less miscommunication and finger-pointing in everyday interactions.

Another interesting benefit that arose, not previously described in the literature, was the following. Several participants indicated that when news of improved service levels and operational improvements were communicated in the S&OP Executive Meetings, account managers in Sales were reassured in Operations' delivery capability and gained confidence in dealing with customers for a variety of matters. Also, when D&A was able to solve a problem with import-restricted raw materials by approving the relocation of certain production steps, Operations' confidence in liaison with customs officials increased. These observations show a novel mechanism by which cross-functional coordination generates benefits, leading to our first hypothesis:

H1: S&OP induced knowledge of other functions' capabilities leads to greater confidence in dealing with external partners.

5.3 Comparison with Key Success Factors

The Jakarta S&OP process enjoyed *endorsement from high-level executives* from all three main departments (Sales, Operations and D&A) – they were present at all meetings (or participated via teleconference), and gave positive feedback on all aspects of S&OP. Other participants were thus more accepting of S&OP and willing to offer constructive suggestions (e.g. managers from Sales and D&A expressed interest in participating in agenda-setting). Further, although the management of S&OP from Singapore led some in Jakarta to view it as externally “imposed”, the prominent senior stakeholder support in the S&OP organization structure helped to ensure engagement and overcome other teething challenges.

There was *departmental buy-in and participation* – as mid-level managers recognized the importance of S&OP as a structured, regular forum for inter-departmental communication to align business objectives, improve mutual accountability and take shared-risk decisions, they demonstrated willingness to shape it to better address their needs. Participants’ contributions (including those of secondary functions, i.e. Procurement, Finance, HR) improved solutions’ quality and amenability, and their withholding of judgment of the process gave it time to produce results.

Participant feedback, sourced after the Executive Briefing and Executive Meetings, led to new elements in the second planning cycle, such as KPI review, demand plan validation and the inclusion of Procurement. D&A and Sales also expressed a desire for more broadly relevant issues to be on the agenda to reduce the disproportionate focus on operational issues. However, mostly due to a lack of resources, this reshaping of the agenda had not yet taken place and there was an open question about how long one can wait to act upon specific feedback before participants start to disengage.

IT support was largely absent from Jakarta’s S&OP – the IT department would have had a lower priority for S&OP since Mentrix was preparing for a business-wide SAP deployment. Fortunately, the IT skills of the S&OP design team were sufficient to incorporate the various

departments' data (which they were willing to share freely) into an intuitive S&OP dashboard application, which was received warmly when presented during the Executive Meeting of the second cycle. Monthly KPIs are external of this dashboard, and require a manageable degree of manual data entry. Although it is a challenge for the Jakarta team to drive both S&OP and SAP implementation, the S&OP design team plans to incorporating the dashboard's functionality into SAP, thereby automating and institutionalizing data processes and reports needed to run S&OP efficiently in the future.

Product innovation was involved from the outset. As expected, it was hoped that D&A would start influencing the demand plan through the addition of "near wins" information into the dashboard. In addition, as operational difficulties were raised in S&OP, it became clear that D&A could investigate the feasibility of reformulating products with different ingredients or authorize modifications to manufacturing procedures to enable solutions. While not unheard of, the inclusion of this type of planning in an S&OP process leads to the following hypothesis about the benefits of including product designers in S&OP:

H2: Engaging product designers in S&OP can lead to better supply chain performance if they can generate and approve alternative solutions to supply constraints.

There were no plans yet for *suppliers' or customers' involvement* in the Jakarta S&OP – interdepartmental communication and collaboration was not yet mature enough for external participation, so supplier/raw material issues were being tackled through reformulations and sourcing for alternate suppliers. However, since Mentrix's affiliates often act as each other's suppliers and customers, an ASEAN-wide S&OP should deliver some of the benefits typical of supply chain partner involvement. Such an expansion of the S&OP process would complicate it and preclude more gradual learning but the product variety and rapid innovation in the food ingredients industry meant S&OP required scale and integration for noticeable results.

5.4 Comparison with Dynamic Models

In a final comparison, we evaluate Mentrix' S&OP process in Jakarta using two S&OP maturity frameworks and a system dynamics framework from the existing literature.

On the three criteria of *Lapide's (2005) "Four-Stage S&OP Process Maturity Model"* – we assess Mentrix's process to have reached a "Rudimentary" level (see figure 6).

Criterion	Mentrix's Maturity Level			
	<i>Marginal</i>	Rudimentary	<i>Classic</i>	<i>Ideal</i>
Meetings	Executive Meetings are formal, routine and regularly attended, but there is no proper Pre-Meeting. Participants have yet to show willingness to attend more than one S&OP meeting a month.			
Processes	<i>Marginal</i>	Rudimentary	<i>Classic</i>	<i>Ideal</i>
	Operations formulates the supply plan separately from but based on the demand plan.			
Technology	<i>Marginal</i>	Rudimentary	<i>Classic</i>	<i>Ideal</i>
	The demand and supply plans are developed separately but are interfaced through the dashboard. Conclusions from dashboard analysis are shared and ad hoc solutions undertaken, but the demand plan is not revised.			

Figure 6: Mentrix S&OP maturity in Lapide (2005)

Grimson and Pyke's (2007) "S&OP Integration Framework" provides a more distinct assessment.

Mentrix's S&OP can be classified as "Advanced" in Organization and "Standard" or below on other dimensions (see Figure 7).

Criterion	Mentrix's Maturity Level				
	<i>No S&OP</i>	<i>Reactive</i>	Standard	<i>Advanced</i>	<i>Proactive</i>
Meetings & Collaboration	Although there are no pre-meetings, there is top- and mid-level participation in regular Executive Meetings where issues pertinent to Sales and Operations are discussed and conflicts resolved.				
Organization	<i>No S&OP</i>	<i>Reactive</i>	<i>Standard</i>	Advanced	<i>Proactive</i>
	A conscious effort was made to secure executive support, participants have formal roles and responsibilities and a coordinator was designated to drive the process.				
Measurements	<i>No S&OP</i>	<i>Reactive</i>	Standard	<i>Advanced</i>	<i>Proactive</i>
	Regular updating and reviewing of KPIs, in particular service levels and forecast accuracy, increasing forecast accountability and reliability. New product introduction and S&OP effectiveness are not yet tracked.				
Information Technology	<i>No S&OP</i>	<i>Reactive</i>	Standard	<i>Advanced</i>	<i>Proactive</i>
	Information from departmental planning tools is centralized in an automated way through the S&OP dashboard. Dashboard access is still limited, and OMS data is not yet incorporated.				
S&OP Plan Integration	<i>No S&OP</i>	Reactive	<i>Standard</i>	<i>Advanced</i>	<i>Proactive</i>
	The demand plan drives the supply plan in a one-way relationship. Capacity utilization and raw material inventory information does not inform the demand plan.				

Figure 7: Mentrix S&OP maturity in Grimson and Pyke (2007)

We thus note that Mentrix quickly established a high level of maturity in the “Organization” dimension of S&OP and allowed other dimensions to develop later. Together with the analysis of the challenging context and the reported results this observation leads to a third hypothesis:

H3: An advanced organizational structure is an important success factor for S&OP in environments that are not conducive to cross-functional coordination.

So, although Mentrix’s process was relatively unsophisticated – the site’s existing problems and rudimentary levels of data, process and technology components led to an operational emphasis initially – the advanced organizational structure maintained the engagement.

A final dynamic model we assess is Oliva and Watson’s (2007), described earlier. We find that their *components of cross-functional planning alignment* were largely present in Mentrix’s S&OP. The functions had diverging objectives (Operations – service levels, Sales – revenue, D&A – new wins) which constituted misaligned incentives, but because these functions perceived important benefits to S&OP participation, they attended meetings regularly and provided relevant

inputs. Informational quality was ensured through the availability of data from the material planning system, the forecasting tool and Finance's reports. Procedural quality was exemplified through the use of all relevant data concerning problematic finished goods / raw materials and the contribution of function-specific insights yielding "natural" solutions. Alignment quality was achieved through the use of clear action plans and follow-ups during each executive meeting. Over time, participants, perceiving S&OP to be yielding positive results, increased their engagement and thus the likelihood and magnitude of subsequent process benefits. In one potential enhancement of Oliva and Watson's (2007) model, we noted a specific component of procedural quality in the S&OP process that drove further engagement. It is captured in our fourth hypothesis:

H4: "Fairness" in decisions increases participants' engagement in S&OP.

For example, Operations agreed to increase inventory levels in order to offer demanding customers in a nascent market shorter lead times, and Sales agreed to tighten the policies by which customers were allowed to postpone delivery of produced orders. These were signs of a reciprocating culture whereby each department or function achieves its primary objectives while fairly taking turns to compromise on secondary ones, creating positive results and maintaining a level of engagement needed to further fuel the process.

A final observation regards the need for maintained top management support for S&OP. The participants in S&OP at Mentrix were conscious that it required extra effort, and lacked clear positive feedback since any incidental increases in key KPIs could not be definitively credited to S&OP. At the time of writing, senior executives acknowledged that the process was at risk of "losing momentum" and were planning steps to improve the process by scaling it up to a regional-level S&OP process. Senior executives at Mentrix felt the need to continually manage the process to prevent it from stagnating or regressing. Mentrix's experience appears to imply that Oliva & Watson's (2007) reinforcing loop of process quality and participant engagement will only activate

after a threshold level of process quality is reached through maintained top management effort.

These observations lead to our final hypothesis:

H5: S&OP requires maintained top management effort until it reaches a threshold, self-sustaining level of process quality.

6. Discussion and Conclusion

6.1 Implications for theory

In this case study, comparing our observations of Mentrrix Indonesia’s S&OP with documented process standards, key success factors, reported benefits and dynamic models for S&OP enabled us to highlight observed variances and derive a set of five novel hypotheses regarding the content, structure and process of cross-functional coordination (see Figure 8).

Cross-functional coordination	Hypothesis
Content	S&OP induced knowledge of other functions’ capabilities leads to greater confidence in dealing with external partners. (H1)
Content	Engaging product designers in S&OP can lead to better supply chain performance if they generate and approve alternative solutions to supply constraints. (H2)
Structure	An advanced organizational structure is an important success factor for S&OP in environments that are not conducive to cross-functional coordination. (H3)
Process	“Fairness” in decisions increases participants’ engagement in S&OP. (H4)
Process	S&OP requires maintained top management effort until it reaches a threshold, self-sustaining level of process quality. (H5)

Figure 8: Hypotheses regarding cross-functional coordination

To discuss these hypotheses it is useful to recall the context first. The described S&OP implementation was Mentrrix’s first formal introduction of a regular, structured, cross-functional, intermediate-term planning process globally. The need for such a process was felt strongly because

the company's organization structure created joint responsibility for functional goals only at the very highest levels of the organization, strongly limiting the traditional drivers for cross-functional coordination at lower levels. The pilot site in Jakarta was chosen because performance had been deteriorating and the relationships between Sales, Operations and Product Development had been put to test repeatedly. The project was thus seen not only as an opportunity to introduce modern cross-functional planning methods to the company but also to accelerate the operational and cultural changes required at Mentrix Indonesia. Staff turnover was another challenge for the project – there was no suitable candidate on site to coordinate the S&OP implementation process, resources were strained due to the planned region-wide SAP deployment, and the scope of potential benefits was limited due to the implementation in a single site that was highly dependent on other sites in the regional supply chain.

To manage these risks and opportunities, the S&OP design team opted for an advanced organization structure together with a simple process and flexible objectives. The organization structure was rated advanced (Grimson and Pyke, 2007) because it reserved highly visible and active roles for top executives from the Asia region and clearly defined participant roles and responsibilities. Process-wise, the S&OP implementation was relatively simple, relying mostly on existing processes for the demand and supply planning phases and replacing the typical S&OP pre-meetings with a series of communications, leaving many issues to be resolved in highly operational Executive Meetings. The process thus is considered “Rudimentary” under Lapide's (2005) S&OP framework, and is largely “Standard” under that of Grimson and Pyke's (2007). Investment in S&OP tools remained rudimentary as well and “plan integration”, or the systematic pursuit of profit maximization opportunities, was not yet developed.

The fact that Mentrix successfully implemented S&OP and achieved positive results despite the many challenges led to our hypothesis about the importance of organizational structure in cross-functional coordination (H3). It was difficult to imagine similarly positive outcomes without the advanced organization structure Mentrix had put in place for its S&OP process.

The case also highlighted a novel component in the content of cross-functional coordination (H1), with interesting implications. Cross-functional coordination is usually seen as a form of information processing to support optimal decision-making, and not as a process that enhances confidence in negotiating with external partners. This novel hypothesis (H1) can lead to interesting models for firm strategy and structure in which cross-functional coordination not only leads to enhanced value *creation* but also to enhanced value *capture* in negotiations with external partners.

The case also illustrated that product designers can increase supply chain performance by creating flexibility in component use. This type of coordination content may not be novel but the case leads to the hypothesis (H2) that this type of supply planning can be a useful as a regular element in intermediate-term planning processes.

Finally, the case also highlights the importance of the process of S&OP implementation. Our observations confirm that participant engagement is critical for the success of cross-functional coordination and our final two hypotheses add to the understanding of how this engagement can be maintained. We note that it is important to achieve a level of “fairness”, a balance of give-and-take between functions, in the decision-making process under S&OP (H4). Several S&OP participants reflected that such balance had been achieved in decision-making and that this was important. Our hypothesis can be seen as contributing to a growing body of evidence that operations management cannot be isolated from behavioral aspects of human interaction (Loch and Wu, 2008), and that executives need to consider fairness in order to achieve successful cross-functional coordination. Hypothesis H5, finally, contributes to the dynamic view of S&OP reviewed in section 2.5. Because cross-functional coordination is not typically driven by formal organizational reporting lines, such processes are more sensitive to slow-downs or reversals; executives’ management and monitoring efforts are needed to drive the process forward until the process’ quality (and thus participant commitment and interest) is sufficient to make the process self-sustaining (H5).

6.2 Practical Implications

The analysis of Mentrix's experience offers some practical implications. In an environment that is not conducive to cross-functional coordination, it may be necessary for senior stakeholders to take on visible and active S&OP roles from the very beginning. Such advanced organization structure not only impresses on other participants that S&OP is important and permanent, but can make up for the implementation's natural limitations. The "soft benefits" of S&OP can be powerful – by learning about other functions' capabilities, participants can gain greater confidence in dealing with external partners. Also, in innovation-driven environments like the food ingredients industry, product designers can have surprisingly extensive roles in S&OP – they can assist in matching supply with demand regularly, throughout a product's life cycle, when supply constraints emerge. Finally, in order to keep participants actively engaged in S&OP, executives may not only need to manage the quality of the process but also the fairness and balance of the decision outcomes with respect to the different participating functions.

7. References

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Section 7

Innovation, Entrepreneurship & SMEs

The Relationship between IPO Underpricing and Equity Ownership of Major Shareholder: An Empirical Study of Taiwanese Firms

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Abstract

This study investigates the relationship between IPO under pricing and equity ownership of major shareholders. We test five hypotheses. First, the greater the price of underestimating the extent, the greater the return on investment; Second, the price undervalued the greater the lower the greater the external equity; third, IPOs, the shares dispersed, agency costs significantly greater than zero; fourth, IPOs expected after the operation Performance is not significantly greater than zero; finally, equity dispersed in varying degrees, there were significant differences in performance. Focus on March 1995 to December 2005, the company handling IPO study. Research methods including the use of regression equation, t test and analysis. Research results showed that the price of our underwriters to underestimate the degree of information asymmetry can not explain the theory and (winner's curse), but the major shareholder equity significantly reduce the extent of positive effects. Shares lower after the increase the agency costs, the company operating performance did not significantly greater than zero, and past research IPO operating performance after the discovery of consistent decline. Largest shareholder equity to reduce the extent of more than 10% and less than 10%, there were significant differences in performance.

Key words: major shareholders equity, initial public offering IPO, supervision, and the beginning of remuneration

Introduction

For nearly three decades, there are many that explain why the IPO IPO (initial public offering) would be to underestimate the phenomenon of prices. Different versions have different viewpoints, including the price undervalued the company and the issuer, underwriters and investors relations. Rock (1986) winner curse (winner's curse) rooted in asymmetric information theory, focusing on the price of underestimating the relationship with investors. If the investors with adequate information is divided into two types of inadequate information. When the market is more inefficient, information sufficient to invest more people to use their information advantage, but they think is most worthy of the purchase of shares, and will not buy those who could not produce the value of the future but the underwriters of the stock price is very low; information insufficient investment in people, because of their knowledge together with the application of competition arising from the winner's curse phenomenon, with the result that those who obtain sufficient information investors do not want to buy shares, or stock prices too high, therefore, the purchase of more losses more. Assuming that the lack of information investors is more likely to underestimate the purchase price of the shares, then the greater the underestimation of the extent, the greater the excess demand. Although the number of such assumptions has some authenticity, but further analysis, you will find that the greater the underestimation of the extent, the greater the excess demand is not a healthy relationship, because the lack of information investors can understand the other investors to purchase the situation, to adjust their needs. If they know that other investors do not want to buy, they will stop their purchase of lower demand, even underestimated the extent of great. We feel that no matter which type of investors, investment in initial public offerings of stock care about is that it is a low-risk high-reward investment, since the first day of trading day, stock prices generally rose mostly show. Therefore, this study attempted to look into the price of underestimating the rate of return and investment relations in order to underestimate the degree of underwriting price variables, return on investment as a

result of variables, whether there is a significant test both positive linear relationship and it is expected the two are closely, that is to underestimate the extent of the price the greater the greater the return on investment.

Investigate the price undervalued the company ownership structure and distribution, including Booth and Chua (1996) stake in scattered [Note1] hypothesis, the issuing company deliberately underestimated the cost in order to generate the excess demand, it can have a large number of small shareholders. Therefore, the greater the degree of price underestimated, resulting in greater equity dispersed. Because when a company's decision to publicly traded, whether taken before the original shareholders of unlisted (otherwise known as business owners) to release stock or increase the release of new shares, business owners will inevitably diluted share, holding the rate of decline (Liu-Wei Qi, 2005). Stake in the outcome of decentralization will lead to the problem of inadequate supervision, which is regarded as a kind of control over the interests of the internal people want most of the results. Brennan and Franks (1997) proposed oversight considerations hypothesis that insiders do not want IPO shares released from over-concentration in the hands of a few, especially the active investors (active investors) or institutional investors (institutional shareholders), because these investments people can afford to oversee the company. So when the company to open the way for IPO application, it will be underestimated by the price in order to cause the excess demand, in the event of excess demand, insiders do not have to worry about the release of new shares and no one to buy, and can take the initiative to rule out the huge amount of purchase orders, so that scattered in small stake in the hands of investors, small investors are generally free-riders (free riders) there is no oversight capabilities, it can avoid exposure to IPO after the supervision or risk removal from office. This hypothesis revealed two variables, price and external equity reduced underestimated, and a positive relationship between the two, that is, the greater the underestimation of the price, the greater the lower external equity. In order to verify this relationship, Field and Sheehan (2004) study of 952 listed companies in the United States the first sample showed underwriting prices underestimate the relationship between ownership structure and quite weak, and the major shareholder after the listing of the shares was no significant impact. Perhaps this is because the United States more hierarchical structure (dual-class) shares, and its design is to let the content of external persons who hold high-low control over cash flow rights shares, it underestimated the extent of the price than the single-level structure (single-class) for Small (Smark and Zutter; 2003). However, there is no multi-layered structure of China's stocks; according to China's situation should be similar evidence.

Li chuan an and Liu Wei Qi(2005) study indicated that, IPOs have a stake in the effectiveness of decentralization. Enterprises after the listing of shares distributed as a result of the outcome, the company managers to hold more than just part of the company's equity, resulting in managers that their efforts will eventually be shared with others, making the incentive for managers of efforts to decline, with the result that they may not in pursuit of the whole the best interests of shareholders for the ultimate goal. Privileges which have happened is the consumer, business investment and a lack of agency problem (Jensen and Meckling; 1976), resulting in increased agency costs. China's business environment prevailing in relations between the family business or commercial enterprise (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002), by pyramid structure (pyramidal structure) and cross-shareholdings (cross holdings), so that control of cash flow is much larger than the right to more easily lead to inadequate consumption and investment privileges, so in IPOs before the agency costs that already exist in the enterprise. Therefore, this study forecasts after IPOs, equity dispersed, agency costs significantly greater than zero, that is, agency costs still exists.

IPOs continue to be explored after the direction of stock prices is under long-term performance. Loughran and Ritter (1995) found that under the IPOs after a long-term stock price performance, and non-publicly traded companies, compared to the annual remuneration of about 5.2 percent less in the market after five years. Anlin Chen et al., (2004) study of 1991-1998 in China IPOs because China or restrictions, and they confirmed that if the market price as a "real" price, investors will lead to excessive short-term reaction is caused by the beginning of abnormal return, but under long-term response to the shortage of produce, which, under long-term answer to why the share price of IPOs after the poor performance issues. Another direction is the operating performance in the past literature as found in the operating performance of the phenomenon of recession. In fact, this study testing agency costs, so that mentioned above can go in both directions to explore. The first one direction, we can investigate whether the

pricing of the investment agency costs, that is, whether the requirements of return on agency costs by adding premium to the stock prices fell 【Note 2】 ; second direction, we can investigate the existence of agency costs, the operating performance of a proxy for ROE and ROA is significantly greater than zero. According to Jensen and Meckling (1976) agency theory, agency costs that managers and investment between the interests of inconsistencies, therefore, expected operating performance is not significantly greater than zero. We feel that, assuming the stock market is efficient, stock prices are based on investor expectations of future earnings, rather than determined by the flow of current transactions, stock prices, one of the reasons for the decline of the surplus for the future than expected. So after IPOs generally found that the phenomenon of business performance and long-term recession IPOs under the stock price after the poor performance of the problem is echoed each other, at the same time in view of China's enterprises are high-control over the low cash flow right to the risk of moral hazard. We set the direction of the research performance, this is because previous studies only explored in a separate ownership structure or business performance, not only at the same time this study was to explore these two issues, but also to further investigate the extent of dispersion of different options, whether there are significant performance differences, We expect that there were significant differences in performance, the evidence just to fill loopholes in the previous knowledge (knowledge gap).

In short, empirical investigation of this study IPOs Underpricing largest shareholder equity and external relations will carry out test five hypotheses. First, the greater the price of underestimating the extent, the greater the return on investment; Second, the price undervalued the greater the lower the greater the external equity; three, IPOs, the shares dispersed, agency costs significantly greater than zero; four, IPOs expected after the operation Performance is not significantly greater than zero; five, equity dispersed in varying degrees, there were significant differences in performance.

This study is divided into five chapters. Recalling chapter underwriters' prices at home and abroad underestimate the empirical findings and the interpretation of this phenomenon. Chapter III of research methods, including variable definitions, sample selection, hypothesis development and testing methods. Chapter IV hypothesis test results. Finally, for the conclusions and discussion.

Literature review

The empirical results show that the past literature, many companies apply for IPOs, there will be underestimate the phenomenon of prices. Rock (1986) winner's curse hypothesis, that the investor information asymmetry exists between the situation, and its investors into the market investors adequate information (informed investors) and the lack of information investors (uninformed investors), investors sufficient information will make use of all of its information, to determine the true value of the stock, to decide whether to purchase shares; the lack of information investors are just the opposite. When the listing of new shares worth investing the time, informed investors will warm requisitioning, causing the relative knowledge of investors the opportunity to purchase reduced; the other hand, when the investment is not worth the listing of new shares, the informed investors will not purchase, However, investors will continue to unknowingly purchase, so the value of the future but could not produce a very low stock price underwriting or overvalued stock prices mostly unwitting investors from the acquisition, resulting in more losses in the purchase of more. Assuming that the lack of information investors are more likely to underestimate the purchase price of the shares, then the price underestimated the lack of information is designed to attract investors to purchase, the price undervalued the greater will be the greater the excess demand, so there appears to be market price undervalued phenomenon (Beatty and Ritter, 1986). This hypothesis can not be the most convincing hypothesis is that extreme on the market there are only two types of investors, and quoted in the story of the contents of the complex. Even if the information is not sufficient investment in people can also understand the other investors to buy the situation, it will become investors sufficient information to know what new shares listed on it is worthwhile to buy, those who are not worth buying. C. F. Hong Zheng Wen, Wu Qing Shan, and Chen An Lin

(2003), that is the issue of underwriting the price undervalued the company deliberately set below the market price underwriters agree that the outcome of the price. Many countries there are also listed on the opening price being paid a phenomenon, such as Levis (1990) to 1985-1988 years 123 London stock market shares for the first time listed underwriters samples and found that the market adjusted 8.6 percent for the beginning of remuneration. Judging from the cross-country studies, Loughran, Ritter, and Rydqvist (1994) confirmed that its study of 25 countries are still underestimate the phenomenon of underwriters prices, and prices in developing countries than to underestimate the extent of developed countries is even more serious. Wu and Xue Yue -Yu (2004) in November 1989 to April 2000 period, in Taiwan for an initial public offering of stock, and then allowed to concentrate on the Taiwan Stock Exchange trading of 227 companies, conducted after the public offering of stock trading price performance and found that the sub-sub-samples of different placement system beginning abnormal return on average significantly higher than zero. If the holders of new shares over 280 business days, long-term abnormal returns by deflating the beginning of abnormal returns are negative after a further year or listed in other industries to compare, but also the prevalence of a similar phenomenon, the evidence means abnormal return exists only in the initial stage. C. F. Hong, Wu and Chen (2002) directly to verify the non-rational investment behavior of the new shares listed on the early and long-term impact of rewards, empirical results show that investors for the new shares listed on the excessive reaction is the beginning of the formation of abnormal returns one of the reasons (Chen An Lin, 1999), in addition to the market for the listing of the initial investment behavior irrational amendment will enable the long-term low remuneration.

The beginning of the interpretation of abnormal returns, most of the early focus on the theory of information asymmetry (Myers and Majluf, 1984), that the managers and the investing public information asymmetry between the problems. Easy to have a manager so-called "internal information" (insider information), which is not easy to outside people informed about the true value of the company's important information. Asymmetric information, the investing public, as the company issuing shares as a negative signal, so the price of shares will be reduced and called for a higher stock price return, which is the cost of adverse selection. Therefore, when the initial public offering of stock, the manager in order to attract investors to buy shares and the compensation of its commitment to the risk of asymmetric information, often underestimate the underwriting price on its own to absorb the cost of adverse selection. If Chen Xuan Ji, Ye Xiao jun, and Chen Zuo Chao (2003) study, underwriters set the price lower than the market price to attract investors to subscribe. Hu De Zhong and Ma Dai (2004) and so that the IPO discount to non-message to a compensation for investors. In addition to information asymmetry, the Jiang Shuo Zhen, Liu Wei qi and Zhang Yu-shan (2005) based on "equity allocation of corporate governance mechanism and the value of the company is a very critical impact" on the hypothesis that the existence of the so-called best if the company ownership structure, the initial public listed on the introduction of new shareholders, is indeed the best adjustment for the ownership structure and improve the corporate governance mechanism, the best time. Basically, IPO was considered decision on the best opportunity to shareholding structure. If business owners think that a particular ownership structure of the company's most beneficial when in the IPO to the shareholding structure for the goal to determine the best price and stock underwriting the way to achieve the maximization of corporate value. Zingales (1995a) that the transfer of control over the decision for a company listed on the important factors behind. Mikkelson et al. (1997) study of U.S. companies IPO, after the discovery in the IPO, with control of the business owners only 44%, Pagano et al. (1998) on the IPO Italian study found that, IPO decreased about 30 percent, but after about three years, declined by only 5%. Thus, when a publicly traded company's decision, whether to take business owners to release stocks or to increase the release of new shares, business owners will inevitably diluted share, holding the rate of decline (Liu Wei Qi 2005).

Brennan and Franks (1997) that the business owners, as have the corporate control is a very valuable when handling initial public offering, the underwriters will be taken so that the price undervalued equity decentralized strategy. They studied the British IPO, underwriters showed prices caused by over-subscribed underestimated (oversubscription), enables companies to select a single rule out the huge amount of micro-purchase requisitions, and thus able to master the new investors shareholding ratio to below the threshold below However, its only 43 samples to verify the company. Follow-up there Smark and Zutter (2003) to 2622 U.S. IPO as a sample, it will be a

multi-level structure (dual-class) to distinguish the company, these companies issued in the IPO shares with limited voting rights, the results indicate the company underestimated the extent of underwriting the price has been lower than a company the right to an **【Note 3】** that in the future there will be no new challenges to the control of major shareholders, the more there will not be underestimating the extent of underwriting the price. Above Britain and the United States initial public offering market, empirical research, consistent underwriting prices have underestimated phenomenon. The United States because of how the hierarchy of the shares issued in IPO shares a multi-level structure, underestimated the extent of underwriting prices lower than other companies.

However, Stoughton and Zechner (1998), Mello and Parsons (1998), Maug (1998), Li Chuan An and Liu Wei Qi (2005) that based on maximizing the value of the company, business owners will want to enhance our corporate governance standards with the company's largest shareholder value, and therefore underestimate the underwriting price to play as a major shareholder monitoring incentives. Ma and Hong (1998) the first to attempt to develop an integrated information asymmetry and the shareholding structure, they can reduce the auction bidding information asymmetry but external equity will increase.

Research Methodology

Definition of variables

Reference Pham, Kalev, and Steen (2003) ways to return to opening the market-weighted index, adjusted rate of return, which is opening the market adjusted compensation (market-adjusted initial return, MAIR) as underwriters to underestimate the extent of the price proxy.

(A) Underestimate the extent of underwriting the price. $MAIR = \frac{P_x - P}{P} - \frac{M_1 - M_0}{M_0}$. P_x : the market

price of new shares, 5 days, the highest price **【Note 4】**, P : the initial public offering price when the underwriters, M_1 : IPO market price of the market the same day, the weighted index, M_0 : Listing (counter) market day weighted stock price index.

(B) to attract the return $CR = \text{Max} \{ 5 \text{ days return} \}$

(C) a major shareholder equity stake equal to the ratio of concentration of more than 10% combined, according to the definition of the Taiwan Stock Exchange, shares in the ratio of 10 percent or more for the large shareholders (blockholders). However, companies listing prospectus disclosed by major shareholders for more than 5% shareholding or shareholding ratio of the top ten persons. In this study, the Taiwan Stock Exchange norms, to more than 10% shareholding for a major shareholder.

(D) IPO before and after the major shareholders to reduce the level of equity (BOWNb-a) equal to the former major shareholders of unlisted equity concentration (BOWNb) by major shareholders after the listing of equity concentration (BOWNa).

(E) Return on assets (ROA) and return on equity (ROE) as a proxy for business performance. Literature in the past to explore an initial public offering (cabinet) changes in operating performance reasons, generally focus on policy changes and financial relations. In this study, agency costs (agency costs) into consideration in order to understand the IPO after the agency costs and operating performance are significantly greater than zero. Agent Cost (AGC) based on Ang, Cole, and Lin (2000) definition, AGC1 equivalent to operating expenses divided by sales and AGC2 sales divided by assets.

(F) Reference Demsetz and Lehn (1985) and Himmelberg, Hubbard and Palia (1999) variable model, according to the Taiwan market at the same time, the choice of six control variables. Company size (Size) with total assets of the first three annual arithmetic average, the share price risk (Risk) on the standard deviation of return, debt ratio (Debratio) arithmetic average of the first three years, research and development costs divided by net operating income (RDratio) before Annual arithmetic average — if not stated the cost of research and development, research

and development costs for 0, virtual variables (RD_dummy) located 1; have set out in R & D costs, RD_dummy located 0, such a deal is necessary to remove samples. The use of competitive auction, bidding auction virtual variables (BID_dummy) for 1, did not use the bidding auction for 0.

Sample selection and data processing

Samples during the consideration of the Taiwan Stock Exchange in March in 84 years the implementation of the auction bidding system, easily give rise to new IPO price fluctuations, it selected 84 years from March 1 to 94 years beyond the December 31 Taiwan Stock Exchange the first stock listed or OTC companies, for a total of 975. Finance and insurance of which 72 and 25 securities industry, to step down came from the listed OTC 37, more than 134 companies together will be removed. In this paper, the study underestimated the price limit underwriting company, when not pre-market price can not be obtained or underwriting ratio = (non-listed before the highest price ÷ IPO underwriting market price) is less than 1, do not underestimate the underwriters said the price of these two conditions for a total of 103 filters. Listed shares one year after the concentration of information is not easy to acquire, Hong Kong Daily News of Taiwan's economic stake in the structure of the database module, equity dispersed only annual data, but the company regularly publishes financial statements, it is not a quarterly basis and will expose the shareholding spread information. In this study limited to one year after listing, the deletion of 194, research and development costs can not be made a number of 109, and then removed, the final effective sample size 435 companies.

Data from the Taiwan Stock Exchange Prospectus and financial statements, MOPS, like Wang Securities Information Network and the Hong Kong Daily News of Taiwan's economy.

Hypothesis development

Field and Sheehan (2004), Brennan and Franks (1997), Stoughton and Zechner (1998), Myers and Majluf (1984) and Rock (1986) and other research established the empirical hypotheses as follows.

Hypothesis I: *underwriting prices underestimate the extent and rate of return to attract non-linear relationship between the regression coefficients. $\beta_1 = 0$.*

To test the degree of underestimation of underwriters price to attract a significant return on whether or not a linear relationship. Based on past literature, the two share points from the diversification strategy, set out to underestimate the phenomenon of underwriting prices. Brennan and Franks (1997) and so that the discount is to allow the post-IPO equity dispersed to avoid the loss of control. If the company business owners hope that after the IPO is still able to maintain control over the prices set underwriters will consider, after the listing of options to minimize the possibility of focus. Therefore, the tendency to take the underwriting discount to attract more investors to subscribe for (over-subscription) (Chao Yao Jun, 2004), selective exclusion of major shareholders of the huge potential purchase. However, Stoughton and Zechner (1998) that the business owners hope that after the listing of equity concentration, the emergence of new major shareholders in order to enhance monitoring, so in order to underwrite the new prices as a major shareholder underestimated compensation (Mello and Parsons, 1998; Maug, 1998) . Li Chuan An and Liu Wei Qi(2005) and other studies have shown that the best strategy for business owners will be held for the release of as much as possible to maintain a minimum standard, the price of underestimating the IPO for the business owners to choose the inevitable price for the business owners underestimate the inducible to make positive investment in people (active investors) decided to provide funds to the company and is willing to effectively supervise the company, so that the incentive to raise the value of the company, the results and Stoughton and Zechner (1998) line of argument.

Hypothesis II: *underwriting prices underestimate the extent of the major shareholder with a stake in reducing the degree of negative relations, multiple regression coefficients. $a_1 < 0$.*

To test the degree of underwriting the price undervalued shares with major shareholders to reduce the extent of whether or not it has a significant positive relationship. Zingales (1995a) that the transfer of control over the decision for a company listed on the important factors behind the (Mikkelson et al., 1997; Pagano et al., 1998). Demsetz and Leha (1985) and Carl and Steiner (1999) pointed out that if companies have a higher risk operating environment, external monitoring an effect more difficult. At this point the value of the company equity managers can only rely on the strength of internal oversight, but in view of "manager risk aversion" hypothesis, managers may not be willing to hold too many options, so the strength of internal oversight is likely to be minimal, not even. In order not to hamper the value of the company, the former major shareholders of unlisted will want to bring the transfer of control to effectively oversee the new majority shareholder, for IPO is an available opportunity. Jiang Shuo Zhen, Liu Wei QI, and Zhang Yu-shan (2005) also stressed that the initial market introduction of new shareholders, is indeed the best adjustment for the ownership structure and improve the corporate governance mechanism, the best time. If business owners think that a particular ownership structure of the company's most beneficial when in the IPO to the shareholding structure for the goal to determine the best price and stock underwriting the way to achieve the maximization of corporate value.

Hypothesis III: *major shareholder equity reduced, the agency costs without significantly greater than zero.*
 $\mu \leq 0$ ◦

To test the major shareholder equity reduced, the agency costs are significantly greater than zero. Li Chuan An and Liu Wei QI (2005) study indicated that, IPO shares have the effect of dispersion. Jensen and Meckling (1976) study found that business after the listing of shares distributed as a result of the outcome, the company managers to hold more than just part of the company's equity, resulting in managers that their efforts will eventually be shared with others, making the incentive for managers of efforts to decrease and its that may not in order to obtain the best interests of all shareholders for the ultimate goal. Incentives and other privileges of consumption and thus increase the burden of enterprises need to increase agency costs. Such as Myers and Majluf (1984) that asymmetric information can cause lack of business investment (underinvestment) problem, so that lower enterprise value. Therefore, information asymmetry in the circumstances, if the lack of appropriate regulatory mechanisms to eliminate the agency problem, which may cause the operating performance after the listing of enterprises with poor results (Li Jian Ran, and Luo Yuan-Ming, 2002).

Hypothesis IV: *lower after major shareholder equity, the company operating performance without significantly greater than zero.* $\mu \leq 0$ ◦

To lower the test after a major shareholder equity, the company operating performance are significantly greater than zero. Post-IPO operating performance whether there are differences? Niu Feng and Zheng Min-Chong (2003) analysis of the use of DuPont financial variables, for OTC, listed before and after the performance as a proxy for the net rate of return, such as eight variables were significant changes, and then regression analysis to explore the changes in operating performance and financial policy changes relations, a total of 13 kinds of regression model. Regression results show that enterprises in the OTC when the annual use of investment and dividend policies on the net return on a significant negative influence, and use its own funds and apply for cash replenishment, etc., the net rate of return on a significant positive influence. OTC companies in 2 years after the use of investment in its after-tax margin with significant negative influence, and use its own funds after-tax margin for a significant positive influence. Integrated their studies, which show that part of being a proxy for a significant impact, while some have a significant negative impact. Li Jian Ran and Luo Yuan-ming (2002) also used return on equity for the business performance indicators and found that after the IPO business performance tends to decline, they summed up enterprises operating performance after the listing of the three reasons for the recession. First of all listed companies in order to beautiful (cabinet), often carried out a surplus of manipulation, such manipulation will be in the rotation after the listing year by year, until five years after the listing will be finished turning. Second, after the listing of shares dispersed enterprises, external equity decentralized free-rider problem easily (free rider) rather than actively oversee the company, managers equity dispersed, managers make efforts to decrease the incentive, which may cause

enterprises operating performance after the listing of recession (Jensen and Meckling, 1976). Finally, there is deliberately selected enterprises listed on the timing (Hu De and Ma Dai, 2004), will drop in profitability prior to IPO, if the performance of enterprises after the listing of a recession, in fact, not a cause, because even if it does not apply for IPO, Performance results of a recession will also. In this study, from the dismantling of financial variables starting to IPO shares lower after the largest shareholder of the company as a sample, to investigate whether there is a significant business performance greater than zero.

Hypothesis V: *largest shareholder equity in varying degrees to reduce operating performance was no significant difference. $\mu_1 = \mu_2$.*

To test the major shareholder equity reduced to varying degrees, whether there are significant performance differences. Zhan Jin-hong and Yang Li Hong (2001) pledge from the equity point of view to explore the shareholder structure of listed companies in China with the operating performance and found that China's widespread holdings by directors and supervisors in order to obtain funds for a pledge, which makes internal shareholders holding Although unchanged in nominal terms, but actually the fact that the transfer has also deepened the enterprise managers and external shareholders agent problem. This hypothesis to a major shareholder equity to reduce the level of greater than 10% and less than 10%, district business performance in two samples test whether there are significant differences.

Test

methods

Statistical testing methods include the simple (complex) regression equation, t test and analysis.

(A) The first hypothesis of a simple regression analysis, since the variables for the underwriters to underestimate the extent of the price (MAIR), according to curry favor with variable rate of return (CR), models are as follows:

$$C R = \beta_0 + \beta_1 M A I R + \varepsilon \quad (B)$$

adopt multiple regression test hypothesis II, regression analysis, aimed at testing underestimated the extent of the price the greater the underwriting, IPO shares lower after the major shareholder of the greater extent, the two variables whether there is a significant positive relationship. Models include variables for the underwriters to underestimate the extent of the price, depending on variables as the major shareholder equity and reduce the degree of control of six variables:

$$BOWN_{b-a} = a_0 + a_1 MAIR + a_2 \ln Size + a_3 Risk + a_4 Debt_{ratio} + a_5 RD_{ratio} + a_6 RD_dummy + a_7 BID_dummy + \varepsilon$$

(C) before and after the screening of IPO shares to reduce the level of major shareholders (BOWNb-a) greater than zero samples, using t test, test hypothesis three, IPO after the agency costs are significantly greater than zero, and then test the hypothesis four, operating performance is significantly large zero.

(D) before and after the IPO shares to reduce the level of major shareholders (BOWNb-a) greater than zero samples to deal with National Cheng Kung University in less than 10 percent and 10 percent two samples, using ANOVA to test whether there are significant inter-group differences.

Empirical results and analysis

Descriptive statistical analysis

Descriptive statistical results are listed in Table 1.. The first column is a study of 26 variables; the second ~ 7 column is number of samples, average, median, minimum, maximum and standard deviation. Underestimate the degree of price discovery underwriters (MAIR) the average of 17.4 percent, the first listing of shares means the

average rate of return 17.4%, and Ibbotson, Sindelar, and Ritter (1988) in 1960-1987 the empirical results, the first time the U.S. market The average stock listed underwriters early days for the 16.3 percent return on each other echoes, but higher than the Levis (1990) to 1985-1988 years 123 London stock market shares for the first time listed underwriters samples, early on the market-adjusted return on average 8.6% ; 50% of samples below the 17.9 percent rate of return and the remaining 50% is located above the 17.9 percent; the first listing of the standard deviation of stock returns 0.1433 listed below 0.2697 after one year, after two years of 0.3126 and 0.2451 after three years, indicating the first times listed on stock returns than risk-free. Attractive rate of return (CR) on average 11.0 percent, Figure 1. Trend line shows, MAIR increases greater than CR, MAIR an upward trend in the tendency to continue, while the CR gentle upward trend in the tendency is both long-term relationship under the linear constraints phenomenon. The former major shareholders of unlisted equity concentration (BOWN_b) an average of 21.6 percent, one year after the majority shareholder equity concentration (BOWN_{at+1}) on average 3.4 percent, after two years (BOWN_{at+2}) 1.9%, year-on-year decline, although the three-year After (BOWN_{at+3}) rose to 2.2 percent, but still revealed a greater degree of equity to reduce. Agency costs (AGC1) operating expenses accounted for an average of one year after the sale of 43.5 percent, 45.8 percent after two years, 46.8 percent three years later; agency costs (AGC2) one year after the asset sales accounted for an average of 15.9 percent, 21.8 percent after two years, three years later, 20.9 percent, both indicators to measure agency costs are the expression of a major shareholder equity increased to reduce agency costs after. Operating performance (ROA) after one year an average of 6.1 percent, 5.9 percent after two years, three years after 4.9 percent; operating performance (ROE) average 5.2 percent a year later, after two years of 4.3 percent, 4.2 percent three years later, that is, IPO operating performance after the signs of recession. Other control variables size (Size), debt ratio (Debt-ratio), research and development costs divided by net operating income (RD-ratio) respectively, the average was 12.7 billion Yuan, 41.3 percent, 12.7 percent, said total assets of these three annual average of about 13 billion IPO companies, the extent of the liabilities as high as about 5.2 billion, the high financial leverage may also be a major shareholder equity is to reduce one of the reasons why. Price risk (Risk) a year later (Risk_{t+1}) an average of 52.2 percent, after two years (Risk_{t+2}) 56.9%, after three years (Risk_{t+3}) 44.9%, in such a high-risk, describe the beginning IPO remuneration being exists only in the beginning. Research and development costs of virtual variables (RD_dummy) show an average of 11.2 percent without setting out research and development costs, the standard deviation of 0.3782. Bidding auction virtual variables (BID_dummy) show an average of 36.7% using bid auction, the standard deviation of 0.4427.

Table 1. Research variables descriptive statistics

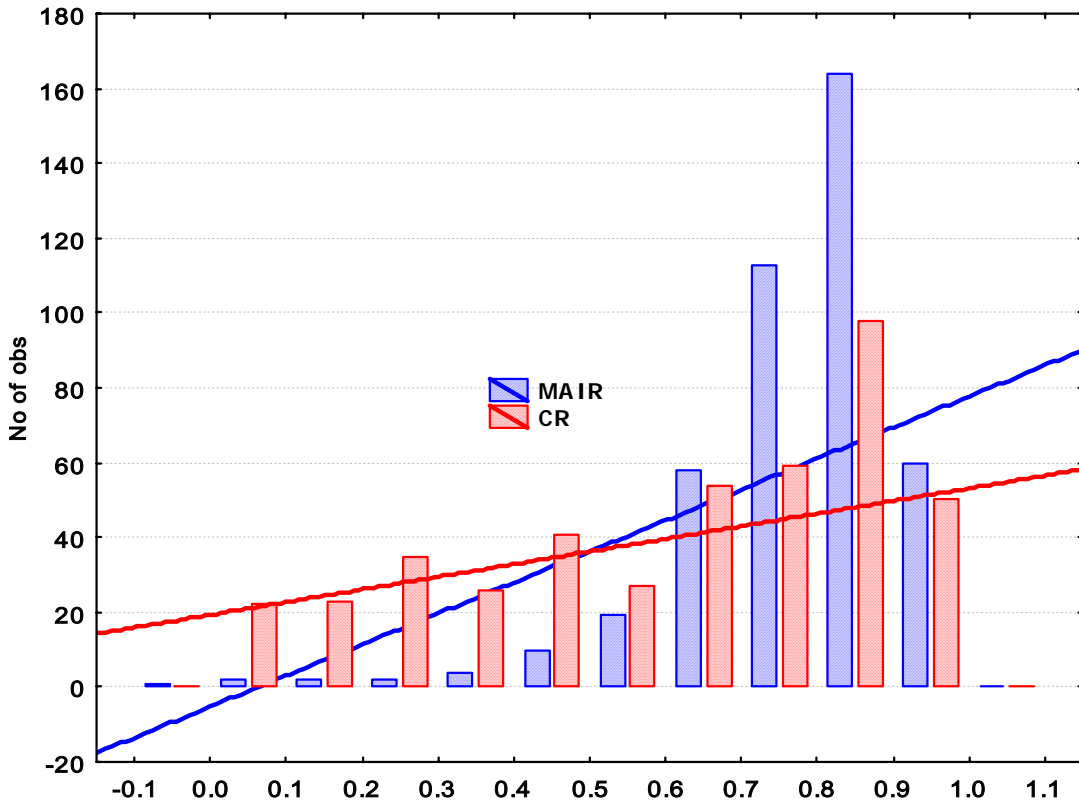
Variable	Sample size	Average	Median	Minimum	Maximum	Standard deviation
MAIR	435	0.1741	0.1796	0.0000	0.2926	0.1433**
CR	435	0.1104	0.1863	0.0001	0.1990	0.2692*
BOWN _b	435	21.58	20.25	0.00	48.25	7.6399*
BOWN _{at+1}	435	3.37	0.00	0.00	42.37	8.3124*

BOWN _{at+2}	435	1.87	0.00	0.00	34.53	3.8543*
BOWN _{at+3}	435	2.18	0.00	0.00	32.37	6.5642*
AGC _{1t+1}	435	0.4351	0.4226	0.0011	0.9915	0.2526**
AGC _{2t+1}	435	0.1594	0.0918	0.0100	0.5683	0.1990**
AGC _{1t+2}	435	0.4580	0.4679	0.0021	0.9885	0.2331**
AGC _{2t+2}	435	0.2176	0.0869	0.0144	0.6368	0.2445**
AGC _{1t+3}	435	0.4676	0.5974	0.0034	0.9852	0.3106**
AGC _{2t+3}	435	0.2086	0.0836	0.0185	0.7710	0.2439**
ROA _{t+1}	435	0.0609	0.0734	0.0318	0.0871	0.2164*
ROE _{t+1}	435	0.0519	0.0563	0.0193	0.0838	0.2844*
ROA _{t+2}	435	0.0587	0.0590	0.0219	0.0803	0.2157*
ROE _{t+2}	435	0.0432	0.0489	0.0124	0.0888	0.2303*
ROA _{t+3}	435	0.0487	0.0461	0.0147	0.0764	0.3176*
ROE _{t+3}	435	0.4176	0.4192	0.0198	0.0712	0.2397*
Size (ln)	435	1,268,942 (14.1)	1,822,601 (14.4)	251,708 (12.4)	66,027,070 (18.0)	858,321 (13.7)

Risk _{t+1}	435	0.5222	0.5121	0.0044	0.9998	0.2697*
Risk _{t+2}	435	0.5697	0.5532	0.0029	0.9901	0.3126*
Risk _{t+3}	435	0.4487	0.4132	0.0121	0.8998	0.2451*
Debt _{ratio}	435	0.4130	0.4059	0.0104	0.8590	0.1831
RD _{ratio}	435	0.1274	0.0148	0.0000	0.5240	0.2009
RD_dummy	435	0.1124	0.0000	0.0000	1.0000	0.3782**
BID_dummy	435	0.3667	0.0000	0.0000	1.0000	0.4427**

Note: * indicates a significant level of 10%; ** said a significant level of 5%; *** expressed by 1% significant level.

FIGURE 1.MAIR WITH CR HISTOGRAM, LINE GRAPH



Underwriters' price underestimated the degree of return to attract non-linear relationship

Simple linear regression analysis results are listed in Table 2., We found that the overall test results ($\beta_1 = 0.009$, P value of 0.000000, less than the significant level $\alpha = 0.05$), a hypothesis was not supported, to underestimate the extent of underwriting prices to attract a significant positive return relations. However, MAIR regression coefficient test (test statistic is 0.098419, less than 1.960), one hypothesis has gained support. The correlation coefficient ($r = 0.004730$) did not significantly different from 0 **【Note 5】**, a hypothesis supported prices underestimate the extent of underwriting and to attract the return does not have a significant linear relationship. Model with an appropriate indicator of coefficient of determination (R^2 for 0.000022) and adjusted coefficient of determination is R^2 negative (-0.002287), indicating that MAIR return to attract little explanatory power. This is the total return of the test results to differ. We have also done a significant level $\alpha = 0.005, 0.001$ of control, still found regression coefficient test and total test results are inconsistent. According to test results with the regression coefficient test for dealing with conflicts of principle, the total test significant regression coefficient test was not significant, regression model is not available. Therefore, a hypothesis to be supported to underestimate the extent of underwriting prices to attract the return can not be explained, or that the underwriters not to underestimate the price to attract new investors, with Myers and Majluf (1984) asymmetric information theory and Rock (1986) winner curse (winner's curse) argument inconsistent. Asymmetric information theory suggests that because the manager than the outside investors have more information on the value of the company, stock issued to investors transmission behavior of the negative message. Managers in order to attract investors to buy their shares, we must discount underwriters. Winner curse argued that the issuing company without the information in order to attract investors is willing to lower the price to compensate investors' underwriters.

TABLE 2. SIMPLE REGRESSION RESULTS

Simple regression model : CR=0.603563191 + 0.008881430*MAIR					
Effect	Degr. of Freedom	CR SS	CR MS	CR F	CR <i>P-level</i>
Intercept	1	5.24189	5.24189	72.18585	0.000000
MAIR	1	0.000703	0.000703	0.00969	0.921645
Error	433	31.44299	0.072617		
Total	434	31.44370			
SS: Residual test					
Dependent Variable	Correlation	R^2	Adjusted \bar{R}^2	SS Model	MS Model
CR	0.004730	0.000022	-0.002287	0.000703	0.000703

Regression coefficient (or correlation coefficient) test

$$t_{\alpha/2}(n - 2) = t_{0.025}(433) = 1.960$$

Effect	CR Param.	CR Std. Err	CR T	CR <i>P</i>	-95.00% Cnf. Lmt
Intercept	0.603563	0.071039	8.496225	0.000000	0.463939

MAIR	0.008881	0.090241	0.098419	0.921645	-0.168483
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The correlation coefficient matrix

Effect	MAIR	CR
MAIR	1.000000	0.004730
CR	0.004730	1.000000

Note: the significant level $\alpha = 0.05$

Third, prices underestimate the extent of underwriting a major shareholder with a stake in reducing the extent of the relationship between negative

A total of three multiple regression test hypothesis II, the test findings are summarized in Table 3.. Model a price according to underestimate the extent of underwriting (MAIR) for the variables, not listed before and one year after the major shareholders of listed equity to reduce the level of (BOWNb-at +1) as dependent variables and control variables to establish, with a total test results (P value of 0.011180 , less than 0.05), the second hypothesis was not supported. MAIR regression coefficient is positive and significant level ($a_1 = 0.473863$, P for value 0.012237 but less than 0.05). Control variables, firm size (Size) a negative impact, not significant ($a_2 = -0.062765$, $P = 0.151059$, is greater than 0.05), larger companies, major shareholders equity to reduce the extent of the smaller; one year after the share price risk (Riskt +1) with positive effects, amounting to a significant level ($a_3 = 0.017073$, $P = 0.007275$, less than 0.05), with MAIR are significant positive effects, the greater the risk of the coming year, a major shareholder equity to reduce the extent of the greater; debt ratio (RD-ratio) with positive effects, no significant level ($a_4 = 0.065757$, $P = 0.171655$, is greater than 0.05); research and development costs divided by net operating income (RD-ratio) with positive effects, no significant level ($a_5 = 0.060877$, $P = 0.236173$, greater than 0.05); research and development costs of virtual variables (RD_dummy) with positive effects, no significant level ($a_6 = 0.097008$, $P = 0.052917$, is greater than 0.05); bidding auction virtual variables (BID_dummy) a negative impact, amounting to a significant level of ($a_7 = -0.129285$, $P = 0.007884$, less than 0.05), bidding auction price reaction so that the true value of underwriters, the price is not easy to underestimate, not easy to reduce the stake. Second, the overall pattern of the test findings (P for a value of 0.005372, is less than 0.05), the second hypothesis was not supported. Third, the total test model results (P for value of 0.018539, is less than 0.05), the second hypothesis was not supported. Only a control variable exceptions, three years after the share price risk (Riskt +13) is still a positive influence, but not significant level ($\beta_3 = 0.033879$, $P = 0.490436$, is greater than 0.05), which mode of one or two significant level of the results are inconsistent. A result of this study is not the direction, not in depth. Based on the above findings, the second hypothesis does not stand up prices underestimate the extent of underwriting a major shareholder equity significantly reduce the extent of positive effects, the greater the degree of underwriting price underestimated, the greater the reduction in shareholders equity, the test findings and Jiang Shuo Zhen, Liu Wei QI, and Zhang Yu-shan (2005), Li Chuan An, Liu Wei QI(2005), Zingales (1995a), Mikkelson et al. (1997), Pagano et al., (1998), Stoughton and Zechner (1998 study the same argument, but with the Field and Sheehan (2004) U.S. IPO research, underwriting underestimate the extent of the price of listed shares after the major shareholders did not significantly impact the rate of inconsistency.

In order to assess the estimated value of regression coefficient of reliability, this study, variance inflation factor (variance inflation factor, VIF) 【Note 6】 and Pearson product-moment correlation coefficient of correlation coefficient matrix model to test whether there is between variables multicollinearity, Table 4. Listed in the test findings. Since any of the correlation coefficient between variables not been more than 0.38, indicating since the

correlation between variables was not high. Furthermore, we also calculated VIF values are less than 3 was found, far less than 10, the regression model does not have enough to affect the interpretation of the results of multicollinearity.

A multiple regression mode I :

$$BOWN_{b-c,t+1} = 0.73 + 0.47MAIR - 0.06 \ln.Size + 0.02Risk_{t+1} + 0.07Debt_{ratio} + 0.06RD_{ratio} + 0.10RD_dummy - 0.13BID_dummy$$

Multiple regression model II:

$$BOWN_{d+1-c,t+2} = 0.76 + 0.66MAIR - 0.06 \ln.Size + 0.08Risk_{t+2} + 0.06Debt_{ratio} + 0.05RD_{ratio} + 0.10RD_dummy - 0.12BID_dummy$$

Multiple regression model of the III:

$$BOWN_{d+2-c,t+3} = 0.75 + 0.16MAIR - 0.07 \ln.Size + 0.03Risk_{t+3} + 0.06Debt_{ratio} + 0.06RD_{ratio} + 0.11RD_dummy - 0.13BID_dummy$$

Variable	Model		Model III
	I	II	
Intercept	0.733 606 (0.000 000)**	0.755 190 (0.000 000)**	0.745760 (0.000000) **
MAIR	0.473 863 (0.012 237)**	0.664 420 (0.016 249)**	0.168720 (0.027463) **
Size	- 0.062765 (0.190 371)	- 0.061651 (0.196 982)	-0.069138 (0.151059)
Risk _{t+1}	0.017 073 (0.007 275)**	----	----
Risk _{t+2}	----	0.078 648 (0.009 992)**	----
Risk _{t+3}	----	----	0.033879 (0.490436)
Debt _{ratio}	0.065 757 (0.171 655)	0.062 960 (0.186 459)	0.059083 (0.220312)
RD _{ratio}	0.060 877 (0.236 1545 173)	0.051 429 (0.043 816)**	0.058286 (0.02566) **
RD_dummy	0.097 008 (0.052	0.100 543 (0.302	0.109448 (0.304470)

Multiple regression model I: MAIR lnSize Risk_{t+1} Debt_{ratio} RD_{ratio} RD_dummy BID_dummy

BID_dummy	917)	483)	-	-	-0.129645
	0.129285	0.118963	(0.007	(0.014	(0.008395) **
	884)**	429)**			
R ²	0.041	0.045			0.038778
Adjusted R ²	448	707	0.025	0.030	0.022872
	734	063			

A multiple regression model F test

Effect	df	SS	MS	F	P - level
Regression	7	0.369	0.052	2.63	0.01
Residual	27	602	800	7664 **	1180 **
Total		8.547	0.020		
		615	018		
		8.917			
		217			

Second, multiple regression model F test

Effect	df	SS	MS	F	P - level
Regression	7	0.407	0.058	2.92	0.00
Residual	27	577	225	1652 **	5372 **
Total		8.509	0.019		
		640	929		
		8.917			
		217			

Three multiple regression model F test

Effect	df	SS	MS	F	P - level
Regression	7	0.341	0.048	2.43	0.01
Residual	27	512	787	7859 **	8539 **
Total		8.465	0.020		
		248	012		
		8.806			
		760			

TABLE 3. MULTIPLE REGRESSION RESULTS

Note: ** said a significant level of 5%,"-----" symbol of non-model variables

TABLE 4. MULTICOLLINEARITY TEST

MAIR	1.0000						
lnSize	-0.1279	1.0000					
Risk _{t+1}	0.0893	-0.1814	1.0000				
Debt _{ratio}	0.1047	-0.2655	0.1804	1.0000			
RD _{ratio}	0.0118	-0.1701	0.2139	0.2297	1.0000		
RD_dum my	0.0385	-0.0296	0.0155	0.0793	0.0366	1.0000	
BID_dum my	-0.0962	0.1407	-0.0471	-0.0339	-0.0344	-0.1067	1.0000
Multiple regression model II:	MAIR	lnSize	Risk _{t+2}	Debt _{ratio}	RD _{ratio}	RD_dummy	BID_dum my
MAIR	1.0000						
lnSize	-0.0855	1.0000					
Risk _{t+2}	0.0797	-0.1861	1.0000				
Debt _{ratio}	0.0894	-0.2793	0.1701	1.0000			
RD _{ratio}	0.0116	-0.1451	0.2158	0.2128	1.0000		
RD_dum my	0.0401	-0.0228	0.0104	0.0745	0.0455	1.0000	
BID_dum my	-0.0217	0.1337	-0.0265	-0.0379	-0.0415	-0.1047	1.0000
Multiple regression model III:	MAIR	lnSize	Risk _{t+3}	Debt _{ratio}	RD _{ratio}	RD_dummy	BID_dum my
MAIR	1.0000						
lnSize	-0.3729	1.0000					
Risk _{t+3}	0.1333	-0.1890	1.0000				
Debt _{ratio}	0.1382	-0.2661	0.1704	1.0000			
RD _{ratio}	0.0266	-0.1441	0.2155	0.2616	1.0000		
RD_dum my	0.0420	-0.0261	0.0106	0.0739	0.0367	1.0000	
BID_dum	-0.0187	0.1338	-0.0283	-0.0396	-0.0471	-0.1107	1.0000

Fourth, the major shareholder equity reduced, the agency costs without significantly greater than zero

Using t test, test a year later, after two years and three years after the agency costs are significantly different from zero, test results such as Table 5.. Found a year later, after two years and three years after the value and the t-value reached the significant level, the hypothesis was not supported three that shares lower after a major shareholder to increase the agency costs. If Li Chuan An and Liu Wei Qi (2005) research, IPO shares have scattered effect, purchase IPO external investors for small, passive investors (hereinafter referred to as retail), retail investors holding shares of public companies, large the majority of free-riders, the supervision of the company could do nothing about it, or even indifferent. At the same time, if the majority shareholder equity also reduced, it will be impossible to actively supervise or interfere with the company's management policies, or to replace the high-level managers, addressed to improve the agent of this.

Fifth, a major shareholder equity reduced, the operating performance without significantly greater than zero

Test results such as Table 6. Below, found a year later, after two years and three years after the value and the t-value did not reach significant level IV support the hypothesis that lower after a major shareholder equity, there is no significant improvement in operating performance, post-IPO operating performance and the discovery of a recession in line (Li Jian Ran, Luo Yuan-Ming, 2002; Hu De, Ma Dai, 2004), while other studies of people from within the changes in ownership. 【Note 7】 Also found the perspective of business performance recession. Test the conclusions in line with the "promotion of the value of the company have to rely on supervisory power" of the hypothesis (Jensen and Meckling, 1976).

TABLE 5. RESULTS OF DEPUTY COST TEST

One Year Later : $BOWN_b - BOWN_{at+1}$						
Variable	N	Mean	Std. Dv.	Std. Err.	t-value	<i>P</i>
AGC _{1t+1}	406	0.437883	0.251504	0.012482	35.08132**	0.00**
AGC _{2t+1}	406	0.119356	0.0099413	0.004934	24.19165**	0.00**
Two Years Later : $BOWN_{at+1} - BOWN_{at+2}$						
Variable	N	Mean	Std. Dv.	Std. Err.	t-value	<i>P</i>
AGC _{1t+2}	79	0.421447	0.254377	0.028440	14.81870**	0.00**
AGC _{2t+2}	79	0.115854	0.086940	0.009720	11.91896**	0.00**
Three Years Later : $BOWN_{at+2} - BOWN_{at+3}$						
Variable	N	Mean	Std. Dv.	Std. Err.	t-value	<i>P</i>

AGC _{1t+3}	31	0.452524	0.254192	0.045654	9.911986**	0.00**
AGC _{2t+3}	31	0.102292	0.098408	0.017675	5.787475**	0.00**

Note: ** said a significant level of 5%

TABLE 6. RESULTS OF BUSINESS PERFORMANCE TEST RESULTS

One Year Later: BOWN _b -BOWN _{at+1}						
Variable	N	Mean	Std. Dv.	Std. Err.	t-value	<i>P</i>
ROA _{t+1}	406	0.060227	0.047718	0.025333	0.816451	0.6982
ROE _{t+1}	406	0.052925	0.041746	0.034316	0.946624	0.5948
Two Years Later : BOWN _{at+1} -BOWN _{at+2}						
Variable	N	Mean	Std. Dv.	Std. Err.	t-value	<i>P</i>
ROA _{t+2}	79	0.049808	0.066168	0.077911	0.302483	0.1624
ROE _{t+2}	79	0.045106	0.048063	0.014357	0.612328	0.7298
Three Years Later: BOWN _{at+2} -BOWN _{at+3}						
Variable	N	Mean	Std. Dv.	Std. Err.	t-value	<i>P</i>
ROA _{t+3}	31	0.030465	0.034683	0.019964	0.788612	0.9045
ROE _{t+3}	31	0.031622	0.032716	0.021928	0.793284	0.8565

Sixth, the major shareholder of different options to reduce the level of operating performance was no significant difference

Such as Table 7. analysis showed that the operating performance (ROA) in the market a year later, after two years and three years after the value P is 0.000000, 0.000000 and 0.000001, respectively, are significantly less than the standard $\alpha = 0.05$; business performance (ROE) In the listing year later, after two years and three years after the value P is 0.000000, 0.000411 and 0.000042, respectively, are significantly less than the standard $\alpha = 0.05$, hypothesis five did not receive support, said a major shareholder equity to reduce the level of greater than 10% and less than 10 %, there were significant differences in performance. There is another test of this hypothesis purpose, would like to know in order to stake more than 10% for the major shareholders, which is 10 percent for an important

threshold. In this study variables framework, 10% change in ownership can be seen as an important difference between the baselines.

TABLE 7. RESULTS OF ANOVA ANALYSIS

AVOVA of ROA _{t+1} :BOWN _b -BOWN _{at+1} >10% , <10%						
Effect	df	SS	MS	F	P	
Model	1	0.43	0.43	33.7	0.00	
Error	76	7142	7142	9666**	0000**	
Total	77	2737	0413			
AVOVA of ROE _{t+1} :BOWN _{at+1} -BOWN _b >10% , <10%						
Effect	df	SS	MS	F	P	
Model	1	0.44	0.44	9.24	0.00	
Error	2	7887	7887	682**	0000**	
Total	6	0.25	0.00			
Total	7	6340	9859			
Total	7	0.70				
Total	7	4377				
AVOVA of ROA _{t+2} :BOWN _{at+1} -BOWN _{at+2} >10% , <10%						
Effect	df	SS	MS	F	P	
Regression	1	0.42	0.42	13.8	0.00	
Residual	6	7071	7071	1266**	0000**	
Total	7	0.25	0.00			
Total	7	6831	3833			
Total	8	0.68				
Total	8	3902				
AVOVA of ROE _{t+2} :BOWN _{at+1} -BOWN _{at+2} >10% , <10%						
Effect	df	SS	MS	F	P	
Regression	1	0.38	0.38	5.18	0.00	
Residual	5	6166	6166	314**	0411**	
Total	6	0.24	0.02			
Total	6	7103	7455			
Total	6	0.63				
Total	6	3269				
AVOVA of ROA _{t+3} :BOWN _{at+2} -BOWN _{at+3} >10% , <10%						
Effect	df	SS	MS	F	P	
Regression	1	0.43	0.43	7.29	0.00	
Residual	1	9676	9676	8257**	0001**	
Total	1	0.26	0.01			

idual	7	2597	545		
Tot	1	0.70			
al	8	2273			
AVOVA of ROE _{t+3} :BOWN _{at+2} -BOWN _{at+3} >10% , <10%					
Effect	df	SS	MS	F	P
Regression	1	0.47	0.47	6.54	0.00
Residual	1	2866	2866	4759**	0.0042**
Tot	0	0.25	0.02		
al	1	0285	5029		
	1	0.72			
	1	3151			

Note: ** said a significant level of 5%

Conclusions and Discussions

2001 is expected future economic prospects are likely to deteriorate further to reduce the IPO initial public offering market, the United States and Europe being the most obvious impact of reducing the second largest market. But as early as the 1970s, before and after, IPO price is undervalued, and has aroused the attention of this phenomenon in many countries the incidence of duplication of the stock market, and is seen as 10 financial study puzzle. Financial economists to solve this puzzle, many of the arguments put forward to underestimate the phenomenon of price have done a reasonable explanation, but it may not be able to obtain empirical results support evidence of this study was to try before and after the major shareholder of IPO shares to reduce the degree of underestimation of the extent of underwriting prices relations, and attempts to explore the "IPO after the performance whether there are significant differences."

There are four main research results, first of all, to underestimate the extent of the price of our underwriters can not explain the theory of information asymmetry and curse winner (winner's curse), or that underwriting is not to underestimate the price to attract new investors. Secondly, the price of underestimating the extent of underwriting a major shareholder equity significantly reduce the extent of positive effects, with Jiang Shuo Zhen, Liu Wei Qi, and Zhang Yu-Shan (2005), Li Chuan An, and Liu Wei Qi (2005), Zingales (1995a), Mikkelson et al. (1997), Pagano et al., (1998), Stoughton and Zechner (1998) study the same argument, we have found that price risks (Risk) and the price of underestimating the extent of underwriting (MAIR) on the major shareholder equity are positive effects to reduce the degree of risk The greater the lower the greater the degree of equity. Beatty and Ritter (1986) extension of Rock (1986) model, that is expected to underwrite the stock prices of IPO shares to underestimate the uncertainty of a positive correlation, the theory suggests that the risk of small companies than larger companies, their underwriters underestimated the extent of the price should be more serious. Another effect of shares of listed companies' uncertainties as to whether they belong to high-tech industries, high-tech industries in the future development and potential for greater profit, while its overall risks and uncertainties are relatively more expensive. Many high-tech industry such as technical R & D investment, the public may not understand because of technology can not assess the high-tech industry investment risk and value, but the manager of high-tech companies because of their expertise may be able to more accurately assess the investment project risk and profitability. Therefore, the high-tech companies a higher degree of information asymmetry, and its IPO discount should be greater motivation to recover the price also more serious, two factors are expected to reward the beginning of high-tech industries will be higher. Third, the largest shareholder after the stake to reduce to improve the agency costs, the company has not significantly improved operating performance, and past research IPO operating performance after the discovery of consistent decline. Finally, major shareholder equity to reduce the level of greater than 10% and less than 10%, there were significant differences in performance.

This study and previous studies of different, not dismantling the financial variable is the reference Li Chuan An and Liu Wei Qi(2005) from the active supervision of investors could enhance the value of the company's arguments to major shareholders to reduce the level of equity underwriting View IPO price underestimated phenomenon. Concentration of large shareholders equity, according to the definition of the Taiwan Stock Exchange, shares in the ratio of 10 percent or more for the large shareholders (blockholders), there were more than 5% shareholding or the shareholding ratio of the top ten for the majority shareholder. Although this study used the Taiwan Stock Exchange norms, to more than 10% shareholding for a major shareholder, but in view of relations between the enterprises of China's family prevails, the correct degree of concentration of ownership should be adopted La Porta et al., (1999), Claessens et al ., (2000) and Faccio and Lang (2002), such as the concept and method of calculation. In particular, during the three regression model validation, although the underwriters to underestimate the extent of the price coefficient is positive and significant level, but quite inconsistent coefficient. It is clear to holding more than 10% for the major shareholders are not in all circumstances are correct measure, it is suggested that follow-up researchers and scholars in the light of the foregoing definition of the way.

Research restricted interoperability is the definition of variables and measurement error to the beginning of the price paid for the underwriters to underestimate the extent of a proxy, the listing of new shares equivalent to the beginning of remuneration entirely attributable to the company deliberately set underwriting price is lower than the market price. In fact, the beginning of compensation may be part of the reason is due to investors chasing irrational price behavior, which is not completely underestimated the price is underwriting results. Research and analysis among the underwriters price data underestimate the extent of that day, but the majority shareholder equity is the year to reduce the level of information, it is difficult to obtain because the concentration of Japanese equity information, Hong Kong Daily News of Taiwan's economic stake in the structure of the database module, equity concentration is only available annual data, but the company regularly publish financial statements, it is not a quarterly basis and will expose the degree of concentration of ownership of information, as well as control variables are also used in information rather than on information, including company size, debt ratio and the ratio of research and development costs, which there is no information on the three days. Underwriters in the above prices underestimate the degree of interoperability and the definition of research on variables is not easy to obtain information or no information on cases, the use of information may result in the results of the analysis of bias, this study of the two restrictions.

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The Relationship between Knowledge Management and Innovation Level in the Mexican SMEs: Empirical Evidence

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Abstract

The transformation of the current society from an industry-based economy to a knowledge management and innovation-based economy is changing the design and implementation of business strategies and the nature of the competition among the organizations which are mainly small and medium-size enterprises (SMEs). They struggle to survive in a market which is more demanding and competitive, so they see knowledge management as one of the most effective strategies that may help to enable the innovation activities into the businesses. For these reasons, this research paper has as a main goal to analyze the relationship between knowledge management and innovation in Mexican SMEs. The empirical analysis used 125 manufacturing SMEs (each SME having from 20 to 250 employees) as a sample to be carried out. The obtained results indicate that knowledge management has a positive impact in products, process, and management systems innovation.

Keywords: *Knowledge Management, Innovation, SMEs.*

Introduction

The globalization of economy and a more demanding market with a high level of market demand are pushing the companies, mainly the small and medium-sized enterprises (SMEs), to re-structure their business strategies in order to update them to the current market demand. Similarly, different firms are considering knowledge management as a strategy that allows them to improve their level of competition (Audretsch & Thurik, 2000; 2001; 2004) because knowledge is considered as an essential element to obtain a higher level of competitiveness and innovation in organizations (Corso *et al.*, 2003; Chirico, 2008). For this reason, SMEs have to improve their business skills in order to manage more efficiently the knowledge generated by their employees so they can adapt faster to the external and internal changes that will allow them to apply innovation activities and, as a consequence, improve their economic fringes (Teece *et al.*, 1997; Eisenhardt & Martin, 2000).

In this sense, the current environment of business is changing rapidly from an industrial-based to a knowledge-based (Drucker, 1994; Van de Ven, 2004; Lu *et al.*, 2008) by means of two essential elements. On one hand, we have the globalization of economy (Lu *et al.*, 2008) while on the other hand we have fast technological changes (Santos *et al.*, 2004; Peng, 2006). Basically, the swift development of information technologies and the use of internet in most firms facilitate the interaction with clients, suppliers, other business people and consumers (Chen, 1997) which produce important changes in the nature of the organizations. Thus, this new business environment is requiring from SMEs to build and improve their skills based on a specialization of knowledge and innovation in order to improve their productivity and provide goods and services that are more adequate to their consumer than the ones provided by their competition (Lu *et al.*, 2008).

As a result of these changes, most managers are implementing new strategies for the creation, development and retention of knowledge generated by employees which allow the survival and development of such SMEs. Then, the knowledge management is present in the current literature as one of the most important elements that enable the design and implementation of innovation activities as an integral part of the business strategies of the firms (Hitt *et al.*, 1998; Lee & Grewal, 2004; Miller *et al.*, 2007). Furthermore, the increase in innovation activities can be the result of a more effective SMEs knowledge management, particularly the activities of innovation in products, processes and management systems (Moshen & Khadem, 2010), because the new products, processes and management systems innovations is the result of the interaction between knowledge management and technology (Handzic, 2004).

In this sense, most studies that link knowledge management and innovation have analyzed these elements from the perspective of large firms in developed countries, so there are few ones that have paid attention to SMEs (Thompson & Leyden, 1983; Acs, 1996), and even fewer ones that are related to the field of developing countries

(OECD, 2003; Bozbura, 2007). By comparison, one of the major contributions of this paper is the relationship between knowledge management and SMEs innovation activities in a developing country (Mexico). Also, most researches that are based on these two characteristics have applied qualitative methods; which gives this one another contribution by providing information about how knowledge management contributes to improve the innovation activities in SMEs by means of applying quantitative methods and using structural equation models for such methods.

The rest of the research paper has been structured in the following way: the second section provides a theoretical framework, the previous empirical researches as well as the formulation of hypotheses of the research. The third section deals with the methodology, the sample and the variables used in the research. The analysis of results is made in the fourth section. The final section presents the main conclusions and implications of this paper.

Literature Review

Knowledge management (KM) has been widely analyzed and discussed in the last decade in different fields and contexts (Lopez *et al.*, 2004) such as the construction industry (Maqsood & Finegran, 2009), pharmaceuticals (Normann & Ramirez, 1993; Powell, 1998), electronics (Sieloff, 1999), information and communication technology (Rantapuska & Ihanainen, 2008) as well as manufacturing (Andrews, 1996; Lu *et al.*, 2008; Moshen & Khadem, 2010). Similarly, it has been identified as an essential element that greatly facilitates the innovation and performance of the Firms (Kamara *et al.*, 2002).

On one hand, KM has been analyzed and discussed depending on the number of dimensions. One of the most studied classifications is the one that presents two basic types: *information* and *know-how*. *Information* refers to concepts, data or symbols that can be transmitted between two or more companies (Kogut & Zander, 1992), whereas *know-how* refers to the accumulation of practical skills or the experience that enable people to perform activities in an easy, efficient way (von Hippel, 1988). With this, the acquisition and processing of information and know-how done by the companies will impact in a different way their results and performance (Lu *et al.*, 2008). Similarly, KM has also been classified as *explicit* and *tacit* (Polanyi, 1966). *Explicit KM* is the one that can be easily transferred from one person to another, whereas *tacit KM* is the one that is difficult to put into words and access as it commonly develops based on the experience, attitudes, feelings and other factors which can be transferred only by means of interaction with other people (Tsai, 2001; Tsang, 2002; McFadyen & Cannella, 2004).

On the other hand, the firms that acquire more capabilities so their employees obtain and share the tacit knowledge will be able to create a higher level of innovation in their activities by means of the creation and development of new knowledge, that can be incorporated in the innovation or changes in the products or services that they produce for the benefit of their consumers (Kogut & Zander, 1992). However, the use and generation of knowledge is different in small and medium-sized enterprises (SMEs), because they have different levels of generated KM into the firm as well as in the outside. As a consequence, these differences can affect the level of innovation and performance significantly (Lu *et al.*, 2008). For this reason, it is important to consider and analyze how the knowledge has been generated, acquired, shared and spread out in the organizations as this will allow SMEs to achieve a higher level of innovation and performance (Huff, 2000; McFadyen & Cannella, 2004; Argyres & Silverman, 2004; Hansen *et al.*, 2005; Turner & Makhija, 2006).

Thus, managers will have to pay more attention to the creation and spread of tacit knowledge inside SMEs, because this type of knowledge is the one that fosters a higher level of innovation in the firms (Lu *et al.*, 2008). At the same time, managers have to improve the processes for the creation of tacit knowledge (Dew *et al.*, 2004; Thorpe *et al.*, 2005) since the management style affects the use and creation of both explicit and tacit knowledge in a significant way (Ekanem & Samllbone, 2007). Therefore, managers will have to strengthen the SME employees experience, intuition attitude and values just as much as the external resources such as the events with clients, benchmarking and an increasing interaction with the different providers (Bharati & Chaudhury, 2006), because the different suppliers can strongly promote the development of innovation in SMEs (Rantapuska & Ihanainen, 2008). That is why the use and development of knowledge in SMEs is usually flexible, unstructured and socially related to the experience and the employees relationships (Thorpe *et al.*, 2005).

The most recent classification of KM in the current literature is the one presented by Bozbura (2007) who considers that KM can be analyzed by means of four dimensions: *training and mentoring employees*, *policies and strategies of knowledge management*, *knowledge capturing and acquisition from outside*, and *effects of the organizational culture*. It can be understood from this classification that human resources is the most important element in the organization, because it is the resource that generates and develops the required creativity to produce new knowledge that enables companies to improve their level of innovation and development. Accordingly, the

implicit knowledge of employees is the essential element that directly affects the activities of the organizations. Thus, the management of human resources is the most important part of SMEs KM (OECD, 2003).

The human resources in the firms, mainly the one of SMEs, increases significantly the tangible activities of the profitable operations such as the acquisition of tools and equipment as well as the intangible activities such as the clients' satisfaction (Fitz-enz, 2001). Human resources are so important that every time more and more SMEs are investing important amounts of economic resources in their employees in order to increase their capabilities, experience and knowledge to improve company's environment in a substantial way (Ulrich, 1997). All this, increases the capabilities of the employees and this can directly affect the SMEs financial performance. Hence, employee's training has a direct relation to knowledge management in the firms (Becker *et al.*, 2001).

Conversely, the mission, vision and management strategies and processes of SMEs can be essential factors that improve skills and strengthen the employees' creativity since these elements can be labeled as policies and strategies that directly affect the firms KM. Likewise, the creation and acquisition of knowledge is another essential element for KM because knowledge can be obtained by means of established relationships between SMEs and their clients, suppliers, competition, society and even official institutions. Finally, in order to make employees share the knowledge or information they have with the rest of the company's members inside their SMEs, it is necessary to design and use efficient ways of communication, this will allow the firms to have an efficient KM. Then, the working conditions, team work, means of communication to share knowledge and the creation of a favorable environment to promote the free expression of opinions can be defined as the direct effects of organizational culture in KM (Zack, 1999; Bontis, 2000; Buckley & Carter, 2000; OECD, 2003; Bozbura, 2004; 2007). This model is the one that will be taken for this research in order to measure the KM.

The current literature shows different investigations where they directly relate KM and SMEs innovation activities. One of the most referred papers is the one presented by the researchers Ruggles and Little (1997). In it, a metaphor is presented and explained by the authors in the following way:

“The environment in which new ideas are created can be seen as a greenhouse or garden. Within this greenhouse, gardeners (i.e., managers) try to create conditions that will least inhibit the growth of a prize-winning (high value) flowers. That is, greenhouse gardeners can change the light, moisture, food mixture, etc. in the hope of beneficial results, but they cannot actually make the plants grow. Similarly, management has the ability to influence certain factors; i.e. capital resources, physical surroundings, and employee skill levels, for example, but the actual creation of new ideas is uncontrollable”.

In this model, the *soil* and *food* refer mainly to the knowledge generated in the company. It refers to the knowledge and personal experience, to the economic resources such as the acquisition of equipment, tools, and so on, that are accessible for all the personnel. This model also refers to the people, who are considered as the seeds that in which the new concepts can be generated and, at the same time, be the main element of the innovation processes.

Another model, presented by Swan *et al.* (1999), postulated two perspectives that were called *cognitive model* and *community model*. The cognitive model commonly denotes a perspective in which the generated knowledge can be picked up and codified by each one of the employees of the firms (Sorensen & Lundh-Snis, 2001), whereas the community or social model is based in the development of technology.

The model presented by Van de Ven and Engleman (2004) considers four basic elements that are derived from the present relation between KM and innovation. The first one is the *human* element which consists in motivating the employees of the firm to be more innovative by means of searching and developing both the new knowledge as well the existing knowledge in the SMEs. The second element is the *process* which consists in the way how the SMEs managers develop and implement new ideas in the organization processes. The third element refers to the *structural problems* which consist in the use of infrastructure between the company and its suppliers to obtain the knowledge that will help them to generate, facilitate, stand and promote the innovation activities in SMEs. Finally, the fourth element, *leadership*, consists in the generation and adequate management of an environment that enable facilitate the innovation activities in the organization.

Finally, the model proposed by Tranfield *et al.* (2006) shows three different stages in the KM-innovation relationship which were called *discovery*, *realization* and *nourishment*. The discovery stage consists in the need to look for and create ideal environments (both internal and external) to develop the innovation potential that lies within the organization. The realization stage consists in how the organization, along with the available elements, can achieve the implementation and development of innovation activities by means of different steps that in the end allow either the development of new products and services or the development of new management processes or methods in the organization.

From the models discussed earlier, it can be inferred that the innovation activities can be the most effective result of KM in which the innovation of products, processes and management systems are the essential components in the success and development of companies in the new millennium (Mohsen & Khadem, 2010), due to the fact that the new products and services obtained from the interaction between knowledge and technology are changing the way of dealing and competing of businesses in the new economic environment (Handzic, 2004). Hence, it has been demonstrated in the ongoing literature that innovation is a paramount element for the survival and development of SMEs as well as an important objective of the KM activity (Ruggles & Little, 1997; Nonaka & Nishiguchi, 2001). Based on this information, the following hypotheses can be formulated:

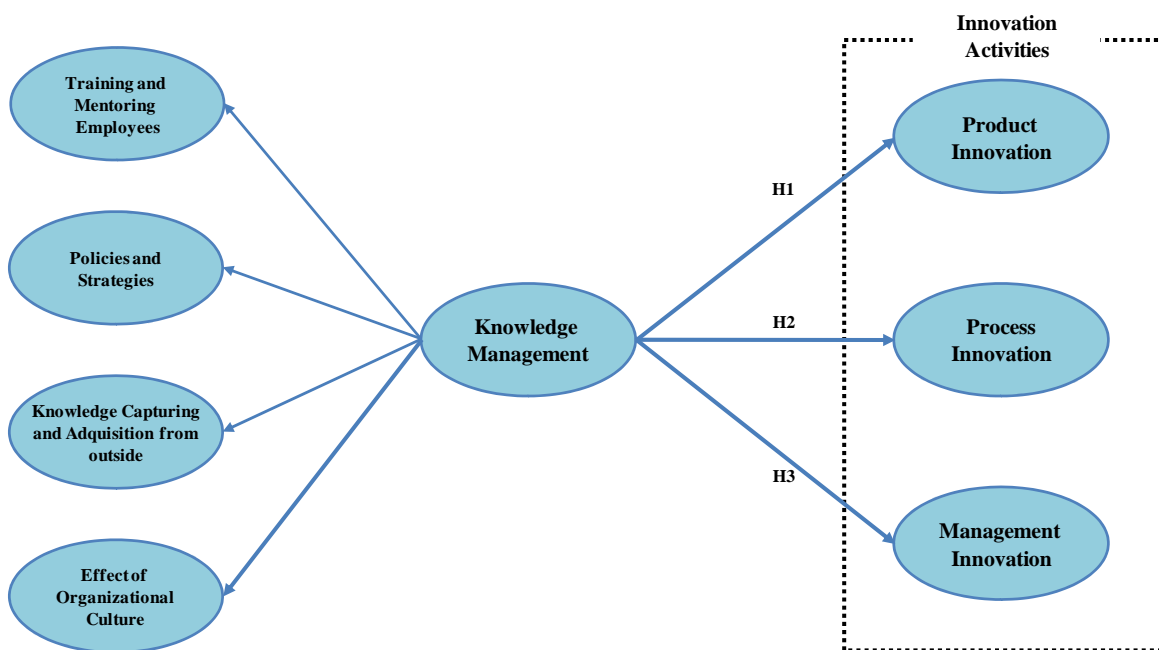
H1: Higher level of knowledge management, higher level of product innovation

H2: Higher level of knowledge management, higher level of process innovation

H3: Higher level of knowledge management, higher level of management systems innovation

Figure 1 shows the theoretical model of this research and the general approach of the proposed hypotheses.

FIG. 1: THEORETICAL MODEL



Methodology

In order to validate the stated hypotheses within the proposed theoretical model, an empirical research was made by taking into consideration the manufacturing SMEs of Aguascalientes (Mexico). To sum up, the analyzed context is the effect the KM exerts in the innovation activities of manufacturing SMEs from a developing country, which is the case of Mexico. In the first stage of the research, an “*Panel Empresarial*” took place. In it, different people (such as businesses people, chairpersons, managers, CEOs from financial institutions [both public and private], representatives of Mexican government institutions, as well as university researchers) participated, discussed and analyzed the importance and relationship between KM and SMEs innovation activities in Aguascalientes. The results obtained in this first stage made possible a better understanding of the current situation in this sector and the opportunity to define accurately the survey that was later applied to the SMEs managers.

In order to obtain the reference framework, the methodology used in this paper consisted in obtaining the directory of small and medium-sized enterprises which had between 20 and 250 employees. This was made possible with the obtainment of the 2009 directory from the Sistema de Información Empresarial de Mexico (Mexican

Business Information System, or SIEM) for Aguascalientes State which accounted for 130 manufacturing firms registered until July 30, 2009. Due to the small amount of companies that fulfilled the required characteristics, it was decided to make a census with a level of reliability of 99% and a maximum error of $\pm 1\%$. Similarly, the survey was designed to be answered by the SMEs managers. It was applied in the format of personal interview to the 130 selected firms. From these, only 125 replied back which gives us a response rate of 96%. Table 1 summarizes the most relevant aspects of the research.

TABLE 1: RESEARCH DESIGN

Characteristics	Research
Population ¹	130 Small and Medium-Sized Enterprises
Geography	Aguascalientes State (Mexico)
Sampling object	SMEs (20 to 250 employees)
Collecting information method	Personal Interview to Firm's manager
Sampling method	Random Sampling
Sample size	125Firms
Sampling error margin	+/- 1% global level, confidence level 99% (p=q=0.5)
Filed work	October to December 2009

Development of Steps

Prior to the analysis of the results of this paper, an analysis of reliability and validity of the used parameters was carried out. Knowledge management was measured by means of four dimensions: training and mentoring employees, policies and strategies of knowledge management, knowledge capturing and acquisition from outside, and effects of the organizational culture. The training of employees was measured with a scale of five items which was adapted from Bontis (2000) and OECD (2003). The scale to measure KM policies and strategies was adapted from Bozbura (2004; 2007) with 13 items. The scale to measure the creation and acquisition of external knowledge was adapted from the OECD (2003) and Bozbura (2007) with 5 items. Finally, the scale to measure the effects of organizational culture was adapted from OECD (2003) and Bozbura (2007) with 4 items. All the items were measured in a 5-point Likert scale with 1= Strongly disagree and 5= Strongly agree.

In order to measure innovation, the survey required from the managers to indicate if the firm had implemented innovation activities during the last two years prior to their application (1= Yes and 2= No). In order to measure the importance of the innovative activity, the survey requested the managers to evaluate, by means of a 5-point Likert scale (1= Not important and 5= Very important), the product innovation, the process innovation and the management systems innovation (Zahra & Covin, 1993; Kalantaridis & Pheby, 1999; Frishammar & Hörte, 2005; Madrid-Guijarro *et al.*, 2009).

Reliability and Validity

In order to evaluate the reliability and validity of the measurement scales, a Confirmatory Factorial Analysis (CFA) was carried out by using the maximum likelihood method in EQS 6.1 software (Bentler, 2005; Brown, 2006; Byrne, 2006). Similarly, the reliability of the proposed measurement scales is evaluated from Cronbach's alpha coefficient and the composed reliability index (CRI) (Bagozzi & Yi, 1988). All the values from the scale exceeded the recommended level of 0.7 for Cronbach's *alpha* as well as the CRI that provides an evidence of the reliability that justifies the internal reliability of the scales (Nunally & Bernstein, 1994; Hair *et al.*, 1995). Accordingly, other methods of estimation were used when it is assumed that the normality is present. For this, we followed the suggestions from Chou, Bentler and Satorra (1991) and Hu, Bentler and Kano (1992) for the correction of the statistics of the estimation model used. In this way, the robust statistics (Satorra & Bentler, 1988) will be used to provide a better evidence of the statistical adjustments.

¹ Source: *Mexican Business Information System*(SIEM) 2009.

The adjustments used in the method were the Normalized Adjustment Index (NFIT), Not-Normalized Adjustment Index (NNFIT), Comparative Adjustment Index (CFI) and the Root Mean Square of Error Approximation (RMSEA) (Bentler & Bonnet, 1980; Byrne, 1989; Bentler, 1990; Hair *et al.*, 1995; Chau, 1997; Heck, 1998). The NFIT, NNFIT and CFI values between 0.80 and 0.89 represent a reasonable adjustment (Segars & Grover, 1993), and a value that is equal or superior to 0.90 is an evidence of a good adjustment (Jöreskog & Sörbom, 1986; Byrne, 1989; Papke-Shields *et al.*, 2002). The RMSEA values that are inferior to 0.080 are acceptable (Jöreskog & Sörbom, 1986, Hair *et al.*, 1995). The results of the final application of CFA are presented in Table 2 and they suggest that the final measurement model provides a good adjustment of data ($S-BX^2 = 596.7760$; $df = 356$; $p = 0,000$; $NFIT = 0.930$; $NNFIT = 0.966$; $CFI = 0.971$; and $RMSEA = 0.074$). As evidence of the convergent validity, the results from the CFA indicate that all the items of the related factors are significant ($p < 0.001$), the size of all the standardized factorial loads are superior to 0.60 (Bagozzi & Yi, 1988) and the average of the standardized factorial loads of every factor exceed without any problems the value of 0.70 (Hair *et al.*, 1995). Finally, the variance extracted index (VEI) was calculated for every pair of constructs, which results in a VEI that is superior to the 0.50 recommended by Fornell and Larcker (1981).

TABLE 2: INTERNAL CONSISTENCY AND CONVERGENT VALIDITY

Variable	Indicator	Factorial Loadings	Robust t-Value	Loading Average	Cronbach's Alpha	Composite Reliability	Average Viability
Training and mentoring employees of KM	BFT1	0.757***	1.000 ^a	0.809	0.882	0.884	0.656
	BFT3	0.811***	9.342				
	BFT4	0.842***	10.074				
	BFT5	0.826***	10.886				
Policies and strategies of KM	BPE1	0.807***	1.000 ^a	0.727	0.907	0.910	0.532
	BPE2	0.798***	12.260				
	BPE3	0.776***	13.257				
	BPE4	0.730***	13.118				
	BPE6	0.729***	10.672				
	BPE7	0.647***	8.240				
	BPE9	0.678***	11.370				
	BPE12	0.618***	11.523				
	BPE13	0.757***	18.705				
Knowledge capturing and acquisition from outside	BKO1	0.750***	1.000 ^a	0.730	0.849	0.851	0.535
	BKO2	0.776***	12.382				
	BKO3	0.764***	10.143				
	BKO4	0.651***	9.855				
	BKO5	0.709***	11.534				
Effects of organizational culture	BOC1	0.821***	1.000 ^a	0.835	0.896	0.903	0.701
	BOC2	0.819***	13.459				
	BOC3	0.923***	19.383				
	BOC4	0.778***	11.299				
Product innovation	INP1	0.888***	1.000 ^a	0.907	0.904	0.903	0.824
	INP2	0.927***	15.081				
Process innovation	INR1	0.962***	1.000 ^a	0.954	0.952	0.953	0.911
	INR2	0.947***	32.240				
Management systems innovation	ING1	0.946***	1.000 ^a	0.957	0.969	0.971	0.917
	ING2	0.980***	35.109				
	ING3	0.946***	27.378				
$S-BX^2$ (df = 356) = 596.7760; $p < 0.000$; $NFI = 0.930$; $NNFI = 0.966$; $CFI = 0.971$; $RMSEA = 0.074$							
^a = Value parameters in the identification process							
*** = $p < 0.001$							

In regard to the evidence of discriminant validity, the measurement is given in two ways that can be observed in Table 3. First, with a confidentiality interval of 95%, none of the individual elements of the latent factors from correlation matrix contain the value 1.0 (Anderson & Gerbing, 1988). Second, the variance extracted between each pair of constructs is superior to its corresponding VEI (Fornell & Larcker, 1981). Based on these criteria, it can be concluded that the different measurements used in this paper show sufficient evidence of reliability as well as convergent and discriminant validity.

TABLE 3: DISCRIMINANT VALIDITY

Variables	1	2	3	4	5	6	7
1. Training and mentoring employees of KM	0.656	0.171	0.139	0.194	0.128	0.094	0.104
2. Policies and strategies of KM	0.268 - 0.560	0.532	0.166	0.164	0.109	0.145	0.107
3. Knowledge capturing and acquisition from outside	0.236 - 0.512	0.278 - 0.538	0.535	0.126	0.115	0.141	0.149
4. Effects of organizational culture	0.305 - 0.577	0.267 - 0.543	0.229 - 0.481	0.701	0.108	0.126	0.098
5. Product innovation	0.211 - 0.507	0.169 - 0.493	0.200 - 0.480	0.148 - 0.512	0.824	0.648	0.454
6. Process innovation	0.158 - 0.458	0.212 - 0.552	0.240 - 0.512	0.171 - 0.539	0.649 - 0.961	0.911	0.583
7. Management systems innovation	0.174 - 0.474	0.172 - 0.484	0.205 - 0.569	0.146 - 0.482	0.514 - 0.834	0.654 - 0.874	0.917

Diagonal represent the average variance extracted, while above the diagonal the shared variance (squared correlations) are represented. Below the diagonal the 95% confidence interval for the estimated factors correlations is provided.

Results

The proposed conceptual model was analyzed with this research by using the structural equations model (SEM) with the EQS 6.1 software (Bentler, 2005; Byrne, 2006; Brown, 2006). In order to obtain the statistical results of the research hypotheses, a SEM was carried out with the same variables to prove the structure of the model and obtain the results that could allow the contrast of the established hypotheses. The nomological validity of the theoretical model was analyzed by the chi-square performance test in which the theoretical model was compared with the measurement of the model. The results indicate that the non-significant differences of the theoretical model are good in the explanation of the relations observed between the latent constructs (Anderson & Gerbing, 1988; Hatcher, 1994). The final results obtained from SEM are presented in Table 4.

TABLE 4: STRUCTURAL EQUATION MODEL RESULTS

Hypothesis	Path	Standardized path coefficients	Robust t-value
H1: Higher knowledge management, higher product innovation.	Knowledge Management → Product Innovation	0.320***	8.313
H2: Higher knowledge management, higher process innovation.	Knowledge Management → Process Innovation	0.380***	9.188
H3: Higher knowledge management, higher management systems innovation.	Knowledge Management → Management Innovation	0.456***	10.573

$S-BX^2_{(357)} = 267.5603$; $p < 0.000$; NFI = 0.894; NNFI = 0.948; CFI = 0.965; RMSEA = 0.074

*** = $P < 0.001$

In regard to hypothesis **H1**, the results obtained (seen in Table 4), $\beta = 0.320$, $p < 0.001$, indicate that knowledge management has significant and positive effects in product innovation. In regard to hypothesis **H2**, the results obtained, $\beta = 0.380$, $p < 0.001$, indicate that knowledge management has significant and positive effects in process innovation. Finally, in regard to hypothesis **H3**, the results obtained, $\beta = 0.456$, $p < 0.001$, indicate that knowledge management has significant and positive effects in management systems innovation. To sum up, it can be proved that knowledge management has significant and positive effects in SMEs innovation activities.

Discussion and Conclusions

The results obtained in this research show that KM encourages the innovation activities in three different ways. First, it helps SMEs to locate innovative knowledge in the external environment of the organization, own that knowledge and transfer it to all the personnel of the company and incorporate it efficiently to the productive activities, which generates changes or improvements to the products created. Thus, the knowledge generated in universities, research centers, government institutions and other organizations that produce similar or identical products allows SMEs to acquire and develop knowledge that turns into superior skills of the human resources, which derives in an improvement of the competitive advantage of firms by means of the generation of new products in the target market. Similarly, in a market that is every time more globalized and highly competitive, just like the one where most SMEs are currently established, the survival and development of this kind of firms depends on the constant change or improvement of the products made to adapt them to the constant preferences and needs of the consumers; and in order to do this, they need the knowledge generated outside the firms.

Second, KM helps SMEs to improve their level of competitiveness by enhancing the production processes because it gets, assimilates and uses the innovative knowledge from the external environment in favor of the organization. KM usually promotes and regulates the adoption cycle of the innovation activities of the firms, mainly the production processes, because it requires important monetary investments, on one hand, for the automation of production processes by acquiring new technology; and, on the other hand, to have an efficient record of the production and predictive, corrective maintenance of machinery and equipment. Similarly, it is necessary to have innovative initiatives in the delivery methods, higher levels of cooperation with the suppliers to diminish risks and a more efficient and effective production schedule. Hence, SMEs requires external innovative knowledge that is spread in the industry so KM enables this process into the organization in order to generate new knowledge. This will facilitate its fast internal dissemination of the operational processes of the firms which will cause changes or improvements in the production processes.

Third, KM helps SMEs to get a better development by means of a change or improvement in the management systems. The limited use of explicit or processual knowledge that exists inside SMEs as well as the tacit knowledge that is in the people's skills and experience affects the specific behavior of employees and the organizational culture, which usually causes that different SMEs do not accept the new knowledge that is outside the firm. That is why managers will have to put into effect changes or improvements in the management systems of SMEs to facilitate the transference of explicit and tacit knowledge among all the employees in the organization. Thus, the changes or improvements in the management systems will have to guarantee the optimal use of the available knowledge (both inside and outside the organization), because the use of internal knowledge can create a high demand of the external available knowledge that would directly result in improving the management systems in order to use such knowledge efficiently. This could be perceived in a better output and a better level of innovation in the firms. In order to take external knowledge and incorporate it with the existing knowledge in the SMEs it is necessary to improve and upgrade the process of KM and provide the necessary skills so the firms to become learning organizations.

The main objective of this research aimed to identify the relationship between KM and innovation by using a sample of 125 Mexican SMEs manufacturing firms. The empirical evidence in this paper allows us to conclude that KM has a positive and direct effect in product innovation as well as the processes and management systems of manufacturing SMEs. These results are similar to the ones obtained by Thompson and Leyden (1983), Acs (1996) and Lu *et al.* (2008), where they concluded that instead of having SMEs generating new knowledge they normally look for and get new knowledge outside the organization through social bonds that they keep with clients and suppliers. For this reason, it can be concluded that a good combination of internal and external knowledge can make SMEs more innovative.

This research has some limitations. Firstly, the sample only considered manufacturing SMEs with 20 to 250 employees in Aguascalientes (Mexico), so further investigations might take into account smaller firms, from other sectors and from other country. Secondly, the research only considered four dimensions or factors in order to measure KM; further investigations might consider other variables such as human resources, aptitude, creativity, level of education and working experience, among others. Similarly, the research could include moderating variables such as the characteristics of the industry, the ownership of the firms, the competitive strategy and the structure of the organization. Finally, another limitation of this research is the fact that the survey was done only with the SMEs managers. It would be interesting for future investigations to consider in the survey the employees, clients and suppliers of the organization so it is possible to know the opinion of other participants of the firms.

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Slovak Business Cluster Initiatives

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Abstract

Clusters were regarded as the important factor of the regional and consequently global economic growth. One of the important cluster features is higher innovativeness compared with companies that do not cooperate closely. Due to real evidences for such statements, economies of agglomeration and cluster theory is used in real economies of many countries. Governments usually support creation and growth of the clusters. This is not yet the case of Slovakia. The clusters in Slovakia were established by self-governing regions or municipalities and entrepreneurs. So far fourteen clusters are active in Slovakia. All Slovak clusters were established without direct support of the central government. The spectrum of cluster organizations is relatively wide – from automotive, electrical engineering, power engineering, polymers technology, engineering to IT and tourism. The paper presents overview of existing technological and tourist clusters organizations in Slovakia. It also points out current problems and formulates recommendations.

Introduction

Cluster is usually defined as geographic concentration of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition such as suppliers, providers of specialized infrastructure, governmental and other institutions etc. Cluster theory explains why certain industrial concentrations have maintained and enhanced their market dominance. Interestingly clusters promote both competition and cooperation because they occur in different dimensions and among different players (Porter, 1998). During their lifetime, the clusters pass through different phases of growth concerning the number of engaged organizations. Interestingly, these phases need not co-align with industry life cycle. In addition to that, clusters within same industry may grow at different rates (Pouder and John, 1996).

Clusters offer many benefits for their members. For instance, positive relationship between the regional size and labor productivity at the level of individual companies was shown by empirical analyses. It means that companies become more productive by being located in agglomerations and larger regions (Andersson and Lööf, 2009). It indicates that clusters enhance companies' productivity.

Firms benefit from economies of agglomeration by attracting alliance partners, the private equity partners as well as by their ability to innovate. Simultaneously, marginal benefits to clusters size decrease when clusters get large. It means that diseconomies of agglomeration could play important role when clusters exceed about 65 firms (Folta, Cooper and Baik, 2006).

Firm's membership in cluster provided unique opportunities especially for small and medium-sized enterprises (SMEs) to stay competitive on a regional, international and even global scale (Morosini, 2004). Therefore, clusters are important microeconomic factor determined regional and consequently global economic growth.

Moreover, links between regional specialization defined as clustering degree, and innovative performance measured as patenting levels was observed. It could be concluded that regions in Europe with many clusters are top performers; vice versa regions without clusters are performing bad (The European Cluster Observatory, 2009). Additionally, firms are more likely to innovate if located in a region with dense presence of other firms in the same industry. On the other hand, the effect of other industries proximity does not seem to be significant. In addition, it is widely recognized that innovation tends to be stronger in clusters (Baptista and Swann, 1998), and also innovators tend to emerge in locations where the highest technological opportunities are present (Iammarino and McCann,

2006). Firms in clusters are usually very active in joint innovation-related projects. Therefore such clusters are labeled to clusters of innovation or knowledge intensive clusters.

Cluster of innovation is defined as environment that promotes the creation and development of high potential entrepreneurial ventures. Clusters of innovation are characterized by increased mobility of resources, fast business development and also strong networks creation (Engel and del-Palacio, 2009). Knowledge intensive clusters (also so-called high tech clusters) have a high share of knowledge handling labor employed. Hence such cluster growth leads to an increased demand for highly educated labor. It also results in an overall increase of the region's knowledge intensity (Karlsson, 2007). It is widely recognized that highly educated experts are important innovation drivers.

Also, informal contacts among the employees are considered to be one of the main carriers of knowledge between firms in a cluster because such contacts represent an important knowledge diffusion channel (Dahl and Pedersen, 2004). Importantly, new technological knowledge could flow locally more easily than over great distances owing to its uncodified nature. Spillover effects related to R&D activity are usually geographically localized; therefore they are important in the clustering process (Jaffe, 1989) and overall innovation activities.

Additionally, there are evident many cluster benefits to the regional economies. In addition the clusters may become the attractors for foreign direct investments, because dense network of domestic firms can compensate for policy-induced distortions and be appealing for the investments from abroad (Yehoue, 2009).

Ten years ago the Lisbon strategy of the European Union has been approved. According to this strategy, the Europe should develop the most competitive economy in the world. In this strategy the roles of the business clusters and the research and development, human resource development and the development of the knowledge based society are acknowledged as the important factors of the competitiveness. Slovakia as the member state of European Union would like also to become the research and development country, a country which wants to develop the modern industrial and postindustrial structures. The goal is for Slovakia to provide an appropriate and competitive environment for sustainable development and growth through a highly-qualified workforce (Švač and Javorek, 2009).

Slovak business clusters could be suitable factor that could help to meet these targets, and it is therefore necessary to know clusters limits and development barriers. In addition, clusters could also stimulate economic growth of Slovak firms/sectors. Therefore, detailed clusters status understanding could ideally lead to overall economic environment enhancement and thus stimulate economic growth through synergies and externalities.

This paper present result of the pilot research focused on Slovak cluster initiatives. For detailed understanding of the Slovak cluster status and challenges, further precise research has to be done.

Characteristics of the Slovak regions

Slovak Republic consists of 8 self-governing regions (Fig. 1). These regions are as follows: Bratislava, Trnava, Trenčín, Nitra, Žilina, Banská Bystrica, Prešov, Košice.

Due to historical evolution there are huge differences among these regions. Generally, economy of the west Slovakia is significantly better developed compared with the rest of the country.



FIG. 1: MAP OF THE SLOVAK SELF-GOVERNING REGIONS

The highest numbers of employees have been located in the Bratislava self-governing region (321,200), likewise the same region has had the lowest unemployment rate in Slovak Republic. The highest unemployment rate during the Q1-Q3 2010 was observed in Prešov that has been accountable for 19 % of total unemployment in Slovak Republic (Tab. 1).

TABLE 1: SELECTED CHARACTERISTICS OF THE SLOVAK SELF-GOVERNING REGIONS

Self-governing region	Companies		Individuals		Employment		Unemployment	
	No	%	No	%	No	%	No	%
Bratislava	47,789	34.1	62,580	15.2	321,200	14	20,800	5.2
Trnava	12,974	9.3	44,888	10.9	265,100	11.5	37,700	9.5
Trenčín	11,832	8.5	45,336	11	270,100	11.8	28,900	7.3
Nitra	13,937	10	52,117	12.7	294,800	12.8	58,000	14.6
Žilina	13,340	9.5	58,611	14.3	285,200	12.4	47,200	11.9
Banská Bystrica	12,464	8.9	44,857	10.9	256,100	11.1	63,000	15.8
Prešov	13,032	9.3	60,058	14.6	310,600	13.5	75,600	19.0
Košice	14,612	10.4	42,886	10.4	294,800	12.8	66,600	16.7
Slovakia	139,980	100	411,333	100	2,297,800	100	397,700	100

Source: Statistical Office of the Slovak Republic.

These trends well correlate with the overall economic structure of the Slovak self-governing regions. Bratislava region is attractive for the highest number of companies as well as individual entrepreneurs. Bratislava self-governing region has the lowest unemployment rate for long period of time because of high quality regional economic environment, excellent geographic position and highly qualified labor force. Other regions with lower unemployment rate have lower number of companies and individual entrepreneurs.

Growth poles of the Slovak regions

It is widely accepted that regional governments together with the central bodies are responsible for region's economical development. Therefore, growth poles of all Slovak regions were analyzed in Regional Innovation Strategies prepared by self-governing regions. Growth poles represent regional strengths and they are considered to be the pillars of their present and future prosperity. Identified growth poles become integral part of the central government strategies focused on Slovak economy development.

All regions detected a few growth poles that correlate with the current regional economic structures. While region Košice identified the lowest number of growth poles, region Trenčín identified seven perspective growth poles.

TABLE 2: GROWTH POLES OF THE SLOVAK SELF-GOVERNING REGIONS

Self-governing region	Growth poles
Bratislava	Logistics Information and Communication Technologies Automation, measurement and control Chemical Engineering and Biotechnology
Trnava	Energy security and renewables Automotive Electrical engineering
Trenčín	Small-scale chemistry Chemical Specialties Industrial Ecology Advanced materials Mechatronics Semiconductors
Nitra	Agriculture Food technology and their Biotechnology Traditional and nontraditional foods and their safety Plastics Processing Biotechnology Ecology and environmental science in relation to food industry
Žilina	Information and communication Technologies Bearing industry Engineering Industry Air and Rail Transport Selected areas of medicine
Banská Bystrica	Timber industry Ecology and Environmental Technologies Renewable energy Metallurgy, processing and recycling of light metals Working machinery and equipment and their systems
Prešov	Automation and mechanization of industry Packaging Materials Selected health and pharmacy
Košice	Biotechnology – probiotics and biomodulators, applications of bioactive substances Metallurgical Industry

Source: *Innovation Policy of the Slovak Republic for 2008 to 2010.*

A growth poles overlapping is evident between Banská Bystrica and Trnava regions, where Renewables are considered as the same growth pole. In the case of Bratislava and Prešov the Automation has been detected in both regions as joint denominator. These relatively small overlapping indicate sectors heterogeneity in the view of regional economic structure. It could be concluded that detected growth poles do not reveal emerging sectors in any of the Slovak regions.

Slovak business cluster initiatives – the cluster mapping

The important step in identifying the cluster initiatives was their mapping. This was done based on a questionnaire survey conducted in March/April 2010. A questionnaire was sent to cluster managers. All questionnaires were returned, which represents a 100 % response.

Based on the results of survey it was identified that fourteen cluster organizations are active in the Slovak economy. In addition to them there are other clusters that are, however, in the very early stage of development. They do not yet exert the real activities and their future development is unclear. That is why they have been excluded from our analyses. Cluster initiatives in Slovakia could be divided into two groups: technological clusters and clusters in tourism. Both subgroups are presented in Tab. 3 and Tab. 5, respectively.

Technological clusters

At present Slovakia is considered to be predominately an industry-based economy. Therefore, technological clusters are important kind of clusters in Slovakia.

Currently nine technology-based clusters operate in Slovakia (Tab. 3). Many of these cluster organizations are not strongly geographically localized, but their operation area represented by cluster firm's members is cross-regional, for instance Cluster AT+R (advanced technology and research operate in three self-governing regions (Žilina, Prešov, Košice). Cluster headquarters are located in five self-governing regions. It means that three self-governing regions still have no cluster organization at their territory. Clusters were founded by self-governing regions, firms, universities and high professional schools. It means that self-governing regions were usually major actors in the formation of cluster seed in early stages of the development, since clusters stimulate regional development, and they could help to overcome a few region economic weaknesses. Nearly all clusters are region centered because headquarters are located in the capitals of the regions. Only one cluster headquarter (1st Slovak Engineering Cluster) has not been located in regional metropolis.

TABLE 3: SLOVAK TECHNOLOGY-ORIENTED CLUSTERS

Cluster organizations	Location of the cluster's head office		Founders	Date of establishment
	Region	City		
1 st Slovak Engineering Cluster	Banska Bystrica self-governing region	Detva	self-governing region, companies, universities, high-schools	XI.4.2008
Automotive Cluster - West Slovakia	Trnava self-governing Region	Trnava	self-governing region, Trnava city	XII.7.2007
BITERAP	Košice self-governing region	Košice	companies	XI.30.2004
Electro Cluster - West Slovakia	Trnava self-Governing Region	Galanta	self-governing region, Galanta city	V.23.2008
Energy Cluster - West Slovakia	Trnava self-Governing Region	Trnava	self-governing region, Trnava city, The Union of the Towns and Cities of Slovakia	XII.2.2009
Cluster AT+R	Košice self-governing region	Košice	self-governing regions, companies, university	VII.14.2010
Košice IT Valley	Košice self-governing region	Košice	self-governing region,	III.6.2007

	region			companies	
Slovak Plastic Cluster	Nitra region	self-governing	Nitra	companies, high-schools	III.23.2009
Z@ict	Žilina region	self-governing	Žilina	self-governing region, companies university	VI.30.2008

All technology-oriented clusters have at least seven members, except of Electro Cluster – West Slovakia which has 3 members only (Fig. 2). Nevertheless, this cluster is relatively powered because of its active participation in several international projects. Other clusters have been engaged in many domestic and international projects as well.

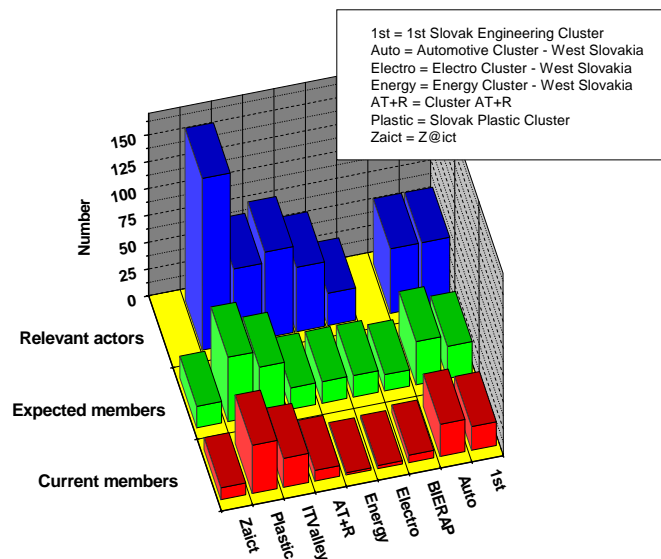


FIG.2: NUMBER OF ACTORS IN TECHNOLOGY-ORIENTED CLUSTERS

The highest numbers of members have Automotive Cluster – West Slovakia (30), 1st Slovak Engineering Cluster (22), Košice IT Valley (27) and Slovak Plastics Cluster (45) (Fig. 2). None of them is already saturated in terms of firm's membership, but contrary all technology-oriented clusters are open to new firms members, for example Slovak Plastic Cluster expects to have about 60 members, Automotive Cluster – West Slovakia about 40, 1st Slovak Engineering Cluster about 30 and IT Valley 45 members in the nearest future.

Similarly almost all clusters have many important actors in their proximity, e.g. Slovak Plastic Cluster highlighted about 160 players, Automotive Cluster – West Slovakia 60, 1st Slovak Engineering Cluster about 60 and IT Valley 70 actors interesting for them.

Interestingly, defined growth poles relatively well correlate with the orientation of the technology-based clusters (Tab. 4), excluding the clusters founded in Košice self-governing region (BITERAP, Cluster AT+R, Košice IT Valley). It implies that defined growth poles relatively well correlate with region's economies. In the case of Košice region Biotechnology and Metallurgical Industry were identified as major growth poles because of US Steel Košice is the biggest plant in the region. It indicates that new emerging high tech sectors such as IT, automation and robotic have appeared in the Košice region. On the other hand, as described above Cluster AT+R is oriented on Automation and Robotics, and it is cross-regional cluster. In addition, Prešov self-governing region defined Automation and mechanization of industry as key growth poles. It implies that cluster AT+R covers Prešov Self-governing region orientation and consequently could stimulate growth of this region as well.

Future cluster prosperity will depend on strengthening the cooperation with Slovak and foreign R&D centers. Mainly technology oriented universities such as Slovak University of Technology in Bratislava and The Technical University of Košice, and also Slovak Academy of Sciences (SAS) should become the main innovation

drivers in the technology oriented clusters. The attainment of these goals represents the huge challenge of redefining priorities of the Slovak public R&D centers (universities, SAS) focusing their activities on applied research and the expectation of the real economy.

TABLE 4: SLOVAK TECHNOLOGY-ORIENTED CLUSTERS

Cluster organizations	Focus	Location	Relevant growth pole
1st Slovak Engineering Cluster	Engineering	Banska Bystrica self-governing region	Metallurgy, processing and recycling of light metals Working machinery and equipment and their systems
Automotive Cluster - West Slovakia	Automotive	Trnava Self-Governing Region	Automotive
BITERAP	IT	Košice self-governing region	none
Electro Cluster - West Slovakia	Electrical engineering	Trnava Self-Governing Region	Electrotechnical Industry
Energy Cluster - West Slovakia	Power engineering	Trnava Self-Governing Region	Energy security and renewables
Cluster AT+R	Automation, robotics	Košice self-governing region	none
Košice IT Valley	IT	Košice self-governing region	none
Slovak Plastic Cluster	Polymers technology	Nitra self-governing region	Plastics Processing
Z@ict	IT	Žilina self-governing region	Information and communication Technologies

In addition the instruments of the technology transfer has to be further developed, which should enable the better valorization of the results of research and development. Currently the technology transfer offices are being established on Slovak technology universities. Potentially they should become the important contact points for innovative companies and clusters as well. Besides, the innovation generated infrastructure such as science parks and incubators should be intensively promoted. Moreover, the venture capital infrastructure should be further developed.

All technology oriented Slovak clusters are innovation oriented, and therefore their core activities are mainly education, joint projects (e.g. R&D projects), PR and marketing activities, and also international networking. Since all clusters have relatively short history, their real activities portfolios will have to expand in the future.

Clusters in tourism

Clusters in tourism are important kind of clusters that are developing quickly. They offer higher flexibility, enable the sharing of marketing information; they are the catalysts of resource development, innovation and knowledge transfer. Such tourist alliances usually generate quality improvement of services, the enhanced visibility, cross-marketing activities with other cluster members, and the involvement in important events (Novelli, Schmitz and Spencer, 2006).

Currently five cluster organizations in tourism are really active in three Slovak self-governing regions (Tab. 5). It indicates that five self governing regions have no real clusters in tourism at their territory. All tourist clusters operate at specific tourist attractive micro-regions. Interestingly, three clusters (Orava, Liptov, Turiec) operate in the same self-governing region (Žilina). All clusters were founded by companies, municipalities and self governing region.

TABLE 5: SLOVAK TOURIST CLUSTERS

Cluster organizations	Head office		Founder	Date of Establishment
	Self-governing region	City		
Tourist Cluster –West Slovakia	Trnava self-governing region	Trnava	self-governing region, Galanta city	XII.1.2008
Cluster Liptov	Žilina self-governing region	Liptovský Mikuláš	cities, companies	VIII.8.2008
Cluster Orava	Žilina self-governing Region	Dolný Kubín	villages, companies	VIII.5.2008
Cluster Turiec	Žilina self-governing Region	Martin	cities, companies	VII.7.2009
Balnea Cluster Dudince	Banska Bystrica self-governing region (BBSK)	Dudince	city, companies	VI.6.2008

Intensive clustering activity fostered by entrepreneurs indicates that tourist-related companies are more active compared with the technology clusters. The strong clustering activity is the result of the strong competition among Slovak, cross-border regions and adjacent foreign tourist regions.

Only one cluster (Tourist Cluster –West Slovakia) is region centered because it has CEO located within the region capital (Trnava), while others are micro-region centered. Interestingly clusters Liptov, Orava and Turiec have joint borders but historically, culturally, geographically they have operated at different (micro) regions. Except of Balnea Cluster Dudince oriented on health tourism others are focused on traditional tourism–stimulating activities. Slovak tourist clusters have at least five members (Fig. 3). The highest number of members has Cluster Orava (14), Balnea Cluster Dudince (8) and Cluster Liptov (7). Likewise to technology-oriented clusters, tourist clusters also expect increased interest in membership, and emphasize that there are numerous important actors in their proximity, that can potentially become the cluster’s members.

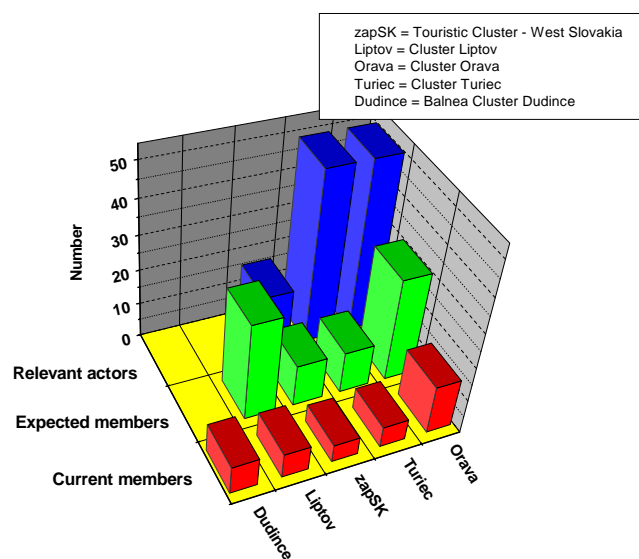


FIG.3: PLAYERS RELEVANT TO THE CLUSTERS IN TOURISM

For example Cluster Orava expects that its membership will grow up to 30 members, Cluster Liptov 28 and Tourist Cluster – West Slovakia up to 12 members in the future. Number of important actors varies among the clusters, for example Cluster Orava highlighted about 50 relevant actors and Cluster Turiec about 50, while Tourist Cluster – West Slovakia approximately 17 players only. Due to specific focus of the Balnea Cluster Dudince there are no other important actors because all relevant players are already cluster members and Cluster Liptov did not answer this question. Currently, targeted marketing is the core activity of the Slovak tourist clusters focused on Slovakia and also central Europe counties (Hungary, Czech, Poland). In addition, the joint projects, events and also public relations activities represent the important part of their activities. Similarly to the technology-oriented clusters they have the potential to boost the cluster activities in the near future. Destination management of the clustered regions is facing to the new challenges of deeper competition/cooperation between all European regions, and especially in the Central European Countries.

Cluster expectations, problems and challenges

There is no principal difference between technology-oriented and tourist clusters in terms of their principal barriers and future development limits. Generally, both kinds of clusters are under-funded. It could be concluded that cluster long term sustainability is strongly determined by targeted cluster policy or any other external stimuli and the initial public subsidies. Additionally cooperation between cluster players has to be enhanced by boosting real activities because there is huge potential for joint pro-innovation activities stimulating firm's growth. Many countries have well working cluster policies that overcome barriers of the cluster development. This is not yet a Slovak case. Therefore, the development of cluster policy represents the significant challenge for policy makers in Slovakia. All studied clusters were established without central government subsidies in early stages of their development. It indicates that future cluster-policy should stimulate growth of the relatively well working clusters. We can anticipate that future cluster establishment will also be spontaneous. Hence there is no reason for subsidizing of a new cluster creation. This supporting philosophy was fully accepted by cluster managers during the joint cluster workshop. Moreover the spontaneous creation of new cluster initiatives (excluded from this analysis) supports this result. Since Slovak National Innovation System does not bring the expected results, there is rising challenge in the field of its rearrangement. Especially technology-oriented clusters emphasize necessity of the so-called Regional Innovation Centers which could help to clusters innovate more systematically. At present the further development of cluster activities as well as the enhancement of mutual cooperation is coordinated by the association of Cluster Union of Slovakia. Founders of the Cluster Union are as follows: Slovak Plastic Cluster, 1st Slovak Engineering Cluster, Košice IT Valley, Cluster Liptov, Cluster Orava and Cluster Turiec. The ratio between technology-oriented and tourist clusters is equal. One of the important goal of the Cluster Union is to enhance overall pro-cluster environment and to lobby for improvement of the cluster and innovation policy in Slovakia. Currently, Clusters Union of Slovakia took active part in a several international projects focused on networking and economy-related policies. In such a way the Cluster Union is becoming the important player in the Slovak economy.

Conclusions

Clusters are important factor of the regional economic growth in many countries. Therefore clusters are becoming vital part of many economies because they provide unique opportunities to stay competitive due to improvement of the pro-innovation environment. This is case of many developed countries as well as Slovak Republic. Slovak Republic consists of 8 self-governing regions. Owing to its different evolution there are huge differences between the Slovak regions. Generally, economy of the west Slovakia is significantly better developed compared with the rest of the country. It is widely recognized that regional governments are directly responsible for regional economic growth. Therefore, regions growth poles of the Slovak regions have been analyzed in Regional Innovation Strategies prepared by all self-governing regions. Identified growth poles correlate with the current regional economic structures and clusters established at their territories. Currently fourteen cluster organizations are active in Slovakia. All Slovak clusters were established by regional municipalities, self-governing regions and entrepreneurs without direct support of central government. The spectrum of cluster organizations is relatively wide – from automotive,

electrical engineering, power engineering, polymers technology, engineering to IT and tourism. Currently nine technology-based clusters operate in Slovak Republic. Many of these cluster organizations are not strongly geographically localized. Their operation area represented by members is cross-regional. Cluster head offices are located in five self-governing regions. Clusters were founded mainly by self governing regions and companies. Nearly all clusters are region centered because their head offices are located in the regional capitals. All Slovak technology-oriented clusters have been engaged in many domestic and international projects as well. Especially the foreign projects were the important channel for transfer of know-how from countries with longer cluster initiatives traditions into Slovakia. All technology-oriented clusters have potential for their further growth. Likewise the technology clusters, the clusters in tourism are quickly developing. Currently five cluster organizations in tourism are really active in three Slovak self-governing regions. The tourist clusters focus their activities at specific tourist attractive micro-regions. Less attractive region did not record so far the clustering activities in the area of tourism. No differences between technology-oriented and tourist clusters in terms of development limitations were observed. Both kinds of clusters are having the funding problems. Therefore cluster policy represents the significant challenge for policy makers in Slovakia. Further cluster-policy should stimulate growth of relatively well working clusters. Since all Slovak cluster organizations were established without direct support of the central government, perspective cluster policy should be oriented on boosting cluster activities/growth. Moreover the important factor of cluster development is specifically tailored innovation infrastructure, that is important denominator future competitiveness of the associated organizations in the clusters.

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Perspectives on Employee Learning in New Zealand SME's

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Abstract

Small firms represent a significant part of the workplace-learning context in New Zealand, and in other East Asia economies. Organisations large and small provide opportunities for their employees to learn in a variety of ways. Employee cohorts range from the Novices (18 to 24), the Semi-Experienced Specialists (25 to 44) and the Matured Specialists (older than 45 years). In this study we explore if these 3 groups of employees differ in their perception of learning opportunities available to them in their workplace. Data were gathered from employees in mostly small batch manufacturing firms that produce products designed to customer specifications, such as special-order machine tools, custom clothing, and printing. We used ANOVA to analyse the data as it helps to identify if there are significant differences between these three groups of employees in their perception of different aspects of workplace learning.

Key Words: Employee learning, ANOVA, New Zealand, SME's

Introduction

Organisations large and small provide opportunities for their employees to learn in a variety of ways. Employee cohorts range from the Novices (18 to 24), the Semi-Experienced Specialists (25 to 44) and the Matured Specialists (older than 45 years). In this study we explore if these 3 groups of employees differ in their perception of learning opportunities available to them in their workplace. The areas of learning opportunities available to employees in the small and medium manufacturing sector in New Zealand were identified as: a) Organisational support for learning; b) Supervisor's proximate support for learning; In addition we also investigated a) employees satisfaction with their workplace learning and b) their methods of learning.

Small firms represent a significant part of the workplace-learning context in New Zealand, and in other East Asia economies. For example, almost 99 percent of New Zealand enterprises employ 49 or fewer full time equivalent employees, and these firms account for approximately 54 percent of all people employed in enterprises. In regard to other East Asia economies, small enterprises create most of the employment in East Asia and are the backbone for regional economic growth (Harvie & Lee, 2005). Accordingly, development of small firms in the East Asia has a crucial role in new employment creation and sustained economic growth in the region. This includes development of the human capital in these firms through learning processes.

Theoretical Background

An adaptation of Lewin's (1951) B-P-E model served as the framework for the study. The B-P-E model (as detailed below) postulates a relationship among three major components of learning/facilitating interactions. This relationship has been reiterated and extended by several authors (Bandura, 1977; Hunt & Sullivan, 1974; Kidd, 1973; Knowles, 1990; Mackeracher, 1996). Furthermore, according to Davis and Luthans (1980), the B-P-E model has been widely adopted by the organisational behaviour field as a theoretical framework to explain behaviour.

Behaviour is a function of the interaction between Person and Environment:

$$B = f(P, E).$$

When we apply the B-P-E model to the learning/facilitating context, the "P" stands for Person (the learner), and can include any characteristic of a learner (for example, motivation, self-efficacy, and attitudes) that affects learning. The "B" stands for Behaviour, and can include any outcome (for example, the knowledge, skills and attitudes that are learned, and how the learner responds to the learning process) that occurs during, or after the learning/facilitating interaction. The "E" stands for Environment, and can include any factor within the learning situation or context which might effect or affect learning, including, for example, learning interventions, quality of the physical environment, social support, and learning potential of the work system. The facilitator can be thought of as a very influential component of the learning environment, through the provision of guidance, information, feedback, reinforcement, and support (MacKeracher, 1996).

Data Collection

Data was gathered from employees in mostly small batch manufacturing firms that produce products designed to customer specifications, such as special-order machine tools, custom clothing, and printing. It could reasonably be assumed that workplace learning is particularly important in such firms. Small batch manufacturing is close to traditional skilled-craft work, because people are a large part of the production process (Daft, 2000). Furthermore, employees are likely to often encounter novel work problems when products are made to customer specifications. Apart from the need to solve novel work problems, other situations that prompted learning in these firms included the arrival of newcomers and their needs' to be socialised and trained, the need to comply with health and safety requirements, and continuous improvement efforts.

To recruit participants, lists containing contact (and other) details of small manufacturing firms were purchased from a commercial database supplier. Using these lists as the sampling frame, a systematic sampling procedure (Zikmund, 2000) was employed to randomly select 120 firms that would be invited to participate in the study. Pre-notice letters were mailed to owner-managers of these firms. The letter provided notice that the recipient would be receiving a telephone call to request help with an important study. The owner-managers of 31 firms agreed to allow their staff to participate in the study. Within these firms, all employees in the operating cores were invited to complete the questionnaire.

Three methods of survey implementation were used: (1) on-site group administration; (2) the drop-off-and-collect method; and (3) the postal system. Giving questionnaires to an assembled group of staff to complete was the most efficient method. Following Dillman (2000), a protocol for group administration of the questionnaires was developed to keep the questionnaire completion environment the same for all groups and individuals. The in-person drop-off-and-collect method of survey administration involved visiting owner-managers at their firms to drop-off questionnaires and to agree on suitable times to collect completed questionnaires. Some owner-managers preferred to have the questionnaires delivered and returned by mail. Using these three methods, 464 useable questionnaires were received from employees in the participating firms. Of this total, 76 respondents were in the 18-24 category (novices), 255 were in the 25-44 category (semi-experienced specialists) and 133 were over 45 years (Matured specialists category).

Questionnaire Development

The questionnaire was divided into four sections (A, B, C, and D). In sections A, B and C, positively (and a few negatively) stated propositions and a seven-point scale (7 = strongly agree, 1 = strongly disagree) were used to measure employee perceptions of work environment characteristics, immediate workplace supervisors' proximate support for learning, and (dis)satisfaction with learning, respectively. Negatively worded items were reverse coded.

In section D, questionnaire items measured the employees' perceptions of the usefulness of seven 'aids to learning'. These 'aids to learning' consisted of three sources of learning (immediate supervisor; other managers; and workmates) and four methods of learning (everyday work activities; on-the-job training; observing and listening; and trial and error). Responses were recorded on a five-point scale (5 = extremely useful, 1 = not at all useful).

Results

After determining the mean values for the three groups, it is necessary to determine if there are significant differences between the three groups of employees. We used Analysis of variance (ANOVA) to analyse the data as it helps to identify if there are significant differences between these three groups of employees in their perception of different aspects of workplace learning. As an analytical technique, ANOVA is capable of statistically differentiating between the three different groups. The results of our analysis clearly indicate that there are significant differences between the different groups. Table 1 below provides the ANOVA results and identifies the variables in which the differences between the groups are statistically significant.

TABLE 1: SUMMARY OF THE ANOVA RESULTS*

Var. No.	Variable Description	F-ratio	Sig. Level
A5	In my workplace training is arranged for me	3.71	0.03
A8	In my workplace people take time to figure out ways to improve	4.22	0.02
A9	In my workplace people feel encouraged to experiment to learn new ways of doing things.	3.77	0.02
A13	In my workplace managers share learning experiences	3.99	0.02
B1	My immediate supervisor discusses my performance	4.20	0.02
B2	My immediate supervisor asks what I need to learn	2.24	0.10*
B6	My immediate supervisor provides on the job training	3.40	0.03
B7	My immediate supervisor arranges help from others	3.51	0.03
C2	I am satisfied with my personal development since joining this organisation	2.56	0.08*
E1	I learn from my immediate supervisor	2.67	0.07*
E2	I learn from other managers in my organisation	3.50	0.03
E3	I learn from my workmates	10.49	0.00
E5	I learn from on the job training (direct instruction)	7.11	0.01
E7	I learn from trial and error	3.4	0.03

*Significant at $p < 0.10$

Only the variables with significant mean differences between the three groups are presented. The ANOVA results showed that there are significant differences between the three groups of employees across fourteen variables of the 31 variables used to assess these different dimensions (see Table 1).

Learning opportunities

An examination of the mean values of the four items used to assess the opportunities for learning in the workplace reveals that all the employees agreed that there were opportunities to — A1: learn different tasks ($\bar{x} = 5.55$); A2: take on challenging tasks ($\bar{x} = 5.43$); A3: choose their own methods of working ($\bar{x} = 4.69$) and A4 to use their abilities ($\bar{x} = 5.45$). The mean values of the novices were higher than the other two groups for all 4 items. However, there were no significant differences between the novices, the semi-experienced and the matured specialists.

Organisational support for learning

It can be seen from the mean values of the nine items used to measure this dimension that for 4 items they were either greater than or very close to 5 indicating that all 3 groups agreed to these statements. These are identified as — A5: training is arranged for you ($\bar{x} = 5.06$); A6: no informal training available ($\bar{x} = 4.99$); A7: managers tolerate mistakes ($\bar{x} = 5.43$); A8: take time to figure out ways to improve ($\bar{x} = 5.26$)

The level of agreements is lower across the three groups for another four variables — A9: feel encouraged to experiment ($\bar{x} = 4.88$); A10: ideas for change welcomed ($\bar{x} = 4.77$); A11: little encouragement to learn skills ($\bar{x} = 4.78$); A13: managers share learning experiences ($\bar{x} = 4.59$). Interestingly all groups disagreed that A12: learning new skills are rewarded ($\bar{x} = 3.87$)

Patterns in the means suggest that the means for novices had a higher level of agreement for all the 9 items that measured organisational support for learning. Further, ANOVA results reveal that there are differences between the three groups of employees in respect of — A5: training is arranged for you; A8: take time to figure out ways to improve; A9: feel encouraged to experiment and A13: managers share learning experiences. Novices viewed these more favourably than semi-experienced or matured specialists. The mean values for novices are above 5 for all these variables, except A13 with a slightly lower mean.

Supervisor's proximate support for employee learning

In this section we examine if Supervisor's proximate support to learning is viewed favourably. There were opportunities for one-on-one interactions between the supervisor and the employees in these firms. Hence employees are in a position to assess supervisors support to workplace learning. The mean values for the three groups of employees are provided in the Appendix.

The results show that in respect of 7 items (B1 to B7) that assessed supervisors' proximate support for learning, the level of agreement was highest for B4: available to talk about problems ($\bar{x} = 5.58$) followed by B5: works with me to solve problems ($\bar{x} = 5.31$); B7: arranges help from others ($\bar{x} = 5.22$); B6: provides on the job training ($\bar{x} = 5.04$); B3: provides constructive feedback ($\bar{x} = 4.784$); B2: asks what I need to learn ($\bar{x} = 4.45$); and B1: ($\bar{x} = 4.62$).

The mean values for all the 7 items are higher for the novices as compared to either semi-experienced or the matured specialists. ANOVA results show that there are significant differences between the three groups for 4 of the 7 items assessing supervisors' proximate support for learning and they are – My immediate supervisor B1: discusses my performance, B2 asks what I need to learn, B6: provides on the job training and B7: arranges help from others.

Satisfaction with learning

Four items, C1 to C4 pertaining to satisfaction with learning mostly elicited high mean values of above 5. The exception was C3: my training didn't cover basics ($\bar{x} = 4.85$). Higher mean value were recorded by C2: satisfied with personal development ($\bar{x} = 5.54$); C1: satisfied with what I have learned ($\bar{x} = 5.51$); and C4:

organisation has helped me develop ($\bar{x} = 5.23$). ANOVA results indicates that there are differences between the three groups in respect of one item namely, C2: satisfied with personal development.

Sources and methods of learning

Items in this section (D) were measured on a 5 point scale (1= not at all useful; 5 = extremely useful). 7 items were used in this section and three of these measured Sources of learning (D1 to D3) while the remaining 4 assessed methods of learning (D4 to D7).

The mean values of D1: my immediate supervisor ($\bar{x} = 3.63$); D2: other managers in my organisation ($\bar{x} = 3.23$); D3: my workmates ($\bar{x} = 3.77$). suggest that employees regarded their workmates as the most useful source of learning. Immediate supervisors were also useful sources of learning while other managers in the organisation were not regarded highly as a source of learning. ANOVA results show that there are significant differences between the novices, the semi-experienced and the matured specialists with regard to all the three items which were used to measure sources of learning.

In terms of methods of learning, D6: observing and listening ($\bar{x} = 3.95$) recorded the highest mean followed by D4: everyday work activities ($\bar{x} = 3.75$); D7: trial and error ($\bar{x} = 3.56$); and D5: on-the-job training ($\bar{x} = 3.53$). ANOVA results indicate that there are significant differences between the three groups of employees in terms of D5: on-the-job training and D7: trial and error.

Implications

The results of the study reveal that, of the 31 variables used to assess these different dimensions, the semi experienced group of employees recorded the lowest means for 21 items whilst the highly experienced specialist recorded the lowest means for 9 items and the novices recorded the lowest mean for only one item. These different groups of employees are not a homogenous group but are significantly different in their perception of a) Organisational support for learning; b) Supervisor's proximate support for learning; c) satisfaction with their workplace learning and b) their methods of learning.

Hence we cannot assume that employee learning processes will be identical or that employees will perceive work environment conditions and the workplace supervisors' proximate support for learning similarly. Therefore managers should adopt different approaches to facilitate engagement in workplace learning by the different cohorts of employees.

The growing awareness of the need to foster learning at and through work has far-reaching consequences for managers, who are expected to manage the workplace as a place fit for learning. The literatures that focus on workplace learning, organisational learning, and the learning organisation encourage managers to move away from a directing role and towards that of coach and facilitator, and thus take on increasing responsibility for supporting the learning of their staff (Ellinger, Watkins, & Bostrom, 1999; Hughes, 2004; Lang & Wittig-Berman, 2000; Sambrook & Stewart, 2000).

One of the widely debated issues is the development and management of formal and informal learning among employees in SMEs. This study clearly shows as to how employees differ with age. Some experts in the field maintain that age differences are critical and that the learning needs and methods of twenty year-old in this decade is different from those of a person say, fifty year-old employee. Others dispute that contention and argue that cohort and generational effects are not critical. This study provides empirical evidence and suggests that learning programs need to vary for these increasingly different cohorts of employees.

APPENDIX 1: ABBREVIATED QUESTIONNAIRE ITEMS AND GROUP MEANS

<i>Items</i>	<i>Novices</i> (\bar{x}_N)	<i>Semi Experienced</i> (\bar{x}_{SE})	<i>Matured Specialists</i> (\bar{x}_{MS})
Work Environment Characteristics			
<i>Learning opportunities</i>			
A1*: opportunities to learn different tasks	5.54	5.49	5.68
A2*: opportunities to take on challenging tasks	5.51	5.43	5.39
A3: opportunities to choose own methods	5.01	4.65	4.69
A4: opportunities to use abilities	5.53	5.45	5.42
<i>Organisational support for learning</i>			
A5: training is arranged for you	5.44	4.92	5.11
A6: no informal training available	5.14	4.94	4.98
A7: managers tolerate mistakes	5.54	5.44	5.31
A8: take time to figure out ways to improve	5.59	5.12	5.35
A9: feel encouraged to experiment	5.09	4.72	5.09
A10: ideas for change welcomed	4.80	4.67	4.96
A11: little encouragement to learn skills	4.75	4.71	4.93
A12: learning new skills rewarded	3.97	3.81	3.93
A13: managers share learning experiences	4.84	4.41	4.80
Supervisors' Proximate Support for Learning			
B1: discusses my performance	5.11	4.46	4.63
B2: asks what I need to learn	4.80	4.34	4.47
B3: provides constructive feedback	5.05	4.72	4.74
B4: available to talk about problems	5.78	5.57	5.48
B5: works with me to solve problems	5.48	5.32	5.19
B6: provides on the job training	5.44	4.98	4.90
B7: arranges help from others	5.62	5.17	5.09
(Dis)Satisfaction with Learning			
C1: satisfied with what I have learned	5.71	5.44	5.55
C2: satisfied with personal development	5.81	5.43	5.59
C3: my training didn't cover basics	5.20	4.78	4.79
C4: organisation has helped me develop	5.45	5.20	5.18
Methods of Learning			
<i>Sources of learning</i>			
D1: My Immediate supervisor	3.87	3.57	3.59
D2: Other managers in my organisation	3.19	3.13	3.44
D3: My workmates	4.20	3.66	3.72
<i>Methods of learning</i>			
D4: Everyday work activities	3.83	3.71	3.79
D5: On-the-job training	3.82	3.37	3.67
D6: Observing and listening	4.05	3.93	3.93
D7: Trial and error	3.75	3.60	3.36

* Items in this section (D) were measured on a 5 point scale (1= not at all useful; 5 = extremely useful). All the other items were measured on a 7 point Likert scale (1= strongly disagree; 7 = strongly agree).

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Innovation Performance and Economic Performance of SMEs in Bangalore: An Empirical Analysis

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Abstract

This paper is an attempt to probe how entrepreneurship and firm level factors promote technological innovations and thereby facilitate economic performance of Small & Medium Enterprises (SMEs) in the context of auto components, electronics and machine tool sectors in the city of Bangalore, India. Based on primary data from 157 SMEs for a period of five years (2001/02-2005/06) and by means of step-wise regression analysis, this paper throws light on how entrepreneurship and other firm level factors influence innovation and how entrepreneurship, firm level factors and innovations determine economic performance of SMEs. Innovative SMEs mostly comprise technically qualified entrepreneurs, exclusive design office, and carry out innovations with external support. Together they determine the innovation performance of SMEs in terms of innovation sales. Innovation sales and factor inputs enable entrepreneurs, particularly of younger firms, to achieve better economic performance in the form of higher growth of sales turnover.

Introduction:

Innovations are a necessary precondition for a knowledge-oriented business which promote not only the economic competitiveness of the whole country, but also the welfare of each entrepreneur and the society (Ciemleja and Lace, 2008). Among firms of different sizes, Small and Medium Enterprises (SMEs) across industries and economies have the unrealized innovation potential (Chaminade and Van-Lauridsen, 2006; The World Bank, 2010). This is attributed to their inherent characteristics such as flexibility, better adaptability and receptivity, effective internal communication, simple organizational structure, etc. (Ussman, et al, 2001). Although SMEs typically face considerable resource constraints, they are often successful innovators (Rosenbusch, et al, forthcoming). The success of small firm innovation would invariably revolve around the personality of the entrepreneur/s and characteristics of the firm.

Considering the above, this paper attempts to understand how entrepreneurship and firm level factors promote innovation and thereby facilitate economic performance of SMEs? This question has been probed in the context of auto components, electronics and machine tool sectors in the city of Bangalore, India covering 157 SMEs. Primary data were gathered using a structured schedule for a period of five years: 2001/02-2005/06 on quantitative variables such as employment, investment and sales turnover, apart from data on background of entrepreneurs, firm characteristics, nature of innovations and innovation sales. We have used step-wise regression to determine how entrepreneurship and other firm level factors influence innovation and how firm level factors and innovation performance determine economic performance over a period of time.

Firm level factors, innovation performance and economic performance of SMEs:

Technological innovation is a key factor in a firm's competitiveness. Technological innovation is unavoidable for firms which want to develop and maintain a competitive advantage and/or gain entry into new markets (Becheikh, et al, 2006). Among firms of different sizes, SMEs are generally more flexible, adapt themselves better, and are better placed to develop and implement new ideas. These qualities along with their simple organizational structure, their low risk and receptivity are in fact essential features facilitating them to be innovative (Harrison and Watson, 1998).

Therefore it is appropriate to examine the internal factors closely which might influence SME innovation capability either with or without external support. Several empirical studies with reference to diverse economies have identified various internal factors that would influence SMEs to obtain external support and innovate.

According to Radas and Bozic (2009) innovative performance of SMEs is influenced by internal factors involving characteristics and policies of SMEs and external factors of opportunities that SMEs can seize from its environment. Important internal factors for SMEs to develop their innovative capabilities are owners' technical education and prior work experience, technical skills of the workforce, and investment in R&D and training (Romijn and Albaladejo, 2002).

Researchers found the background and role of entrepreneurs crucial for SME innovations. This observation was found to be upheld in different countries and different industries. Ciemleja and Lace (2008) found that innovative activity of the enterprise is directly connected with the educational level of managers. Unskilled management of SMEs reduces its innovative ability. Technical education background and work experience of entrepreneurs in the same industry generate necessary technological capability and thereby facilitate the technological innovations of small firms (Bala Subrahmanya, 2007). Academic experience of the CEO, among others, was an important determinant of innovation performance of SMEs in the bio-technology industry of South Korea (Kang and Lee, 2008). Science or engineering educational qualification of entrepreneurs and university trained engineers and designers as a percentage of total work-force are some of the important internal factors which influenced innovation capability of SMEs in China (Tie-jun and Jin, 2006). This brings out that it is not only the technically qualified owner/manager but also proportion of technical work-force in total work-force which matters for a firm's innovation capability.

Another internal factor that would determine innovation capability is the presence of an exclusive design office. A design office is more oriented towards the development and improvement of existing products than radical innovation. The design office is composed of engineers and technicians. It gives a better picture of innovative activities in SMEs. Firms which are endowed with this office have already structured their innovative capabilities and they rely less on informal knowledge (Bougrain and Haudeville, 2002). A SME with technically qualified owners/managers who have innovative attitudes, a relatively high proportion of technically qualified or skilled labour force and have an exclusive design office would be able to scout for, seek and successfully obtain appropriate external support. Most innovative small firms are involved in extensive and diverse links with a variety of external sources of knowledge and expertise (Freel, 2000). Acquiring knowledge and skills through external collaboration has become an effective and efficient way towards the success of innovations of SMEs (Kaminski, et al, 2008).

Further, firms which engage themselves in more frequent innovations are likely to have stronger innovative capabilities and therefore firms which engage in innovation only occasionally or infrequently with relatively weak innovative capabilities may find fewer firms willing to enter alliances with them (Sen and Egelhoff, 2000). Among firms, new ventures benefit more from innovation than aged and established SMEs. Considering the trade-off between flexibility and specialization of resources as companies mature, the flexibility of new firms might be more beneficial for innovation success than specialization of assets found in established firms. As such the flexibility of new firms might enable them to adapt to changing environments or induce rapid industry changes themselves (Rosenbusch, et al, forthcoming). Marques and Ferreira (2009) reveal that firm level factors such as quality of entrepreneurship, life cycle, age and size of firms along with external partnerships or cooperation have a significant influence on a firm's innovative capacity and this in turn has an influence on firm's sales turnover.

SMEs which develop innovative capability with or without external support achieve either cost effective, quality improved, improved versions of existing products or altogether new products. This is a desirable outcome as it enables them to gain and maintain technological advantage over competitors (Lee, 1998). If they succeed, they would realize a greater share of such innovated products in their total sales. As a result many such innovative SMEs might achieve a higher growth of sales turnover. However not many empirical studies, which have studied SME innovations, have focused on probing the relationship between innovation and firm performance (Hoffman, et al, 1998). A major difficulty in observing the effect of innovation on growth is that it may take a firm a long time to convert increases in economically valuable knowledge (i.e. innovation) into economic performance.

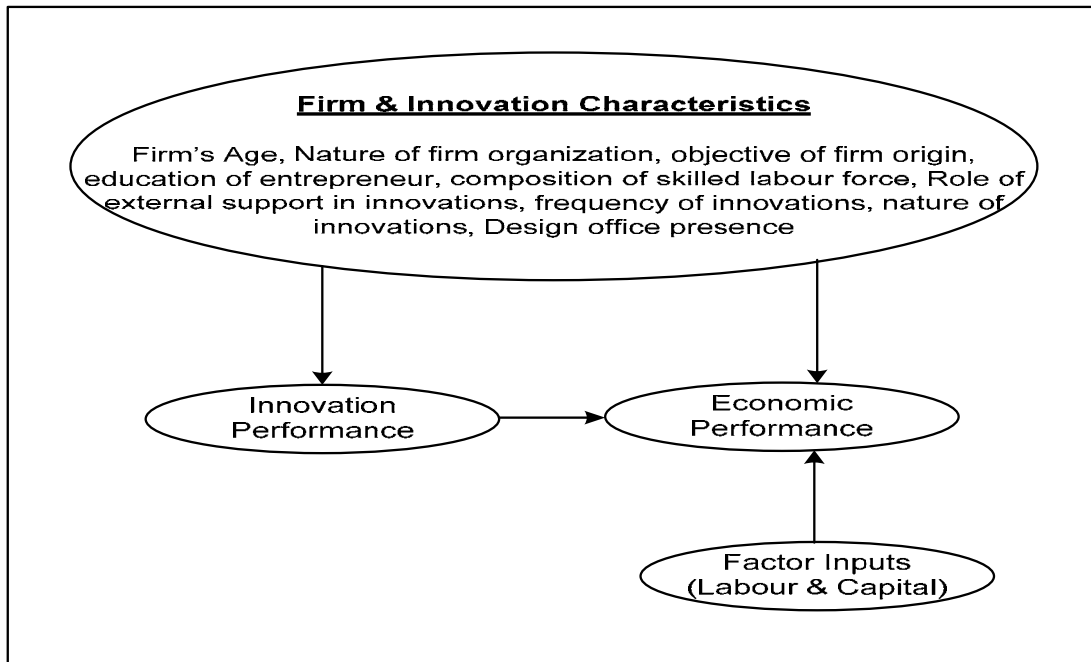
Roper (1997) focusing on product innovations of SMEs in Germany, UK and Ireland revealed that innovated products significantly contributed to the sales growth of innovative SMEs, which grew faster than non-innovative SMEs. He found a strong association between innovation and sales growth. Engel, et al (2004), similar to Roper, found that sales turnover of innovative SMEs grew faster than that of non-innovative SMEs in the craft dominated industries of Germany. They ascertained a significant relationship between the share of innovative sales

and sales turnover change of firms. Coad and Rao (2008) probed the relationship between innovation and sales growth for incumbent firms in the high-tech sectors of the US. Their findings revealed that a firm, on average, might experience only a modest growth and may grow for a number of reasons that may or may not be related to innovativeness. But innovation is of crucial importance for a handful of ‘superstar’ fast-growth firms. It is with this backdrop that the present study attempts to probe the relationship between entrepreneurship & firm level factors and innovation performance as well as between innovation performance and economic performance of SMEs in the context of Bangalore in India.

Conceptual Framework:

The relationship between entrepreneurship, firm level factors, innovation performance, factor inputs and firm performance is described in Fig 1. In a SME, the entrepreneur/s or founder/s lead and drive the organization and its activities. Therefore, whether a SME will innovate or not would depend on the nature of entrepreneurship. The nature of entrepreneurship can be defined in terms of age of firm or entrepreneur/s, educational background, nature of firm organization, firm size and objective of firm origin. In addition, it is entrepreneur/founder who decides on the composition of labour force, obtaining external support, presence of a design centre, frequency of innovations and nature of innovations. Thus nature of entrepreneurship and firm level factors together would have a profound influence on firm level innovation performance. Along with the growth of factor inputs, nature of entrepreneurship, firm level factors and innovation performance will have an impact on firm’s economic performance. The extent of influence of these factors on firm performance would however vary from firm to firm or from sector to sector.

FIG 1: INNOVATION PERFORMANCE AND ECONOMIC PERFORMANCE OF SMEs



Analysis and Results:

The descriptive statistics of the variables of 157 SMEs relating to firm level characteristics, innovation features, firm level economic variables and sector specific firms are presented in Table 1. The Bangalore SMEs vary not only in terms of firm level characteristics including that of entrepreneurship and growth of factor inputs but also in terms of innovation features including innovation sales, and firm performance indicator, ie, sales growth. Table 2 presents correlation coefficients between these variables for the whole sample (all the coefficients which are $> \pm 0.15$ are statistically significant at 0.05 level). What is significant to note is that there is a relatively strong positive correlation between innovation sales (IS) and sales growth (SG).

TABLE 1: DESCRIPTIVE STATISTICS OF VARIABLES

Variable	Mean	Standard Deviation	Minimum	Maximum	N
Sales Growth (SG)	19.80398	17.57078	-25.05228	91.54932	157
Innovation Sales % (IS)	11.9172	9.096323	0	42	
Firm Age (FA)	15.45223	8.801548	5	49	
Firm Objective (FO)	3.127389	1.269596	1	5	
Tech Entrepreneur (TEd)*	.7643312	.4257742	0	1	
Skilled Labour % (SLP)	46.93127	19.13271	10	94	
Design Office (DOd)*	.343949	.4765444	0	1	
Firm Organization (FORd)*	.8025478	.3993503	0	1	
Innovations' Frequency (FI)	2.681529	1.423422	1	5	
Product Innovations (PTId)*	.7600637	.2560711	0	1	
Process Innovations (PSId)*	.3057325	.4621913	0	1	
Product & Process Innovations (PTSIId)*	.6242038	.4858776	0	1	
Internal Source for Innovations (SIId)*	.6624204	.4743976	0	1	
External Support for Innovations (SIIEd)*	.3375796	.4743976	0	1	
Labor Intensity (LI)	.6637211	.674602	.0125	4	
Employment Growth (EG)	13.90822	18.04497	-27.40205	104.5312	
Capital Growth (KG)	22.25829	19.09339	-65.00365	111.4743	
Auto Components (Ad)*	.3949045	.4903944	0	1	
Electronics (Ed)*	.3184713	.4673742	0	1	
Machine Tools (Md)*	.2866242	.4536314	0	1	

*Dummy variables

TABLE 2: CORRELATION BETWEEN VARIABLES

	SG	IS	FA	FO	FI	TEd	DOd	SLP	SIEd	PTSI	FORd	LI	Ad	Ed	Md
SG	1.0000														
IS	0.5413	1.0000													
FA	-0.2322	0.0189	1.0000												
FO	0.3074	0.3612	0.1640	1.0000											
FI	-0.0325	0.0737	-0.0115	-0.1264	1.0000										
TEd	0.2230	0.2432	-0.0381	0.2575	0.0340	1.0000									
DOd	0.0422	0.2077	0.1369	0.1708	-0.0926	0.0861	1.0000								
SLP	-0.1220	-0.1158	0.0541	-0.0057	-0.0698	0.0436	0.0599	1.0000							
SIEd	0.1164	0.2591	0.0737	-0.0399	0.2077	0.1108	0.1069	-0.0467	1.0000						
PTSI	0.0109	0.0176	0.0655	0.0054	0.2244	0.0339	-0.1303	-0.0335	0.1924	1.0000					
FORd	-0.0517	-0.1651	0.2772	-0.1271	0.0465	-0.0115	-0.0787	-0.0593	-0.0858	-0.1536	1.0000				
LI	0.0739	0.0072	-0.0569	0.0757	-0.0238	-0.0342	-0.1914	0.0608	-0.0167	0.2272	0.1491	1.0000			
Ad	0.0810	0.0534	-0.0075	0.0010	0.1079	0.0188	0.0185	0.0572	0.1673	0.0619	-0.0575	-0.0876	1.0000		
Ed	-0.0278	-0.0737	0.0411	0.0716	0.0474	-0.0714	-0.0920	-0.0175	-0.0254	0.1917	0.0987	0.2579	-0.5522	1.0000	
Md	-0.0589	0.0182	-0.0343	-0.0749	-0.1655	0.0533	0.0748	-0.0439	-0.1546	-0.2643	-0.0394	-0.1710	-0.5121	-0.4333	1.0000

Note: For description of variables, see Table 1.

The relationship between the objective of setting up a firm (FO) and sales growth as well as between technically qualified entrepreneur (TE) and sales growth is positive though relatively low. All these positive relationships are statistically significant. There is a statistically significant negative relationship between the age of firms (FA) and sales growth. The relationships between sales growth and the remaining variables are not statistically significant. The objective of setting up a firm (FO) has a moderate positive relationship with innovation sales. Similarly, external support for innovations (SIE) and technical entrepreneur have statistically significant positive relationships with innovation sales. Technical entrepreneur has a significant positive relationship with the objective of setting up a firm. Most of the remaining relationships lack statistical significance.

Given the moderately strong positive relationship between innovation sales and sales growth of SMEs, it would be appropriate to examine the firm-wise trends of both these variables. Fig 2 presents the firm-wise trends of innovation sales and sales growth of SMEs, which broadly indicate the close relationship between the two.

To begin with, it is appropriate to examine how entrepreneurship and firm level factors influence innovation performance of SMEs in terms of innovated products as a percentage of total sales. To ascertain the influence of these variables, we carried out a step-wise regression analysis with the following regression function:

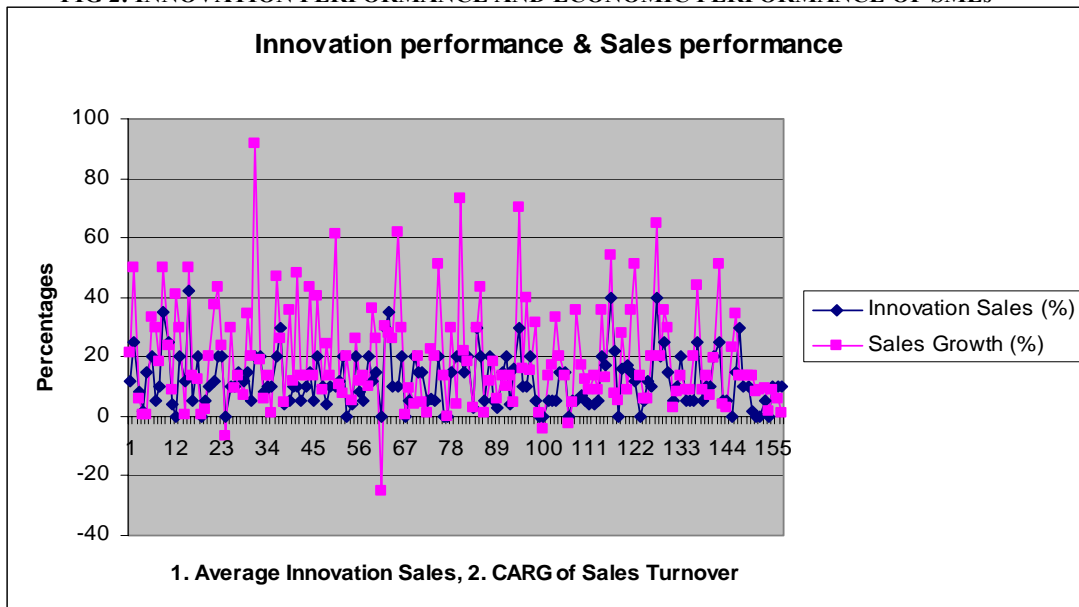
$$IS = f(FA, FO, SLP, TEd, FORd, DOd, FI, PTId, PSId, SIIEd, LI, Ad, Ed) \quad (1)$$

Where IS = percentage of innovated products in total sales during 2001/02- 2005/06

FA = Firm's age in years (as of 2005/06). An older firm with experience might be able to innovate better compared to younger ones.

FO = Objective of setting up the firm. The objectives have been ranked from 1 to 5. This has been ranked as follows: Those which came up exclusively to enjoy government sponsored benefits have been given the lowest rank (1), those which came up only as a source of employment (2), those which came up to serve large enterprises' demand (3), those which came up to exploit market opportunities (4), and those which came up exclusively to implement innovative ideas have been given the highest rank (5). Those which have come up exclusively to implement innovative ideas or to exploit market opportunities might innovate much more than those which have come up as a means of employment or just to enjoy government sponsored concessions and benefits.

FIG 2: INNOVATION PERFORMANCE AND ECONOMIC PERFORMANCE OF SMEs



SLP = Percentage of skilled labour in total employees. It is believed that higher the percentage of skilled labour in a firm, more beneficial for it to implement innovations.

TEd = Dummy variable to distinguish the Owner/Managing Partner/CEO who is technically qualified (1) in the form of a Diploma, Degree (BE or equivalent/ME or equivalent/Ph.d) from those who are non-technically qualified (0). Other things remaining the same, technically qualified Chiefs will be able to carry out innovations relatively better than non-technically qualified Chiefs.

FORd = Dummy variable to distinguish Proprietorship (1) from Partnership and Private Limited Companies (0). An individual proprietor who has better control and can keep close watch on the enterprise and communicate effectively within might be in a better position to carry out innovations compared to partners and private limited companies.

DOd = Dummy variable for the presence of an exclusive Design Office (1) in the enterprise, (0) otherwise. For a high-tech MSME, product design plays an important role in introducing a new or improving an existing product. Therefore presence of an exclusive design office will help in the process of innovations.

FI = Frequency of innovations. The frequency is ranked from 1 to 5 as follows: those which carry out innovations once in 13 months or more are ranked the lowest (1), those which carry out innovations once in 10 to 12 months (2), those which carry out once in 7 to 9 months (3), those which carry out innovations once in 4 to 6 months (4), and those which carry out innovations in one to three months are given the highest rank (5). Other things remaining the same, if a firm carries out innovations more frequently, it will be able to achieve more innovation outcomes.

PTId = Dummy variable for those which carry out only product innovations (1) and (0) for others.

PSId = Dummy variable for those which carry out only process innovations (1) and (0) for others.

The above two dummy variables will distinguish them from those which carry out both product and process innovations together.

SIIEd = Dummy variable for those which carry out innovations by combining internal capabilities with external support (1), and (0) otherwise.

The above dummy variable will distinguish them from those which carry out innovations exclusively with internal capabilities. It is often argued that MSMEs in general have resource constraints and therefore, they will be better off to undertake innovations with external support.

LI = Labour intensity which is measured in terms of value added per unit of labour and is used as a control variable for firm size.

Ad = Dummy variable to distinguish Auto Component MSMEs (1) from Electronics and Machine Tool MSMEs (0).

Ed = Dummy variable to distinguish Electronic MSMEs (1) from Auto Component and Machine Tool MSMEs (0).

To ascertain the influence of independent variables on innovation performance, we use stepwise backward elimination regression with innovation sales percentage (2001/02-2005/06) as the dependent variable along with the independent variables explained above. The analysis is done by using Stata 11 software and we report the regression coefficients with t values, F value and R square. Similarly, to examine the influence of innovation performance on sales growth performance, sales growth (2001/02-2005/06) is taken as the dependent variable along with independent variables used for the previous analysis, employment growth (%), investment growth (%) and innovation sales percentage (average for 2001/02-2005/06) to perform stepwise backward elimination regression analysis (using Stata 11). The advantage in using backward elimination regression is that it starts with a regression equation including all the independent variables, and then deletes independent variables that do not contribute significantly. Sequential search methods which include backward elimination regression among others, offers a perfect solution to researchers because it results in a model with maximum predictive power with only those variables that contribute in a statistically significant amount (Hair, et al, 2007).

The results of stepwise backward elimination regression analysis are given in Table 3. The model is statistically significant as indicated by the F value and it explained more than a quarter of the total variation in innovation performance as reflected in the R^2 value. This may be considered satisfactory because the independent variables are mostly qualitative variables and they did not include exclusively two crucial explanatory variables of innovation, namely, personnel devoted and capital expenditure incurred on innovations (since these data were not gathered). There is no problem of multicollinearity between the independent variables. The stepwise elimination resulted in the removal of sector dummies, age of firms, dummies for product innovations and product & process innovations, and frequency of innovations indicating that they did not influence firm level innovation performance.

The regression model contains six specific factors which influenced innovation performance. First is the objective of firm origin. Those firms which came up either to implement innovative ideas or to exploit market opportunities have achieved innovation sales much more than those which came up either to enjoy government benefits or as a means of employment. Second, those firms which have carried out innovations with external support have excelled in innovation performance compared to those which have relied only on internal efforts. Third, those which have technically qualified entrepreneurs have performed more innovatively than the rest. Fourth, those which have an exclusive design office have achieved higher innovation sales compared to those which did not have any exclusive design office. Finally, a higher share of skilled labour proved counter productive for innovations as it has a negative influence on innovations. The nature of firm organization did not make any difference to innovations since the coefficient is significant only at 0.15 level. Over all these results indicate that firm level technological capability as reflected in the technical background of entrepreneur, presence of an exclusive design office, and objective of firm origin and external support play a crucial role in innovation outcomes.

TABLE 3: INFLUENCE OF ENTREPRENEURSHIP & FIRM LEVEL FACTORS ON INNOVATION: STEPWISE REGRESSION RESULTS

Dependent variable = IS				
Number of observations = 157				
F (6, 150) = 8.64; Prob > F = 0.00				
R- squared = 0.26				
Variable	Coefficient	t	p>	t
FO	2.16	4.04	0.000	
SIIE	4.39	3.18	0.002	
TEd	2.86	1.82	0.071	
SLP	-0.06	-1.73	0.086	
DOd	2.78	1.65	0.100	
FORd	-2.35	-1.45	0.150	
Constant	5.33	1.79	0.075	

After the examination of factors which influenced SME innovation performance, we ascertained the role of innovation performance along with firm level factors and growth in factor inputs of labour and capital in firm's sales growth performance with the following regression equation:

$$SG = f(IS, FA, FO, SLP, TEd, FORd, DOd, FI, PTId, PSId, SIIEd, LI, EG, KG, Ad, Ed) \quad (2)$$

The results of stepwise backward elimination regression analysis are given in Table 4. The multiple regression model is statistically significant and it explained 56% of the variations in sales growth performance. The problem of multicollinearity did not exist between the explanatory variables. The stepwise backward elimination regression eliminated dummy for nature of firm organization, dummy for external support of innovations, percentage of skilled labour, dummy for product and process innovations, dummy for exclusive design office, dummy for technical qualification of CEO, and dummies for industry sectors since these variables did not have sufficient influence on sales growth. The stepwise regression model clearly reveals the importance of innovation performance for sales growth performance of SMEs. In addition what matters is the objective of firm origin. Those firms which came up to implement innovative ideas or to exploit market opportunities grow faster than those which came up to enjoy government benefits or as a means of employment. In addition, both employment and investment growths encourage the sales growth of firms. Further, the control variable (labour intensity) has a statistically significant positive influence on sales growth.

What is significant is that age of firms has a negative influence indicating that younger firms grow faster. Similarly, firms which engage in more frequent innovations suffer in growth compared to those which carry out innovations less frequently. This could be because more frequent innovations might divert the precious scarce resources of the firm away from production operations thereby affecting growth compared to those which do not seek such diversions due to their infrequent innovations.

TABLE 4: INFLUENCE OF INNOVATION PERFORMANCE & FIRM LEVEL FACTORS ON ECONOMIC PERFORMANCE OF SMEs: STEPWISE REGRESSION RESULTS

Dependent variable = SG				
Number of observations = 157				
F (7, 149) = 8.64				
R squared = 56				
Variable	Coefficient	t	p>	t
IS	0.59	4.86		0.000
EG	0.36	6.00		0.000
KG	0.23	4.13		0.000
FA	-0.22	-1.92		0.057
FO	1.58	1.90		0.060
FI	-1.82	-2.61		0.010
LI	2.31	1.61		0.109
Constant	4.44	1.15		0.251

Conclusions:

We found that an innovative entrepreneur is more often technically qualified and he strategically builds up internal firm capability by setting up an exclusive design office in-house. In addition, he attracts and supplements external support for undertaking innovations and bringing out innovated products as part of total firm sales. Innovation sales and factor inputs enable entrepreneurs, particularly of younger firms and those who have formed start-ups with the objective of implementing their innovative ideas or exploiting market opportunities, to achieve better firm performance in the form of higher growth of sales turnover. Such innovators carry out innovations rather judiciously infrequently. Given this, policy support to encourage innovative start-ups and enable SMEs to access external support would go a long way in enhancing their ability to achieve technological innovations and such innovative firms with growth of factor inputs would be able to achieve better economic performance in the form of higher sales growth.

These findings have significant policy relevance. Innovation literature argues that the central concern of developing countries is the absorption and adaptation of the backlog of existing knowledge with the long-term goal of gaining technological independence by developing their own path of technological development (path-creating catching-up) (Godhino and Fagerberg, 2005). Our findings support the view that there is ample scope for promoting learning and knowledge absorption by MSMEs in India through extending policy support to their innovative activities. As the present study has found out innovation performance of firms strongly depends on the synergies and external linkages in the local environment which offers insight into the decisive importance of interactions among firms, governments, and research institutes in the innovation process. This assumes added significance due to our other finding that proprietorship form of organizations lacks the ability to perform as innovatively as partnership or private limited form of organizations. Further, interaction among firms, governments, and research institutes provide feedback mechanisms that involve learning, which determines the level of innovative activities (Rosenberg, 1982; Lundvall, 1992).

Learning within the context of an innovation process consists of an interactive process that reflects the strength of the interrelationships among different sectors, institutions, and agents, including firms, training institutes and universities. Bangalore, which is considered one of the global hubs of technological innovation, ideally would give ample scope for nurturing these interactive processes. The same may hold good for other cities and even MSME clusters located elsewhere in the country. This is because clusters provide a favorable environment for innovation and technology diffusion (The World Bank, 2010). Therefore forming an exclusive “Innovation Policy” to focus on “entrepreneurial firms” and “their linkages” with external organizations such as R&D establishments, Institutes/Universities and Large enterprises, apart from promoting MSME networking, would facilitate the heralding of a new innovative culture for the promotion of competitiveness of firms and industries. In this context, Micro, Small and Medium Enterprises Development Institutes (MSMEDIs) may be revamped as the nodal agency

for promoting linkages and networks revolving around MSMEs for aiding and promoting their innovations. The next step should be to apply the same strategy with respect to District Industries Centres (DICs) across the country.

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Sustainable Development Strategies In Local Networks of Small Firms

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Abstract

The present competitive scenario is challenging firms and economic systems to find new forms of competitive behavior, consistent with the emerging request of sustainable development. On the one hand, this issue has been explored from a firm-based perspective. Those studies highlight the strategic options a single firm can adopt to be competitive by leveraging the environmental and social dimension. On the other side, the link between economic, environmental and social sustainability can be observed on a territorial dimension, by including in the analysis the relationships between business activities and the local areas in which those firms are located. The paper investigates whether industrial district characteristics are consistent with the three fundamental dimension of economic, social and environmental sustainability. The empirical analysis is based on qualitative case studies of two Italian industrial districts specialized in the production of leather (Arzignano) and tiles (Sassuolo). Managerial and policy implications are provided.

Introduction

The importance of the environmental matter for industries and policy makers has been rising exponentially at the international level in recent years. The usually negative externalities that the business behavior produces on the environment have limited the attention of economic players on the sustainability issue. The firms' increasing attention in the last years on the topic of environment is due to the transformation of the competitive scenario, where new challenges comes from the consumption side as well as in terms of policy programs. Environmental-related product and process investments do not involve only firms competing in small niches, but they become a priority also for firms and institutions on a larger scale. The present competitive scenario is challenging firms and economic systems to find new forms of competitive behaviors, consistent with the emerging request of sustainable development. On the one hand, this issue has been explored from a firm-based perspective (e.g., Porter and van der Linden, 1995; Orsato, 2009). Those studies highlight the strategic options a single firm can adopt to be competitive by leveraging the environmental and social dimension of its business. On the other hand, the link between economic, environmental and social sustainability can be observed on a territorial dimension, by including in the analysis the relationships between business activities and the local areas in which those firms are located (e.g., Coté and Cohen-Resenthal, 1998; Dansero, 1996).

The wide literature on industrial districts (e.g., Becattini et al., 2009) depicts a specific model of economic development where the economic systems and the social fabrics are interconnected and support one another, rooted into specific territorial areas. This model contributed to the economic success of many countries (e.g., Italy) and regions (e.g., Silicon Valley) and has been used by policy makers (e.g., The European Cluster Memorandum, 2007) to promote local developments and economic growth. How are industrial districts able to incorporate the environmental issues in the behavior of local firms? Which is the role of social structure and local institutions in this process? The paper investigates whether industrial district characteristics are consistent with the three fundamental dimension of economic, social and environmental sustainability. The first section discusses the literature on sustainability. The second session analyzes the district model and the emerging trends refereed to environmental issue. The third section focuses on the empirical analysis, based on qualitative case studies of two Italian industrial districts specialized in the production of leather (Arzignano) and tiles (Sassuolo). Managerial and policy implications are provided in the conclusive section.

Sustainable Development And Competitiveness Of Firms And Territories

Environmental Sustainability And Firm Strategies

There is a large and growing set of contributions that explore how firms may take into account the environmental side of their activities and relate it to positive economic performances. The analysis of the role of environmental sustainability into business can be explored from different perspectives. A first set of studies consider how firm can build “green strategies” (e.g., Orsato, 2009): by including the respect of the environment in its strategic options the firm can enhance its competitive advantage. Sustainability strategies can refer to product – i.e., eco-branding - or process innovation – eco-efficiency - oriented to reduce costs or increase market control through differentiation. By adopting sustainability strategies the firm can also be able to cope with the emerging market requirements related to the respect for the environment the consumerism trend underlines (see the debate on Corporate Social Responsibility, e.g., Porter and Kramer, 2006) and produce appreciable social impacts (i.e. in terms of quality of life).

In this business-oriented approach, we can also include studies focused specifically on green innovation. In the literature, there are many classifications of green innovations, which focus mainly on the degree to which they contribute to environmental improvements. Renning (2000) identifies four different typologies of eco-innovations that actors may implement: i) technological, which can then be divided in curative, which other author refers to also as end-of-pipe, and preventive; ii) organizational, meaning organizational changes in order to achieve certain environmental goals, usually linked with the realization of Environmental Management Systems (EMS) such as ISO14001 or EMAS; iii) social, meaning the necessary co-evolution of lifestyle and consumption dynamics to complement technological changes; and iv) institutional, which involves not only industrial actors but also local agencies, NGO, governmental and trade agencies to manage problems of sustainability and may imply local networks, new regimes of global governance and even international trade arrangements. Green innovation usually asks for collaboration among the players involved, due to the high degree of uncertainty about the innovation path in the environmental domain and the variety of knowledge to be used.

Another stream of business studies focuses on the impacts of the green approach to the supply chain (e.g., Seuring and Müller, 2008). Since sustainability strategy usually requires a transformation in the inputs used for product or processes as well as reorganization in the way the firm approaches manufacturing and sales processes, firms have to develop also a new “green” approach to supply chain management (SCM). In this perspective research emphasizes how the management of environmental-related processes cannot be limited to the firm’s boundaries. Rather, it has to include also suppliers as key partners in the achievement of sustainability. Crucial SCM activities such as supplier selection and monitoring become even more important whenever the environment is concerned.

Combining Economic, Social and Environmental Sustainability: the Role of Governance

Literature on green strategies emphasizes the relevance of enlarging the green approach beyond the firm’s boundaries to include other economic players. In order to understand the trajectories of the greening of industries, the scope of the analysis should be enlarged to include not only firms, but also value chains, which are able to include multiple players in the process of value creation based on green options (Jeppesen and Hansen, 2004).

However, the analysis of the territorial dimension is also crucial in this respect since the spatial dimension of economic activities influences the scale of environmental impacts (local, regional, national or international one). At the same time, the territories in which industrial activities are located can hardly affect business initiatives towards sustainability also due to the social context (Clini et al., 2008). Local communities may push firms to transform their economic behavior to reduce negative consequences locally. The environmental effects of specific forms of consumption may also transform the social perception of specific products or processes (Blanding, 2010) and influence firm’s strategies. The basic idea lying behind the concept of sustainable development is actually that the three dimensions, economical, social and environmental are intrinsically interconnected. A key challenge to promote a sustainable production system is that to reconcile economic growth with social and environmental concerns. In a long run perspective the sustainability of a firm so as of an economic system depends on the satisfaction of the three dimensions simultaneously.

It becomes thus crucial to consider how the environmental-friendly options are included into business practice. By using the governance framework proposed in the global value chain theory (Gereffi et al. 2005), we can observe multiple actors involved. In the governance analysis not only the role of firm has to be considered, but also the responsibility of institutions, which can influence in a radical way – e.g. by law – firms' green-related investments and strategies. Compared to market-based mechanisms, relational governance structure based on interaction among firms may represent a suitable condition for joint economic and environmental enhancements. The relationship between suppliers and lead firms willing to lower the ecological footprint may represent both the driver to the greening of production and the channel to gain the knowledge and resources necessary to implement more environmental-oriented processes and products – also with positive impacts on the local environment. Studies on the applications of code of conducts in global production networks proved the importance of trust, long term relationship and cooperative attitude to support the effectiveness of such instruments, especially in less developed countries (Locke et al., 2006). On the contrary, governance structures with higher power asymmetries – when large corporations are involved - implying higher degree of control on value chain partners' activities, may ensure the improvement of their environmental performance. Direct control and technology transfer may represent useful instruments to fulfill environmental standards. A captive governance structure may therefore ensure the necessary effort at the suppliers or customers to reduce pollution and emissions.

Literature on industrial districts proved the existence of relational forms of governance that rules the industrial system and the coordination of activities among firms, whose competitive and innovative results were enabled by a flexible and distributed governance structure, based on trust, geographical proximity and a system of values and norms shared by firms specialized in specific market fields, facilitated but not led by the presence of institutions. We argue that such model of economic organization becomes an interesting economic, social and institutional context where to observe how the environmental-related strategies are developed at the local level and the governance processes behind them are organized.

Local Networks Of Small Firms And Environmental Chances

Cluster Characteristics: Economic And Social Linkages

The extensive literature on industrial districts (i.e. Becattini et al. 2009) stresses the strong competitiveness of local manufacturing systems, characterized by a local division of labor among firms and population (social network). Recognizing the embeddedness of industry specialization into local contexts and the interdependence of economic activities with social ties is one of the main contributions of such theoretical study to explain the success of districts worldwide (especially Italian ones). Aggregation in terms of local proximity is fundamental because of positive benefits in terms of rapid information circulation and frequent interaction among economic players.

In its original definition, the district supply chain is self-contained within the local boundaries, except for raw materials and final products. If the competition is strong among firms specialized in the same manufacturing phase, suppliers and buyers are linked by high cooperation. Spatial proximity plays a critical role in the district dynamic, reducing firms' transaction costs in terms of control, information sharing, and coordination. Physical contiguity among players allows frequent interaction, based also on common languages and routines, which are made possible by strong social and trust-based relationships among firms. "Local environment" in industrial districts should not be considered merely in terms of raw material inputs in production processes, but a source of different elements for businesses, such as natural resources, human capital, entrepreneurial skills, high specialized workers, shared knowledge and tacit know-how (Dansero, 1996).

Industrial districts were able to develop profitable innovative process, strictly related to their industry specialization and their peculiarity (Lorenzoni and Lipparini, 1999). Firms share manufacturing activities with partners in a collaborative environment, which stimulate reciprocal learning and product improvements. A flexible and dynamic labor market, where workers' mobility is very high and especially oriented to start new own companies (entrepreneurship), enhances this mechanism. A mix of market and community (Dei Ottati, 1994) governs industrial districts, where the self-interested behavior is almost always substituted by the aim of general community benefits.

In addition, district local institutions are very important in defining potential homogeneous evolution paths, sustaining district's stability and internal cohesion. These institutions represent the collective interests of all the

different district players, as political institutions, industrial associations, commercial institutions, service centers, or research centers. District institutions are places of meetings, discussions, and identifications. Hence, the neutrality of these institutions transforms them into third parties upon which to develop innovation across firms (Becattini et al. 2009).

Sustainable Development in Industrial Districts

The notion of district itself described above is changing to face new opportunities and threats related to the competitive scenario (e.g. Corò and Grandinetti, 1999; Chiarvesio et al. 2010). Among the many chances districts are facing – such as internationalization issues related to green management, sustainable development, and corporate social responsibility are becoming crucial also for district firms and local systems of SMEs.

Due to the strong interdependence between the economic and socio-territorial dimension of district activities, local manufacturing systems directly test the environmental consequences of business actions. Because of the high level of specialization that characterizes industrial districts, the territorial areas in which those activities are carried out may suffer from high negative environmental impacts. As described above, studies on green supply chain emphasize that the management of environmental related processes is not limited to the firm's boundaries but has to be addressed on a broader scale. From this point of view the high division of labor among district firms ask for an integrated approach to sustainability, where the role of all the firms involved, but also local institutions is crucial. Institutions at the local level can play an active role in supporting a more environmental-friendly business approach to be consistent with market desire and social requirements. The local social structure – that has traditionally supported the activities of networks of SMEs in the district model – may react negatively to potential environmental damages and push local firms to cope with environmental constraints. Hence, industrial districts can be considered at the frontier in the implementation of sustainability due to the characteristics of this model of economic organization, where the industrial activities are strongly embedded into small local areas and the social community influences local enterprises (Battaglia, 2010; Frey and Iraldo, 2008).

Sustainability represents a strategic issue for many industrial districts, affecting directly firms and district performance and competitiveness (Cariani, 2010; National Observatory on Industrial Districts, 2009; National Observatory on Industrial Districts, 2010; Tessitore et al., 2010). The traditional districts' attention to innovation, the ability to renew products and processes, enhance business models and value chains to maintain a competitive advantage. However, those elements have to be reconsidered to face sustainability. If environmental policy can increase firm's competitiveness and performances, districts can act as a buffer of these effects. Investing at district level can be necessary in order to overcome local SMEs' weaknesses – technical, financial, managerial – and to renew the elements of district competitive advantage.

Districts Go Green: Two Case Studies

Methodology

Based on the theoretical description above presented, the empirical research aims at analyzing how industrial districts are able to incorporate the environmental issues in the behavior of local firms (economic and environmental sustainability) and which is the role of social structure and local institutions in this process (social sustainability and the form of governance adopted to drive a sustainable approach within the local network of SMEs). The arguments have been analyzed through a qualitative analysis of two Italian industrial districts: the Arzignano tannery district and the Sassuolo ceramic-tiles district.

The selection of the two districts was based on two criteria: 1) specialization in highly environmental impactful industries and 2) the long industrial history of the districts that can affect before others their attention on environmental problems. Both districts are located in North-East Italy and their production activities have a high environmental impact. On top of that they have an ancient origin, which allow assessing on a long period the district dynamics in response to environmental pressures and social changes.

Consistently with the literature review, the main areas investigated were as follows: a) the environmental pressures associated with the industrial development of the districts; b) the answers implemented by the district over the years (in terms of infrastructures built, widespread of green technologies and process innovation, product innovation,

diffusion of certifications and environment management systems); c) the actors involved, in order to understand how the typical district governance structure can act for a better sustainability of the area and d) the consequences and impacts of different actions. The main goal was to evaluate how the three dimensions of sustainability – economic, social and environmental one – were interconnected in the district model and whether the district characteristics positively influence the identification of green solutions.

District analyses were carried out from September 2007 to February 2008, starting with a desk analysis of the districts' main characteristics (origins, evolution paths, current scenario) and focusing on sustainable strategies implemented and approaches developed for green innovation of products, processes and competitive strategies. The analysis has been completed by vis-à-vis interviews to relevant actors: for the Arzignano district the representative of the district (also President of Confindustria Vicenza – Tannery Section) and the Director of Provincia di Vicenza – Environmental Services (also the promoter of Giada Project); for the Sassuolo district the representative of Assopiastrelle (the association of tile producers), and the director of Centro Ceramico (Italian Center for Research and Testing for the Ceramics Industry). Interviews aims were to deepen the role of districts relational governance structure in facing sustainable issues and to better understand how green innovation has been introduced in industrial district.

The Arzignano District Case Study

District overview – The tannery district of Arzignano, located in the Chiampo Valley – between Padua and Verona, is the first industrial area in Italy for tanning processing. It counts more than 850 companies (the 94% under 49 employees) and 11,600 employees (see the National Survey on Italian Districts, 2009). District firms have an international leadership in the quality tannery processes and make leather products for the furniture, automotive and fashion industries.

Natural capital (water availability and tannins in the area) and social capital (knowledge of the tanning process) are the basis of the origins of the district. The industrial district emerges in the '50s, based on this traditional artisanal experience and on the know-how on the chemical tanning process, and rapidly develops in the 60s and 70s, thanks to the flexibility and the capability to deliver high volumes of tanned leather in a short time. It is in those years that mechanical and chemical players for the tanning industry started to develop. A high level of international business integration, the increasing competition of emerging countries, an aging and fragmentation of demand and an increasingly stringent environmental legislation are the reference elements of the competitive environment in the 80s and 90s. In this scenario, the district firms' strategies have recently been oriented towards higher value-added activities of the value chain, those closer to the final market, the internationalization of business, both manufacturing and commercial one (diversification of export markets strategies) and the entry into new market niches.

Pressures occurred – Starting the 60s and 70s, with the tumultuous developments of the district, pressures on local natural capital grew, both endogenously - related to water waste, water and air pollution, production rejects - and exogenously – new standard pollution constraints (especially with reference to the water pollution – Italian Merli Law No 319/76 on the Protection of Waters).

Moreover, in more recent years, the attention to local environment is a condition *sine qua non* in order to compete in some markets (e.g. automotive, where German customers require their suppliers to certain standards including environmental compliance), as well as a broader conception of well-being is emerging at local level, by different stakeholders (entrepreneurs, workers, local community in general). Based on this new demand, the economic wealth is only one aspect of quality of life standards required by the local community.

District responses – Since the early 70s, in response to these pressures the district has undertaken an intense activity of sustainability upgrading, with a gradually more integrated and systemic approach. The first activity was related to water management and sludge issues: even before the enactment of the Merli Law on Water Protection, the district build an infrastructure, which have represented a "baseline" investment for the improvement of the local environmental situation and the lay of further district development. In 1974, in fact, a consortium composed by a network of tannery businesses, with the support of local administrations, created an industrial sewage and a water treatment plant. The consortium played an important role in controlling water pollution levels both at water treatment plant and at single-firms level (in accordance with local institutions), by managing a system of depuration

tariffs related to the quantity and the quality of water and refuses (if a firm adopts a sustainable process, it will pay a lower tariff), and promoting the adaptation to the rules and the technological innovation (laboratories, tariffs and finance). In this way local firms have been encouraged and supported to reduce water waste and refuses since the 70s. From the 90s a public company named Acque del Chiampo manages the water treatment plant and the waste disposal of sludge and others rejects from the water treatment.

Another important element is related to expertise and know-how accumulation on environmental matters and solutions related to the tannery process along the value chain. Thanks to cooperation along the supply chain among tanneries and local businesses operating in leather machinery or chemicals, environmental innovation has spread. With chemicals supply tanneries have studied less environmental impact chemical products for the tannery process. Suppliers of machinery have developed new equipment for a better sustainability of the tannery process at different stages (beginning treatments of leather, systems for emission reduction, etc.). In the Arzignano district there has been a specialization of the tannery supply chain on environmental innovation of products and processes, but also its completion, with the emergence of new players, for example specialized in the recovery of waste produced by tanning industry: refuses are re-used for example for agricultural purposes and in the construction industry.

In 2007, the Arzignano district, thanks to the Giada Project promoted by local institutions, was the first Italian tannery district to achieve the European EMAS certification for “homogeneous production area”. In addition, the district has drafted and proposed the international reference standard EPD for leather products, with which district firms can maintain a competitive advantage in the production of “sustainable leathers”.

Actors involved – Sustainable strategies have been pursued by district tannery firms with a cooperative approach: for example, the sustainable management of water resources and refuses originates from a common need of all the firms and the answer has been at system-wide scale. In sustainable strategies all firms along the district value chain have been involved: chemical suppliers, machinery suppliers, recovery firms. In the evolution of the district toward more sustainable tannery processes also local institutions have contributed supporting firms. In particular, a local Agency named Giada has been established in 2004 on the initiative of the Province, with participants the 16 municipalities of the area and industrial and technical partners such as the local environmental prevention and control agency (Arpav) and associations of local firms (Assindustria Vicenza, Association of SME, craftsmen CNA Vicenza). The Giada Agency has planned and widespread “an approach of integrated environmental management for the territory” at the district level, based on the participation and mainstreaming of the contributions of local institutions, businesses, local community, with a long-term view.

Main results – The initiatives covered all over the years from the district have allowed the reduction of water, air and soil pollution thanks to process innovation into the firms and new district infrastructures; the constant analysis and monitoring of district environmental situation; the achieving of EMAS environmental certification for the district area and the drafting of EPD standards. These results have positively influenced the competitiveness of district firms and their international leadership. On the other hand, air pollution and the social acceptance of tannery production still represent a critical issue for the area.

The Sassuolo District Case Study

District overview – The district of Sassuolo, located near Modena and Reggio Emilia, is the most important Italian network of firms specialized in the tiles industry, with over 80% of Italian production and about 12% of world production. In the area there are about 600 companies (the 75% under 49 employees) for a total of 23,000 employees (see the National Survey on Italian Districts, 2009). The district is characterized by the presence of few world leader firms in ceramic tiles, really structured and able to organize the district supply chain: ceramic companies, but also other players operating in complementary activities and services such as mechanical-ceramic, design and decoration of tiles, production of enamels, paints and glues, packaging and logistics services.

The origin of the district is essentially connected with the availability of water, raw materials (clay from quarries in the Apennines) and to a tradition in ceramics production that developed since the eighteenth century. At the beginning of the ‘900, it also increased the availability of labor force, coming from agriculture. After World War II, following the strong expansion of the construction industry, the district strongly grew and progressively

structured, developing also new manufacturing processes that became standard for the industry (such as single-cooking tiles in the 70s and the glazed porcelain tiles in the 90s). Recent decades have seen an increasing orientation of district firms towards exports, which currently represent the 70% of the overall production, a gradual process of concentration around the major industrial groups, able to organize and oversee strategic developments in the district supply chain, and an increasing marketing and communication effort.

Pressures occurred – The high concentration of firms in a densely populated area has become since the early 70s a critical issue for the development of the district. The main pressures were related to fluorine and lead emissions in the atmosphere, but also to water consumption and pollution, waste management and in the last years road traffic (due to the progressive supplying of raw materials outside the district and to the expansion of sales market) and energy consumption (the tile manufacturing process requires non only a large quantity of water, but also energy-intensive process). For these reasons, dealing with environmental issues could represent for the firms a successful strategy in order to lower production costs. Moreover, in recent years a growing environmental awareness has emerged by consumers, as well as the growth of new market segments, such as that of green building, that evaluate the environmental sustainability of buildings also from materials used (life-cycle approach).

District responses –The first initiatives promoted by the district since the 70s focused on reducing the environmental impacts of firms' concentration in terms of emissions into the atmosphere, through plants with systems for VOCs (Volatile Organic Compounds) and fumes reduction. The diffusion of cleaner technologies for the tile production processes has also provided assistance for the recovery and reuse of production waste and sludge, which are released back in the production cycle as raw materials, and for the reuse of water through recycling plants, with high cost savings. More recently, the problem of energy consumption has been addressed by many companies through the introduction of cogeneration systems.

Interventions to reduce critical factors, starting the mid 70s, were designed according to a simple scheme, first tested to reduce emissions and then applied to other critical issues and include:

1. mapping of the critical issues for the area;
2. ensure a regulatory intervention framework by the local authorities;
3. research and implementation of innovative solutions in collaboration with equipment suppliers (in some cases through the adaptation of technologies already in use in other sectors to the tile industry, as in the case of emissions from the steel industry);
4. support to the solutions adoption by businesses, also in collaboration with the local financial system in case of investment needed;
5. monitoring by the local authorities, to ensure compliance with regulations.

In the last years the district approach on the environment have shifted from a logic of action "end of the pipe", focused on single environmental issues, to a more integrated and active approach, in which improving the environmental sustainability is considered a new economic opportunity of development for the district. Since the early 90s, in fact, the district adopted a more integrated management of the natural capital that led also to a growing awareness of the businesses about a market increasingly sensitive and the opportunity to exploit and communicate environmental investments made.

Following this approach the district has enhanced the development and diffusion of process innovation, the adoption of process certifications (EMAS certification), but it has also carried out product upgrading strategies. Some lead firms, such as Iris Ceramica SpA, have not only obtained the Ecolabel certification for some products, but have also specifically developed a range of biocompatible tiles, suitable for bio-building, which have been certified by ANAB. A group of firms in the district has participated to the promotion of global standards for tiles (Ecolabel), as well as, in collaboration with the Bologna Ceramic Centre, to the testing of LEED standards (Leadership in Energy and Environmental Design) applied to ceramic tiles. Among these initiatives it is interesting also the patenting of innovative products related to the environment, such as solar tiles and anti-smog tiles, showing the intent of district businesses to enter into new market niches related to green building. An increasing attention has been given also to the communicative aspect, with the creation of the portal dedicated to tiles sustainability and to the environmental management at system level with the drawing up of the Environmental Integrated Statement of the district area.

Actors involved – The responses of the district to environmental, social and economic pressures have been characterized by a cooperative approach among different actors involved: leaders firms, suppliers and others support sectors, institutions, banking system and university and research world. In this scheme an important role in Sassuolo district is played by leading firms, thanks to their approach on product and process innovation and to their capability to widespread innovation in the area. Many times they have developed a strictly collaboration with ceramic-machinery producers and research center. Particularly significant was also the creation in 1976 of the Bologna Ceramic Centre by University of Bologna and Assopiastrelle that carry out technological support for the sector, as well as deals with the design of new processes and products on behalf of businesses.

Main results – The decision taken by the district to follow the path of sustainable development has produced tangible results. A first result refers to the reduction of environmental impact of tiles production processes and related costs of production due to the diffusion of BAT – best available techniques for the sector. Results are significant: the reduction of CO₂ emissions from '80s to nowadays instead of facing a constant increase in volumes produced; the reduction of processing waste, which are reused in the production process or other sectors (97% of sludge, 99% of the ceramic waste and 21% of the exhausted lime is reused in the production cycle, in the same site in which they were produced or in other site in the district); water savings resulting from the use of water recycling plants by 90% of businesses; the reduction of energy consumption from 12 GJ/t (gigajoules per tonne) in mid-'70s to the current 6 GJ/t and the introduction of co-generation plants (satisfying the 28% of energy needs of the district). A second result is the district opportunity to preserve and enhance its competitive advantage, due to know-how firms and equipment manufacturers developed in terms of environmental-friendly processes before competitors. A third critical goal achieved is the opportunity to set up international standards that become a point of reference for the entire sector. However, other key issues such as levels of traffic and dependency on external sources of production are still critical in the district.

Discussion

The analysis of Arzignano and Sassuolo districts showed how their competitiveness has been strictly linked to local environment from the beginning, in terms of raw materials, but also human capital, knowledge diffusion, supply chain relationships. The network of SMEs supported by local institutions and the social community act promoting, planning and acting sustainable strategies for the local area. The district model based on firms' proximity, industrial homogeneity and relational governance structure in particular has been effective in facing sustainability at system level, in order to reduce negative externalities (pollution, traffic, etc.) due to the localization of many firms in the same area.

We observed that the key elements that characterize the district model, making it competitive in the world, have been important also in facing sustainability challenge. Among the most important are:

- the high homogeneity of industrial processes and widespread of technological bases;
- the collaboration and competition among firms;
- the institutional support to local development;
- the high level of social cohesion.

First of all, the high homogeneity of industrial processes and the widespread of technological bases permit to firms to face sustainability with a common approach. If the theoretical analysis pointed out how industrial districts were able to develop profitable innovative process and products strictly related to their industry specialization, from the analysis of Arzignano and Sassuolo districts this has been confirmed with reference also to green innovation. Firms have to face the same environmental problems due to manufacturing and logistics activities: water consumption and treatment, air pollution problems and industrial waste, and for this reason the research of a common answer is probably easier and more efficient and effective.

The analysis of two districts also showed the need for an integrated approach to sustainability, where the relational dimension appears to be an effective form of governance. Beyond the competition relations among local firms operating in the district supply chain, the collaboration among firms and research centers, testing centers, advisory agencies and the like, the collaboration among end-firms and technology suppliers (especially for raw materials and machinery) have been fundamental for improving the district sustainability, with positive social,

economic and environmental impacts. Institutional and private actors suggest technological solutions, introducing innovation in machineries or in production processes or in the raw materials. Firms cooperate to solve common issues, such as high-energy costs, high production waste, etc. and solutions are widespread among other firms quickly. The final result of these processes is the increase of sustainability-oriented actions in the local area.

Another element highlighted from the literature on districts and confirmed by the analysis of Arzignano and Sassuolo district is the role of institutional support in promoting and wide spreading sustainable strategies: local actors promote a cultural evolution of firms toward sustainability and support firms in their innovation processes, with the creation of a network of specialized services for sustainable development. In this network we can find consortium, research centers, testing centers, actors involved in the management of environmental services (treatment plant), etc.

Finally, the high level of social cohesion and cultural homogeneity in local area among entrepreneurs, employees, local communities is an other important element not only for the economic growth of the area, but also for the social acceptance of industrial activities and the improvement of sustainable strategies, both in terms of pressures realized as well as in terms of management and monitoring of initiatives undertaken.

Conclusions

The paper explores how the industrial district model copes with the environmental issue, based on an original interpretative perspective and extended case studies. Our empirical analysis confirms the capabilities of the district model to support local sustainable development, with an integrated approach among different actors, thanks to the characteristics of flexibility, high-specialization, local proximity and cultural homogeneity. The evidence of these evolution paths toward sustainability has been verified with reference to the three perspectives of sustainability considered: economic, environmental and social.

From an economic point of view, districts show high innovation capabilities related to single firms, research centers, local institutions but also related to collaboration strategies among these actors. Innovation capabilities, flexibility, knowledge creation and diffusion among firms have always been the strengths of the district models and these capabilities are stressed also in the case of sustainable strategies. Districts' ability of reinventing their processes and products, reacting to market changes have been fundamental also in facing sustainability issues and in promoting green innovation.

From an environmental point of view, the district model seems to be effective in reducing negative externalities of firms' concentration within the same area. The degradation of local environment is limited in districts by the small size of firms, the social links between the firms and the local community, common projects and investments that make possible moving to less polluting processes not only for one or a few number of firms, but for the majority of them. This process happens even in case of highly polluting industries, like tannery.

From a social point of view, the cohesion among entrepreneurs, employees and local community produces a high sensibility toward the topics of sustainable development in the area. In particular, a great role is played by local entrepreneurship in creating the premises for participation and acceptance of the firms at the territorial level.

The analysis of the case studies arises the crucial process of knowledge creation and sharing that enhances the competitiveness of the districts and, with a broader perspective, their sustainability. Knowledge management related to products, processes and technologies "green-oriented" has been supported by the spatial and cognitive proximity among the players involved, but also benefit from external linkages promoted by firms and institutions.

From a managerial point of view, our analysis show that an extended approach toward green strategies – beyond the firm's boundaries to include also other actors within the value chain – is crucial in order to effectively design and manage environmental-compliant processes and products. Moreover, the collaboration with other firms – competitors included – as well as with research centers and service institutions is relevant since it allows developing new technical and commercial knowledge able to cope with the requests of the new competitive scenario. As far as the policymaking is concerned, case studies show that the development of shared services tailored on the needs of the firms oriented to green strategies is important, but should be designed in collaboration with the firms involved (at least those more proactive in promoting green strategies). At the same time, institutions can play a crucial role in

developing a new firm's green culture not only by law, but also offering their support in the firm's innovation processes.

Further research should explore and compare the green strategies of other industrial districts on an international basis. Moreover, additional research should juxtapose the forms of governance of districts and large corporations in the management of sustainability to evaluate the impacts on the three perspectives adopted.

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EMANCIPATION OF INDIAN WOMEN ENTREPRENEURS: A SUGGESTIVE HRD MODEL

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ABSTRACT

*“The flight of women entrepreneurship in India is
progressing from take off to touch the Sky”.*

Women entrepreneurship in India is a visionary goal, the time of which has come. India is collectively moving from a narrowly defined objective of increasing the number of women in entrepreneurship to a broader and long term vision for setting the tone and strong vision and sustained agenda for bringing more entrepreneurs into top positions and lateral segments of Indian business.

Participation of women in economic activities is now emerging as a universal phenomenon because of increasing level of women education, their ambitions and aspirations, economic needs and unemployment problems. Today's Indian women are aware of their rights, skills, traits, capabilities and opportunities. The glass ceilings are shattered and hurdles have been overcome and now Indian women are found indulged in every line of business like engineering, electronics, fabric manufacturing, eatables, handicrafts, pharmaceuticals, agriculture, poultry, dairy, fisheries, canning, jewellery designing, architects, toy making and many more. *Parmeshwar Godrej, Kiran Majumdar Shaw, Shahnaz Hussain, Priya Paul, Blossom Kocchar, Sudha Narayanamurthy, Nita Ambani* are acting as inspirational pillars to many other aspiring entrepreneurs.

For a country like India, women entrepreneurship is of vital importance to achieve rapid, all round and balanced economic growth. If national development has to be purposeful and relevant, women have to be full-fledged participants in economic activities. The development of women as entrepreneurs will generate multi-faceted socio-economic benefits to the country.

Women entrepreneurship is an extremely challenging venture, hence this study attempts to explore avenues, challenges and prospects of Indian Women entrepreneurs. After exploring thorough review of literature, the following research gaps were identified.

- Very few studies are carried out on Indian women entrepreneurs.
 - Human Resource Development model has not been identified.
- Thus, the present study was undertaken with the following objectives:-
1. To identify the motivating factors behind women entrepreneurship.
 2. To find out the traits and qualities of Indian women entrepreneurs.
 3. To explore problems and prospects in the way of entrepreneurship.
 4. To suggest HRD Model for aspiring women entrepreneurs

The study was carried out on 120 women entrepreneurs of India. The sample was chosen by Purposive Random Sampling. A well-constructed questionnaire was administered on the sample to elicit their response. The data collected was statistically analysed using various tools. A Human Resource Development model has been developed based on the results of the study.

EMANCIPATION OF INDIAN WOMEN ENTREPRENEURS:

A SUGGESTIVE HRD MODEL

INTRODUCTION

Entrepreneurship is the lifeblood of any economy. It is a continuous process and it is growing from centuries to centuries. Entrepreneurship is now recognised both in the developed and in developing societies as an essential resource in the development process. The entrepreneurship have acquired special significance in the context of economic growth in a rapidly changing socio-economic and socio-culture climate, particularly in women. The entrepreneurship is a purposeful activity indulged in initiating and maintaining economic activities for the production and distribution of wealth. It has been recognised as an essential ingredient of economic development and an integral part of socio-economic transformation.

Women are emerging as a good potential source of entrepreneurship. Women entrepreneurship has cut across the barriers of education and affluence. Manufacture and marketing of women centred products are not the only areas of women enterprise, but the Indian women today is fast moving and functioning within every conceivable area of women enterprise competing with their male counterpart. Engineering spare parts, electronic items, computers, software, readymade garments etc. now are all areas of women enterprise.

Indian women entrepreneurs are touching new heights of success but still the growth rate of women entrepreneurship is slow. Entrepreneurship happens to be one of the best ways towards self-sufficiency and poverty alleviation for women in a country where employment is not guaranteed. Indian women entrepreneurs may be classified into three groups:-

- (i) The first group consists of women with adequate education and professional qualifications and are heading large industrial units.
- (ii) The second group of entrepreneur consists of middle class women with education but lack skill and training and are engaged in handicrafts and cottage industries.
- (iii) The third group of entrepreneurs are illiterates, financially weak and are engaged in family business.

With job opportunities drying up both for men and women, the latter find it easier to go for business due to flexibility of handling work both at home and outside. The new industrial policy of the Govt. of India has laid special emphasis on the need for conducting special entrepreneurial training programmes for women to enable them to start their own ventures. Financial institutions and banks have also set up special cell to assist women entrepreneurs. The entry of women into the world of business and entrepreneurship is an auspicious sign, which should be encouraged.

Keeping the objective of emancipation of Indian women entrepreneurs in mind, this research was planned to find out their vision, abilities, competencies, skills, perception etc. On the basis of all this, a HRD model for women entrepreneurs was developed.

Research Methodology

Selection and adoption of appropriate scientific methodological approach is the most important element of conducting a research investigation. It adds to the precision, reliability and validity of the research findings. The study was carried out on 120 women entrepreneurs of India. The sample was chosen by Purposive Random Sampling. A well-constructed questionnaire was constructed and administered on the sample to elicit their response. The questionnaire contained both open ended as well as close-ended questions. The questionnaire was designed in such a manner so as to elicit maximum information from the respondents. The questions were simple, clear, undisguised, well organised and to the point. Pre-testing of the questionnaire was done and some questions were reframed after it.

Structured Questionnaire Tool was divided in following sections:-

Section A

This section contained general information like name, age, marital status, qualification, profession, experience, achievement etc.

Section B

This section contained both open-ended as well as close-ended questions on motivational factors, traits and qualities essential for good women entrepreneurship, problems and hurdles faced by women entrepreneurs etc.

The data collected was statistically analysed using various tools. Data analysis was done in order to search out meaningfully the trend and establish relationships that exist among various data groups. The primary data collected through survey method with the help of the questionnaire has been analysed by using MS Excel and SPSS (Statistical Package for Social Sciences) 18.0 version. Various tools and techniques were used to analyse the data gathered. A Human Resource Development model has been developed based on the results of the study.

RESULTS AND CONCLUSION

Women entrepreneurship is full of potentialities, realms and aspirations and hence there lies a lot of scope for women entrepreneurship in India. For a clear understanding of emancipation of Indian women entrepreneurs, it was found necessary to understand the factors, which motivated them for entrepreneurship, their traits, skills and qualities, problems and prospects faced in this arena. For it, a questionnaire was designed for women entrepreneurs. The results of the study will prove beneficial for integrating and involving them in the mainstream of development. The results are presented as under:

What motivates women to aspire for careers like medicine, entrepreneurship, politics, administration, law and education is an interesting thing to explore and analyse. If the women entrepreneur feels motivated, her behaviour will bring about the desired action. **Table 1** shows the source who motivated women entrepreneurs to take up professional challenges.

Analysis of the table indicates that majority (61.7%) of the respondents were self-motivated. Motivation is an important factor for taking up any career option and today's women seek independence, autonomy, higher income and opportunities. Hence, inner instinct plays a very important role. Parents motivated forty-five percent respondents to take up their respective profession and thirty-five percent respondents were motivated by their spouse. Indian women give more emphasis to family ties and relationships. Married women have to make a perfect balance between career and home. The interest of the family members is a determinant factor in the realization of women folk career aspirations. Few women leaders were motivated by their children (7.5%), friends and relatives (5.8%), role model (10.0%) and mentor (4.2%).

TABLE 1: MOTIVATIONAL FACTORS FOR WOMEN ENTREPRENEURS

S. No.	Motivational factors	Frequency	Percentage
1.	Self	74	61.7
2.	Parents	54	45
3.	Spouse	43	35.8
4.	Children	9	7.5
5.	Friends and relatives	7	5.8
6.	Role model	12	10.0

* Figures are not mutually exclusive

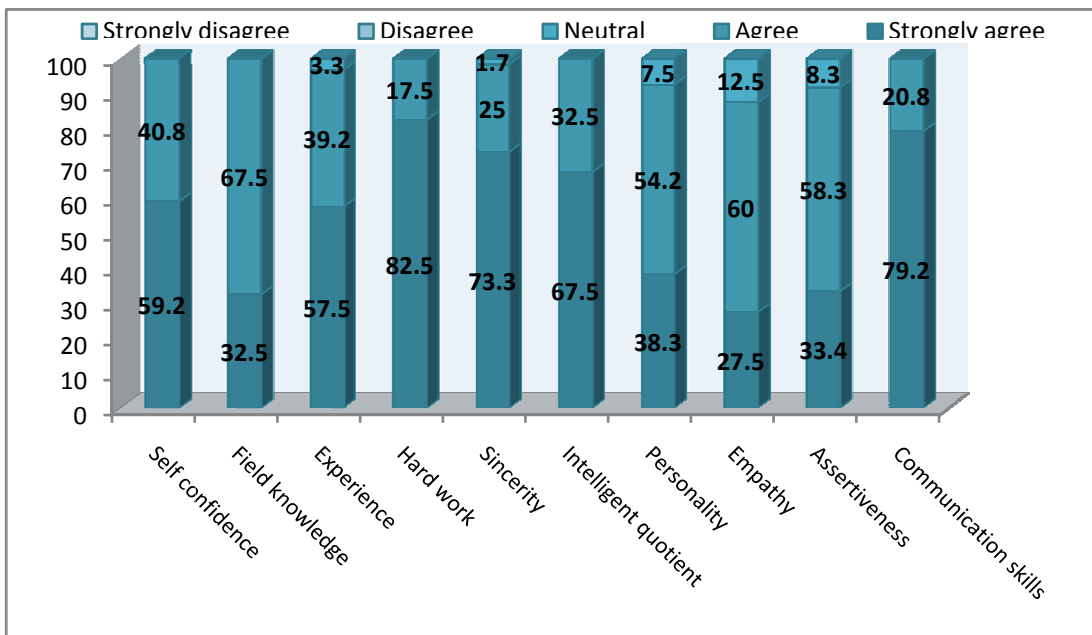
According to Sunita Chugh and Punam Sahgal, women and men have different motivations for working. Women at workplace would like to do 'different' and 'satisfying' jobs, not necessarily jobs, which give them more 'power'. The need to strive and reach the top, respect, prestige and power may be more important for men than for women.

Women possess some inbuilt qualities that has developed right entrepreneurship qualities in them. The analysis of graphs reveals that majority of the respondents agreed or strongly agreed about the qualities essential for nurturing good women entrepreneurship. Qualities were categorized viz. self-qualities, decision making qualities and team dynamics. Not a single women leader elicited her response on disagree or strongly disagree points. However, very small percent of women entrepreneurs were neutral regarding some of the qualities.

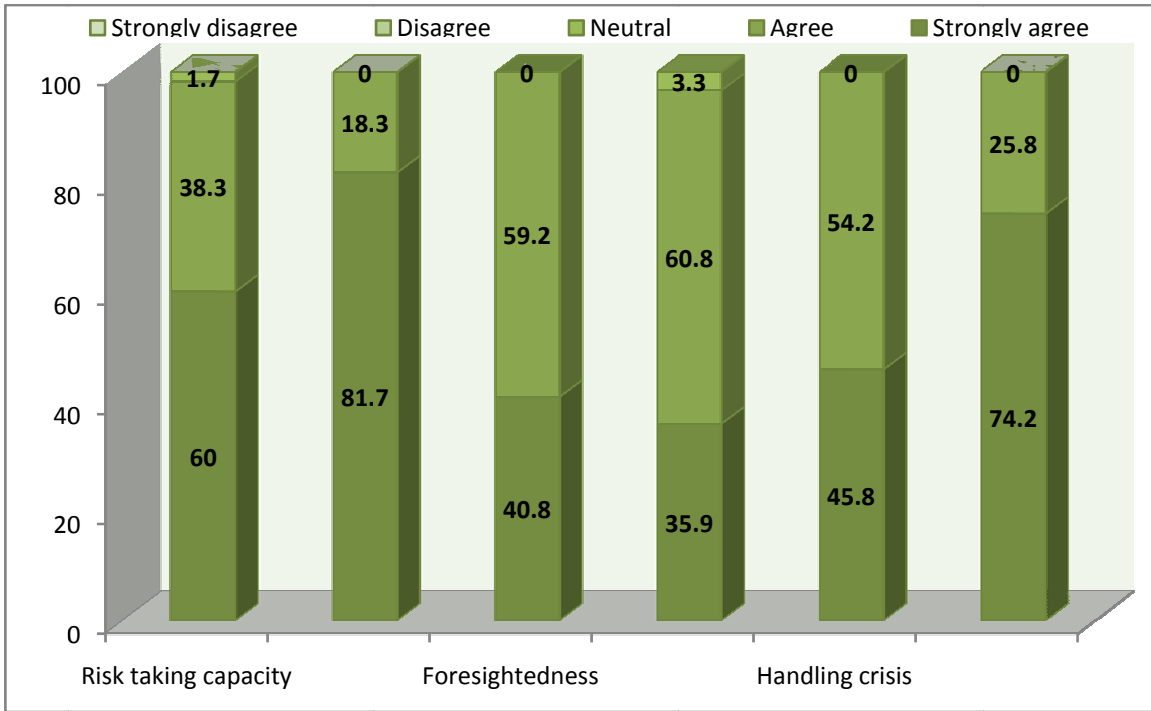
Discipline, hard work, decision making power, communication skills and motivating skills were found to be some essential qualities as 90.8%, 82.5%, 81.7% and 79.2% respondents strongly agreed for the same.

Review of literature also supports the above interpretation. Ruder Mann *et al.* suggested that roles women play in their personal lives provide psychological benefits, emotional advice and support, practice at multitasking, relevant background, opportunities to enrich interpersonal skills and leadership practice that enhance effectiveness.

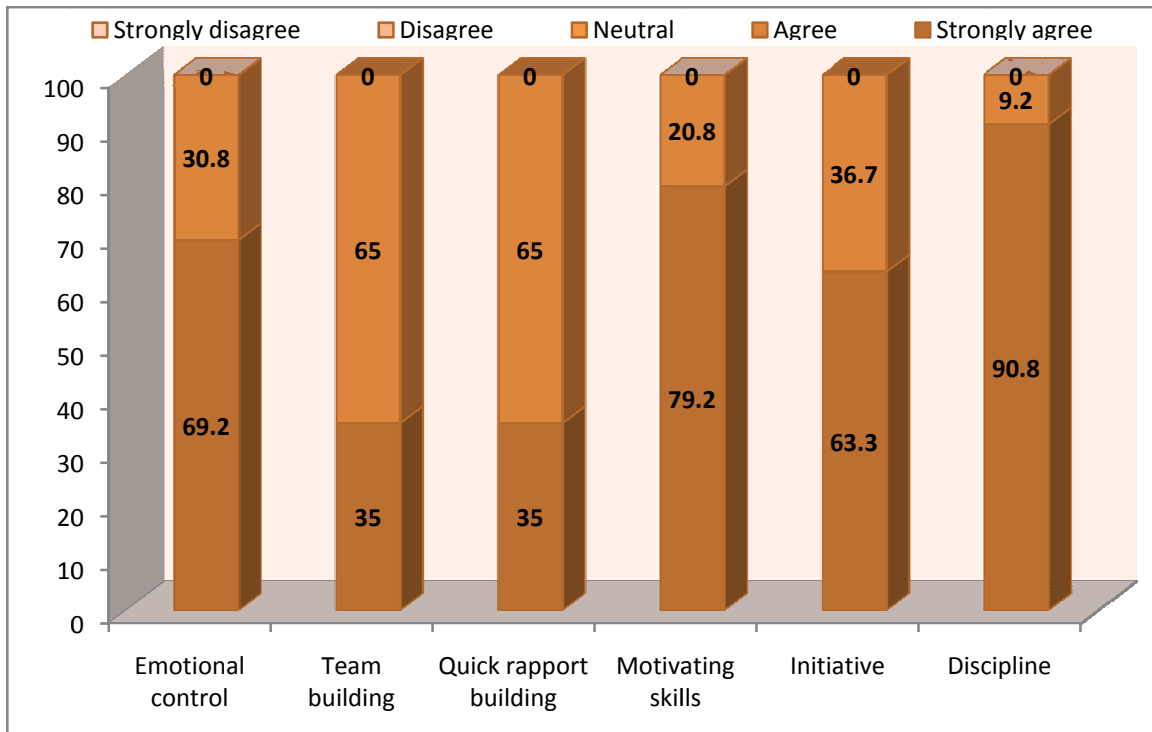
Today, women have a much more significant presence and they are seen as innovators, risk takers and decision-makers. This is all because of certain factors that mark an impact on their lives and are responsible for behavior paradigm shift. Factors like confidence, intelligence, experience, decision-making abilities, patience, time management, family support and positive thinking are considered to be essential for women entrepreneurship development.



GRAPH 1: PERSONAL QUALITIES FOR SUCCESSFUL WOMEN ENTREPRENEURS



GRAPH 2: DECISION MAKING QUALITIES FOR SUCCESSFUL WOMEN ENTREPRENEURS



GRAPH 3: TEAM DYNAMICS QUALITIES FOR SUCCESSFUL WOMEN ENTREPRENEURS

Another objective was about the common problems faced by Indian women entrepreneurs. The respondents were asked to tick the most appropriate degree on a five-point scale. Factor analysis is performed to reduce and classify the problems into factors.

TABLE 2: PROBLEMS FACED BY INDIAN WOMEN ENTREPRENEURS

S.No.	Qualities	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
A. Family problems						
1.	Lack of motivation and support from spouse	24.2%	69.1%	6.7%	–	–
2.	Lack of encouragement by other family members	23.3%	66.7%	7.5%	2.5%	–
3.	Less acceptability by friends, relatives, neighbours and community	14.2%	43.3%	20.0%	20.8%	1.7%

S.No.	Qualities	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.	Child rearing responsibilities	44.2%	48.3%	4.2%	3.3%	–
5.	Busy with other priorities of life	18.3%	66.7%	7.5%	5.0%	2.5%
B. Organizational Problems						
1.	Gender discrimination	25.8%	44.2%	17.5%	12.5%	–
2.	Lack of support by colleagues	10.8%	53.3%	25.0%	10.9%	–
3.	No recognition of one's worth	15.0%	46.7%	26.7%	8.3%	3.3%
4.	Organizational politics	20.8%	53.3%	19.2%	6.7%	–
5.	Poor working environment	10.0%	44.2%	25.0%	20.8%	–
C. Self problems						
1.	Inadequate or limited resources	13.3%	43.3%	20.8%	15.8%	6.8%
2.	Lack of opportunities and poor time management	25.0%	54.2%	15.8%	5.0%	–
3.	Health issues	20.0%	54.2%	17.5%	8.3%	–
4.	Restriction of working hours	18.3%	65.0%	6.7%	6.7%	3.3%
5.	Limitation to move out	23.4%	58.3%	10.8%	7.5%	–
D. Common problems						
1.	Coping with male ego and male stereotypes	35.0%	52.5%	7.5%	5.0%	–
2.	Cultural taboos	25.8%	51.7%	16.7%	3.3%	2.5%
3.	Social restrictions	23.4%	58.3%	10.8%	4.2%	3.3%
4.	Harassment/Teasing	21.7%	49.2%	19.2%	3.3%	6.6%

S.No.	Qualities	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	by males					
5.	Physical strain	24.2%	32.5%	28.3%	12.5%	2.5%

Analysis of the above table reveals that Indian women entrepreneurs are confronted with specific problems viz. family problems, organizational problems, self-problems and common problems. Majority of the respondents agree that lack of motivation and support from spouse, lack of encouragement by other family members, child rearing responsibilities and busy with other priorities of life are the common family problems faced by women entrepreneurs.

Lack of support by colleagues and organizational politics were reported as major organizational problems by 53.3 percent respondents.

Forty-four percent women entrepreneurs agreed that gender discrimination and poor working environment are also important organizational problems.

Restriction of working hours, limitation to move out, health issues and lack of opportunities and poor time management were reported as major self-problems by majority of the respondents. However, a small percent of respondents were neutral or disagreed regarding self-problems.

Fifty percent of the respondents agreed that Indian women entrepreneurs face common problems like coping with male ego and male stereotypes, cultural taboos, social restrictions and harassment and teasing by males.

Mean and standard deviation of scores were calculated from the data collected to mark down the intensity of the problem separately in **Table 3**.

TABLE 3: DESCRIPTIVE STATISTICS OF THE INTENSITY OF THE PROBLEMS

Code	Problems	Score	Mean	Standard Deviation
1.	Lack of motivation and support from spouse	496	4.13	0.634
2.	Lack of encouragement by other family members	489	4.08	0.688
3.	Less acceptability by friends, relatives, neighbours and community	417	3.48	1.029
4.	Child rearing responsibilities	520	4.33	0.714
5.	Busy with other priorities of life	472	3.93	0.827
6.	Gender discrimination	457	3.81	0.990
7.	Lack of support by colleagues	436	3.63	0.840
8.	No recognition of one's worth	434	3.62	0.954

Code	Problems	Score	Mean	Standard Deviation
9.	Organizational politics	466	3.88	0.812
10.	Poor working environment	409	3.41	0.957
11.	Inadequate or limited resources	423	3.53	0.943
12.	Lack of opportunities and poor time management	476	3.97	0.829
13.	Health issues	462	3.85	0.857
14.	Restriction of working hours	476	3.97	0.721
15.	Limitation to move out	477	3.97	0.804
16.	Coping with male ego and male stereotypes	501	4.18	0.774
17.	Cultural taboos	474	3.95	0.887
18.	Social restrictions	473	3.94	0.901
19.	Harassment/Teasing by males	461	3.84	0.889
20.	Physical strain	436	3.63	1.061

KMO and Bartlett's Test of Sphericity

The value of KMO statistic (0.723) is acceptable (> 0.5). So, this led the confidence regarding the appropriateness of factor analysis for the data.

The approximate Chi-square statistic is 696.688 with 190 degrees of freedom is significantly ($P < 0.05$) because of having the significant value less than 0.05. Therefore, KMO and Bartlett's test showed that factor analysis is appropriate or in other words data is fit for factor analysis (Table 5).

TABLE 4: KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.723
Bartlett's test of sphericity	Approx. Chi-square	696.688
	df	190
	Sig.	.000

Factor Extraction Using Principal Component Analysis

The next in the process was to decide about number of factors to be derived. Often, among the many variables that researcher analyze, a few variables are more related to each other than they are to others. Factor analysis allow the researcher to look at these groups of variables that tend to relate to each

other and estimate what underlying reason might cause these variables to be highly correlated with each other.

The scree plot for the analysis shows that 5 factors have Eigen value greater than 1, hence this is suggested to derive five factors for the problem in hand (Fig. 1).

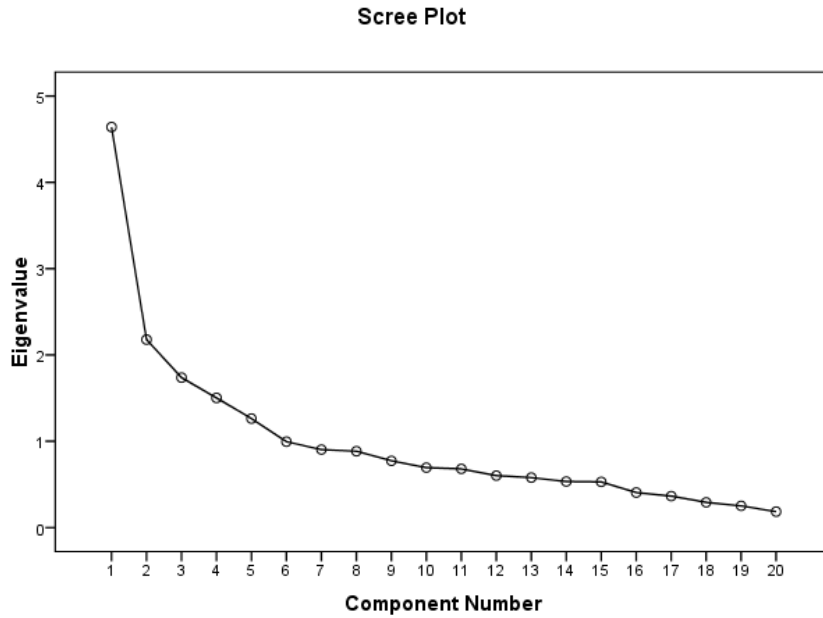


FIG. 1: SCREE PLOT

SPSS 18.0 was used to classify 20 problems/variables into smaller number of factors. Factor analysis was used to determine whether there were any common construct that represents respondents concerns. The problems were analysed using Varimax Algorithm of Orthogonal Rotation – the most commonly used method. Evaluation of resulting constructs and naming of factors is largely subjective. Hence, to identify the key problems that women leaders face and so as to group them into specific factors, factor analysis was done by using Principal Component Analysis.

TABLE 5: TOTAL VARIANCE EXPLAINED

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1.	4.640	23.202	23.202	4.640	23.202	23.202	3.034	15.170	15.170
2.	2.178	10.891	34.093	2.178	10.891	34.093	2.717	13.587	28.757
3.	1.738	8.690	42.783	1.738	8.690	42.783	2.053	10.263	39.020
4.	1.503	7.513	50.296	1.503	7.513	50.296	1.920	9.601	48.621
5.	1.263	6.315	56.611	1.263	6.315	56.611	1.598	7.989	56.611
6.	.996	4.978	61.589						
7.	.904	4.518	66.106						
8.	.885	4.426	70.532						
9.	.774	3.869	74.401						
10.	.695	3.473	77.874						
11.	.680	3.401	81.276						
12.	.602	3.010	84.285						
13.	.579	2.897	87.182						
14.	.534	2.668	89.850						
15.	.529	2.647	92.496						
16.	.406	2.031	94.527						
17.	.365	1.825	96.352						
18.	.293	1.464	97.815						
19.	.252	1.258	99.074						
20.	.185	.926	100.000						

According to Kaiser's Criteria by retaining only the problems with Eigen values greater than one, the inference can be drawn that 23.202% of variance is explained by Factor 1; 10.891% of variance is

explained by Factor 2; 8.690% of variance is explained by Factor 3; 7.513% of variance is explained by Factor 4; 6.315% of variance is explained by Factor 5 and together, all the five factors contributed to 56.611% of total explained variance.

TABLE 6: COMPONENT MATRIX

	Component / Factor				
	1	2	3	4	5
1.		0.715			
2.		0.634			
3.	0.643				
4.			0.517		
5.	0.784				
6.	0.622				
7.	0.529				
8.					
9.				0.704	
10.				0.598	
11.			0.586		
12.					
13.					0.558
14.	0.564				
15.					
16.					
17.	0.668				
18.					
19.	0.527				
20.					

Extraction Method: Principal Component Analysis

a. 5 components extracted

Under Varimax rotation, 5 out of 20 problems have factor loading > 0.5 in case of factor 1. This reveals that 25% of the problems clubbed into one factor. On the basis of Varimax rotation with Kaiser Normalization, 5 factors have emerged out.

TABLE 7: ROTATED COMPONENT MATRIX

	Component / Factor				
	1	2	3	4	5
1.		0.811			
2.		0.832			
3.		0.571			
4.				0.517	
5.	0.601				
6.			0.540		
7.	0.528				
8.					0.744
9.					0.696
10.			0.699		
11.					
12.				0.728	
13.				0.755	
14.					
15.			0.700		
16.	0.553				
17.	0.761				
18.	0.657				
19.	0.805				
20.				0.509	

Extraction Method: Principal Component Analysis

Rotation Method: Varimax With Kaiser Normalization

a. Rotation converged in 6 iterations

Each factor is constituted of all those variables that have factor loading > 0.5 . Therefore, the five factors were identified (Table 8).

TABLE 8: GROUPING OF KEY VARIABLES BASED ON FACTOR LOADINGS

Problems	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Harassment/teasing by males	0.805				
Cultural Taboos	0.761				
Social restrictions	0.657				
Busy with other priorities of life	0.601				
Coping with male ego & male stereotypes	0.553				
Lack of encouragement by other family members		0.832			
Lack of motivation & support from spouse		0.811			
Less acceptability by friends, relatives, neighbours and community		0.571			
Lack of support by colleagues		0.528			
Limitation to move out			0.700		
Poor working environment			0.699		
Gender discrimination			0.540		
Health issues				0.755	
Lack of opportunities and poor time management				0.728	
Child rearing responsibilities				0.517	
Physical strain				0.509	
No recognition of one's worth					0.744
Organizational politics					0.696

Factor 1: Psycho emotional dynamics

Harassment/teasing by males, cultural taboos, social restrictions, busy with other priorities of life and coping with male ego and male stereotypes constitute psycho emotional dynamics.

Factor 2: Family dynamics

Family problems play a major role in women leadership. Lack of encouragement by other family members, lack of motivation and support from spouse, less acceptability by friends, relatives, neighbours and community and lack of support by colleagues constitute family dynamics.

Factor 3: Socio cultural dynamics

Limitations to move out, poor working environment and gender discrimination constitute socio-cultural dynamics.

Factor 4: Environmental dynamics

Health issues, lack of opportunities and poor time management, child rearing responsibilities and physical strain constitute environmental dynamics.

Factor 5: Power dynamics

No recognition of one's worth and organizational politics constitute power dynamics.

Based on the above results, a HRD model can be suggested for Indian women entrepreneurs.

Navigators	Risk Takers	Decision Makers	Torch Bearers
1. Physical attributes	Emotional intelligence	Managing people	Inspiring others
2. Mental competencies	Skills and competencies	Managing resources	Problem solving
3. Personality traits			
4. Technical competence	Social perception	Managing Conflict	Role model for others

Benefits to Women Society and Nation
1. Entrepreneurs can become powerful agents of social change
2. Rapid economic growth
3. Better family life
4. Acceptance in the society
5. Determinants of changing educational, cultural and political climate

6. Important human resource in nation building

Fig. 2: HRD Model

In this model, women entrepreneurs are represented as Navigators, Risk Takers, Decision makers and Torchbearers. Just as a plant needs soil, water and sunlight for its development, women entrepreneurs need various skills, traits, attributes and competencies.

Indian women entrepreneurs are self-motivated and have various traits and qualities, which make them competent for their profession. They face certain problems but still they are stepping out and carving their own niche. Women entrepreneurs are considered as agents of change in the socio-economic development of a country. And entry of women into the world of business and entrepreneurship should be encouraged.

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Innovation Policy and Environmental Sustainability as Strategic Tools for Reaching Higher Performances A Regional Empirical Analysis to Find the Best Practice

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Abstract

Despite the sector or the firm's size, the choice of the strategies is worth; it is about a set of different aspects included by firms into their own strategic and operating procedures as corporate culture, strategic human resources management, empowerment, corporate social responsibility and sustainability, environmental issues focusing on product innovations and advanced technological processes.

The general aim of this study is to analyze how Piedmont (North-West Italy) SMEs are facing the challenges and changes that are happening into the business environment and what kind of strategies and tools they exploit to become more responsible, sustainable and competitive in order to create value for themselves and their stakeholders and to compete at a global stage.

Moreover, the paper is focused on setting up a rulebook for family business SMEs in which are specified suggestions about overcoming the crisis and achieving long terms goals.

Keywords: innovation, corporate social responsibility, entrepreneurship, SMEs.

Introduction

Changes and Challenges for Small and Medium Enterprises

Since 2008 the world has been facing the most damaging financial and economic crisis. The largest developed countries, notably those where the crisis originated, have entered into recession as well as the developing countries (International Labour Organization and International Institute for Labour Studies, 2009).

All the companies and the nations all over the world are now seriously affected by the effects of the crisis itself which has also generated many questions and concerns about the behaviours and the way of working of both the global multinational companies and the small and medium enterprises.

Furthermore, many other changes are really affecting the enterprises' activities at different levels and competitiveness too, since they represent such opportunities to take and threats to avoid for players who want to compete at a global stage successfully.

The first phenomenon which has to be taken into great consideration is surely the globalization; it has gained in importance because it represents a source of growing and changing and a potential cause of conflicts with and among stakeholders at the same time.

The term globalization refers to a series of relevant changes which have been happening to the society over the last decades; it includes: firstly, the decrease in national and geographic boundaries which allows companies to compete into a free trade area; secondly, the industries deregulation and the privatization; eventually, the fast development of information and communication technologies which impacts on both the improvement of companies' working and their activities which now may be judged by public opinion much more than in the past years (Perrini and Tencati, 2008).

The over competition, the rapid development of innovation technologies and the shortening of the product lifecycle (Perrini and Tencati, 2008) are pushing the companies to worry about their processes and their competitive

advantages focusing on investments in research and development so to obtain a higher quality in products and services which may ensure market share growth and increase in profitability.

Moreover, other *key elements* (which have been considered for designing our survey to Piedmont Small and Medium Enterprises) are gaining in importance due to much many concerns about the future of society, economy and environment, such as:

- **INNOVATION:** the focus on innovation is absolutely essential because it represents the key to economic recovery, “the motor to revitalize the Single Market” (Business Europe, 2010) and the best way to create new jobs opportunities. Moreover, the global economy itself puts pressures on companies to exploit the opportunities created by the market in order to become more innovative and meet the new consumers’ needs by bringing goods and services to those previously unable to access them (Johnson, 2010);
- **CORPORATE SOCIAL RESPONSIBILITY TOWARDS STAKEHOLDERS:** the attention to both stakeholders with the aim of improving life conditions of the individuals into the whole community and to the new customers’ needs and demands according to the steady increase in issues such as fair trade and cause related marketing principles. Consumers and stakeholders are paying more and more attention not only to the goods and services quality and innovation but also to the sustainability and responsibility of the company/brand they choose. This is the reason why concerns about transparency on markets (Perrini and Tencati, 2008) are gaining in importance too. It regards the corporate governance activities, the communication strategies within the market, the management strategies, the employment policies and the Corporate Social Responsibility programmes in general.
- **CORPORATE SOCIAL RESPONSIBILITY CONCERNING QUALITY, ENVIRONMENT AND ETHICS:** the attention to environmental issues and ecology is worth and more and more connected to the quality of products themselves. Nowadays market requires a more secure access to energy through the diversification of energy sources and consumption efficiency is indispensable. Nuclear power, renewable energies, carbon capture and storage and other new technologies are essential to meet this challenge (Business Europe, 2010). Natural resources will become increasingly scarce and expensive (Werbach, 2009) and it necessarily will imply a more responsible use of energies, raw materials and water, the recyclability as well as the decrease in using toxic substances. To sum up, the fight against climate change remains at the highest level of priorities (Business Europe, 2010). Ethics means focus on human resources. According to this, HR management is to create a sustainable working environment based on the value creation through career development, job protection, growth in productive employment by investing in professional skills and knowledge, focus on health and safety policies, respect of the ethics principles of human right especially into the developing countries¹. Managing human resources is both the tool and the objective of more sustainable and responsible companies. Corporate Social Responsibility itself reflects the focus on responsibilities and relations between an organization and people within whom it operates, since CSR was defined as “all the ways in which a company relates to society from purchasing to product disposal, from human resources to human rights” (Crowe, 2002).

Most companies are now aware of the importance of responding to these social, economic and technological changes and challenges and they absolutely know that how they respond will profoundly affect their competitiveness and perhaps even their survival.

How sustainability and CSR are connected to companies’ competitiveness?

The companies’ competitiveness has been always defined as the capacity to grow, to produce more and higher quality products and/or services and to keep or gain market shares in international and domestic market (European Commission, 2008); in other words “A firm is competitive if it can produce products or services of superior quality or lower costs than its domestic and international competitors. Competitiveness is than synonymous with a firm’s long run profit performance and its ability to compensate its employees and provide superior return to its owners” (Francis, 1989).

This definition is valid to a certain extent; the meaning of competitiveness has really changed itself to become more coherent within significant wide range of pressures and challenges into the business environment.

Nowadays, the concept of competitiveness can be applied at different levels, from the firm (*micro level*) to the sectoral, regional and national (*macro*) level (European Commission, 2008) with more and more consciousness about the great influence that enterprises have on their sectoral, regional and national business environment and society.

According to this statement, since competitiveness at macro economic level means sustainable standards of living, also companies are involved in contributing to achieve this goal: the more the companies are aligned with this object, the easier is to reach the goal of better quality of life in general, because enterprises are strictly the input of society well being. In this sense, they play a crucial role in managing different types of external and internal relations with different types of stakeholders (employees, end users, suppliers and community); for this reason, the firm was defined as a person, as an economic agent and corporate citizen (Ahmed and Machold, 2004), taking into account the new “moral contract” with employees and society (Ghoshal, Bartlett, and Moran, 1999) on which firm’s activities are founded in order to obtain the value creation at all levels.

Therefore, the concepts of sustainability and responsibility have started to play an effective role into a whole business community, not only due to the mounting pressure from stakeholders² on sustainability and responsibilities as tools that can affect every value creation lever over both short and longer term (Boston Consulting Group, 2009), but also because the whole community may be affected by companies’ operations.

Sustainable development stands for seeking to meet “the needs and aspirations of present generations without compromising the ability to meet those of future” (Brundland Commission, 1987); in other words, a better quality of life for everyone, now and for generation to come, concerning people, planet and profit. Indeed the concept refers to economic growth, society development and environmental care at the same time³.

Corporate sustainability can be truly reached by the implementation of the frameworks of Corporate Social Responsibility, which are based on concerns about: environment, human resources and society, quality and improvement in production, processes and delivery of goods and services, relations between stakeholders and stockholders by the implementation of a set of specific standards or codes in order to demonstrate and communicate to the whole community the company’s attitudes and responsible behaviours⁴.

Corporate Social Responsibility was define by the European Commission as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interactions with their stakeholders on a voluntary basis” (European Commission, 2001). It is something referred to how companies do their profit and how they are brought into constructive relationships with a new range of stakeholders (European Commission, 2008).

The extent to which social and environmental issue are integrated into the core business strategy of an enterprise will be an important determinant of its ability to find business opportunities in responding to societal challenges (European Commission, 2008) and to compete more effectively.

According to this, the issue is how enterprises might react to the challenges and changes that are happening into the business environment so that they can reach their corporate sustainable success and lead their sectoral, regional and national business context to sustainable growth.

Global companies as well as small and medium enterprises have to focus their efforts on: innovation, research and development to better adapt themselves to the new economic context, the implementation of such sustainable policies and strategies in order to satisfy their stakeholders’ needs and demands, the corporate governance so that it will be able to create and to promote sustainable conditions for obtaining the long term success, by enhancing capabilities in innovating organizational models, management practices and products and/or services. These policies are to obtain competitive advantages in terms of both differentiation and cost leadership (Porter, 1980) among other competitors.

Corporate social responsibilities policies may impact on differentiation, in terms of: improved brand reputation, access to new markets and niches, improved perception of how well company is managed, improved ability to attract and retain top talent, enhanced stakeholders/investors relations (Haanaes, Balagopal, Arthur, Kong, Velken, Kruschwitz, and Hopkins, 2011), better workplaces which can be more conducive to better innovation of products/services and business models and processes as well (European Commission, 2008), improved competitive positioning, customer loyalty (European Commission, 2007).

Some of the impacts of corporate social responsibility policies implementation on cost leadership are: reduced costs due to energy efficiency and materials or waste efficiencies, increased margins or market share due to sustainable positioning, reduced risks, increased employees productivity (Haanaes, Balagopal, Arthur, Kong, Velken, Kruschwitz, and Hopkins, 2011), many costs are saved from continuous improvements, low potential litigation expenditures, lower insurance and lower energy costs (Miles and Covin, 2000).

What happens when sustainability and CSR are linked to firms' size?

A huge difference in attitude towards corporate social responsibility policies and sustainable development seems to emerge when taking into account the size of the companies.

On one hand, the bigger the size the firm is, the easier seems to respond to the issues of the business environment. Big global companies have the banks and governments overconfidence and therefore a greater access to money to invest in their know-how and skills for developing innovations, they have tools and supports to better implement such sustainable policies and standards that can contribute to a number of social, environmental and economic policy objectives (European Commission, 2008). According to the second annual Sustainability and Innovation survey conducted by the Massachusetts Institute of Technology in 2011, "big companies are more willing than smaller companies to be sustainability embracers" (Haanaes, Balagopal, Arthur, Kong, Velken, Kruschwitz, and Hopkins, 2011); it may be because of the higher amount of resources to spend, more experience to be exploited, higher visibility which let them to be more convinced that sustainability-driven efforts and focus on key environmental issues will add to profitability.

On the other hand, focusing the attention on small and medium enterprises, it seems clear that due to their smaller disposal of resources (both financial and human) it is more difficult to start to invest for developing a sustainable approach of business, even if the future returns in terms of profitability are surely convenient. Smaller businesses see a few concentrated sustainability-related advantages but they are planning to invest more money and management in sustainability-driven strategies (Haanaes, Balagopal, Arthur, Kong, Velken, Kruschwitz, and Hopkins, 2011) and are taking a broader view on the implementation of such sustainable policies concerning CSR and innovation as tools for improving their value creation process and overcoming the crisis period - as it will be shown empirically hereinafter, when analyzing the results of our survey.

In fact, the concept of corporate social responsibility is not totally new for small and medium enterprises, they have always done things that could today be called with the term CSR, even if they do not know or use the term themselves (European Commission, 2007): they provide great employment, harness their motivation by informing and consulting them, create participative workplace and are striving to create sustainability also in relation to their local community. Obviously, these concepts have always been less formal and more intuitive than in bigger companies, but SME's speed and flexibility enables them to capitalize on two principal opportunities: improved brand reputation and sustainability-enabled access to new market (Haanaes, Balagopal, Arthur, Kong, Velken, Kruschwitz, and Hopkins, 2011).

Since today "we cannot achieve the goal of the growth and jobs strategy without small and medium enterprises" (European Commission, 2007) and "being a good corporate citizen requires more than business as usual - it requires investments in society and environment" (Clinton, 2009), we will try to understand how some selected SMEs located into a North Western region of Italy (called Piedmont) conduct their business to be more responsible, sustainable and competitive in order to increase their value creation.

Method of the Survey and Sample Summary

Micro, small and medium enterprises have been for years the engine of the European economy (Verheugen, 2003) and a very relevant part of any national market; they represent the 99% of all enterprises in Europe and provide around 75 million jobs (European Commission, 2005). SMEs contribute significantly to employment and to promote economic growth (International Labour Organization, 2004) by producing both outputs to customers and goods and services to large enterprises as strategic key suppliers. These enterprises may be small individually but together they may have a large role to play into the business community as essential and crucial source for fostering competitiveness, entrepreneurial spirit and innovation as well.

The meaning of the term SME has been changing since the year 2003. According to the new SME definition given by the European Commission in 2005, it is necessary to consider three main factors such as the headcount, the annual turnover or the annual balance sheet total in order to classify micro, small and medium enterprises⁵. In general, the category of SMEs is made up of enterprises which employ fewer than 250 people and which have an annual turnover not exceeding 50 million Euros, and/or an annual balance sheet total not exceeding 43 million Euros (European Commission, 2005).

Considering the Italian economic scenario it is clearly seen that micro enterprises represent the 98% of the total amount of companies and the 85% of the Gross Domestic Product comes from enterprises with less than 250 employees.

In Italy – and in particular in Piedmont (North-West Italy region) – the most small and medium enterprises are also family-based companies operating within a system of governance and intrinsic features full of both advantages and disadvantages related to the possibility to become more effective voice of business in international context and create the expected value. It is both useful and necessary to analyze some of the features of family-based small and medium enterprises to better understand the surveyed sample, composed by these types of firms.

Firstly, family-based SMEs are an important source of economic growth, job creation and economic and social cohesion (European Commission, 2005); the commitment to the company's values is much higher among the employees working into a family-business context also because in most cases they are headed by an owner/manager who has the capacity to positively influence the whole organization and its relation with stakeholders by great creativity and strong entrepreneurial spirit.

Secondly, these kinds of firms are characterized by a greater flexibility, a bigger sense of respect for the authority, a less organizational staff turnover, a long term vision – with a positive impact on performances – and an important convergence between management and ownership aims (AIDAF, 2009).

Eventually, family-based small and medium enterprises greatly depend on entrepreneurs, the individuals who are able to influence the decisions inside the firms, using their innovative ideas and taking the risks necessary to lead the firm on top.

However, this model of governance within small and medium enterprises has its negative aspects and many weaknesses and risks to face.

The first one is connected to the generation exchange, in the meaning that on the total amount of family businesses only the 50% survives during the second generation and only the 15% exceeds the third one. This is mainly due to the lack of suitable programmes of succession which could cause great problems of governance and could stop the development process.

Besides, the second risk is what it is generally called *systemic risk*, related to the incapacity of predicting the sector trend in which the companies are in. Usually family-based SMEs are local players with a limitative perspective; they frequently have difficulties in access to capital or in obtaining credit – particularly in the early start up phase (European Commission, 2005) – and the restricted resources may reduce the access to new technologies and innovation too.

Furthermore, some weaknesses can be found in human resources area: they have less in-house expertise as lack of specialized employees and qualified managers.

Since these kinds of companies are becoming more and more relevant for the business community, in 2010 the Piedmont SMEs Association (API), the Marnetto Foundation and La Repubblica newspaper, in collaboration with the Turin Chamber of Commerce, the Unicredit Bank, Unicredit Corporate Banking and Private Banking and with the scientific support from the University of Turin and Polytechnic of Turin, have realized – for the second year – the “Chiave a Stella” award, which is an initiative for living prominence to Piedmont SMEs and their capacity to link innovation and tradition, the product excellence and the territory development (in Italy as well as abroad), in a responsible and sustainable manner.

The awards were addressed to every Piedmont SME (both manufacturing and service sectors) with revenues from 500.000 and 25 million Euros, with two different classes of awards: one for companies from 500.000 to 3 million Euros annual revenues and the other for companies from 3 million euros to 25 million euros revenues per year.

The technical commission composed by seven members from the sponsors and collaborators of the project, examined one hundred general questionnaires which were submitted to one hundred small and medium enterprises and then selected a total amount of 20 enterprises (10 for the category 500.000 – 3 million Euros and 10 for the category 3 – 25 million Euros) using the following evaluation criteria.

The two winners (one per each category of awards) have been chosen among those 20 companies which were examined by more detailed questionnaires and were interviewed by members of the University – Faculty of Economics – and Polytechnic of Turin.

The “Table 1” shows the 20 considered companies and the evaluation criteria used for selecting them: the 2009-2007 positive revenue variation, the import-export situation for each company and the adoption of a research and development strategy; by reading the last column of the table we can easily understand the sector/industry in which every SME operates.

TABLE 1: “CHIAVE A STELLA” AWARD 2010 SUMMARY (RESEARCH CONSIDERED SAMPLE)

SMEs	Revenues Variation ('09-'07) Mln Euros	Italian Last Revenue (%)	Abroad Last Revenue (%)	R&D Strategy	Sector/Industry
PR. TARGET	1,9075	100	0	Yes	B to B (road sign)
TEKNO ALFA	1,375	30	70	Yes	B to B (machineries design and building)
AXIS	1,72	91	9	Yes	B to B (automation for industrial)
CMP BRESSO	0,8	90	10	Yes	B to B (moulding)
REYNALDI	1,185	88	12	Yes	B to C (natural cosmetics)
LAZZERO TEC	1,106	60	40	Yes	B to B (vacuum pump)
REDAT	1,009	75	25	Yes	B to B (turbo chargers)
SIMPRO	0,957	88	12	Yes	B to B (production machineries)
FACEM	0,523	60,49	39,51	Yes	B to C (domestic tools)
TRAFILPLAST	0,934	97,26	2,74	Yes	B to B (plastic drawn products)
CASEIFICIO PEZZANA 2	1,03	95	5	Yes	B to C (cheese factory)
TAUROCAF	1,109	97	3	Yes	B to C (coffee candies)
MECAR	1,141	100	0	Yes	B to B (machine shop)
SIVE	0,698	35	65	Yes	B to B (varnishing)
SICMAT	0,721	10	90	Yes	B to B (manufacturing machine tools)
CRIOTEC IMPIANTI	0,659	87	13	Yes	B to B (plants design)
S.I.B.- SIDERAL	0,59	90	10	Yes	B to B (manufacturing tools)
LECCE PEN AND COMPANY	0,344	33,66	66,34	Yes	B to B and B to C (recycled plastic tools)
SEA & SYMPHONY	1,55	77	23	Yes	B to B (boat tools)
TRE ERRE	0,58	100	0	Yes	B to B and B to C (furniture and building)

Since these twenty companies are improving their performances in terms of economic results as well as long term goals (incremental and radical innovation) and they have been classified as the most representative and successful family-based small and medium enterprises into the Piedmont context, we have decided to conduct a more detailed and focused empirical analysis on each of them. The analysis was based on their approach to innovation, sustainability and Corporate Social Responsibility linked to the *key elements* -which are really affecting companies' strategies - mentioned in the introductory part of the present paper. The research on the above described

sample was conducted through a questionnaire sent by e-mail with link to Survey Monkey⁶ website – on which the questionnaire was set up by us and from which we have processed the data.

The questionnaire is divided into three main sections intended to deepen the sample adopted strategies and tools regarding the innovation, the corporate social responsibility towards stakeholders and the corporate social responsibility concerning quality, environment and ethics, in order to respond to the following general main questions:

1) Section I: Innovation.

What is the link between innovation and firm's success?

2) Section II: Corporate Social Responsibility towards stakeholders

Are these successful SMEs responsible within their stakeholders? How do they build responsible relations?

3) Section III: Corporate Social Responsibility concerning quality, environment and ethics

Do they consider quality, environment and ethics in business? How do they take care about these issues?

A total of 20 questionnaires have been returned and checked by the researchers to ensure that they were valid. All the questionnaires have been used for our data analysis.

For a complete version of the questionnaire, please see the Annex 1 hereinafter.

Results from the Survey

Concerning the innovation topic, our findings indicate that the average amount spent in Research and Development (R&D) is about 110.000 Euros per year (the 10% of the total revenues) with an 8% average increase if compared to the three past years. Moreover, the employees engaged in the R&D represent the 10% of the total amount of the workforce of our sample.

The majority of these firms (80%) are used to plan in advance a specific R&D strategy including objects, resources, skills, risks evaluation, processes and the estimation of economics indicators.

The 95% of the surveyed sample is involved in product innovations and from the research it emerges that a consistent part of these innovations are related to the environmental issues; the 50% of the companies are developing process innovations mainly connected to the reduction of energies and reuse of water or other type of resources, a smaller part of the sample (20%) is oriented also to the business model innovations and the most are focused on the development of both the sells into foreign markets and web platforms.

Since all the surveyed firms are strongly developing different specific innovations, the 65% of them uses patents in order to protect their projects, with an average amount of three patents per firm. Moreover, the 50% of the sample has got registered trademarks with an average amount of three per firm.

Processing the data, it is interesting to analyze how these family business companies develop their innovations. As can be seen in the "Fig.1" below, the most of them are used to develop innovations by themselves, within the organization's workforce. Even if the role and the importance of the partnerships in managing innovations are still low among the surveyed sample, all of them have declared that they are trying to get in touch with Universities, Research Institutes and other companies (competitors and not) in order to build or improve their relations with them so that they may obtain more effective product or process improvement by comparing and sharing ideas with others and by taking advantages of the expertise inside other types of organizations.

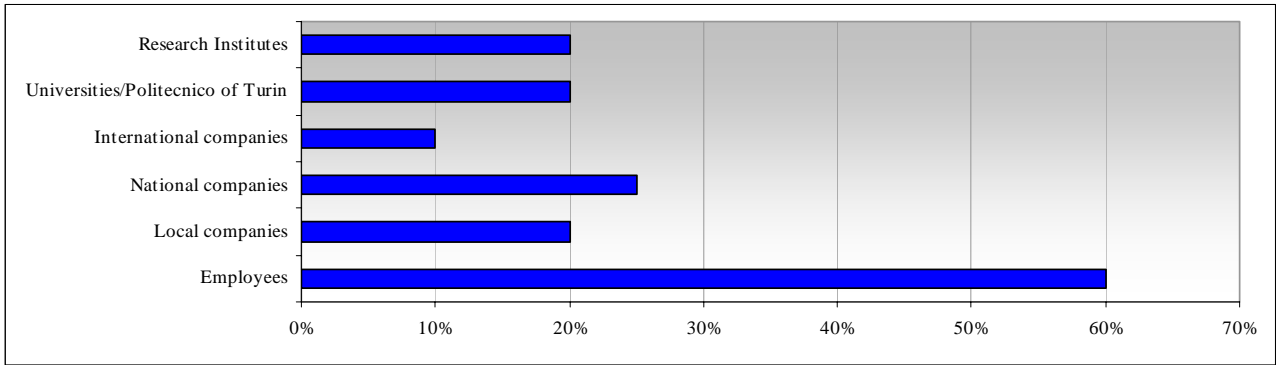


FIG. 1: INNOVATION AND PARTNERSHIPS

Concerning the financial-side of the innovation projects, only the 5% of the sample takes advantages of the bank loans and the 20% of the specific public projects funds. On the contrary, the most of them are able to develop innovations by exploiting their own financial resources.

Despite the degree of the innovation shared in the market, the 58% of the sample has declared that the microenvironment in which they are competing is characterized by a high competition level; so how to maintain a long term competitive advantage? Our survey clearly shows that the only way to overcome the over competition is to be a “market nicher” being focused on customers by offering them tailored products.

In regard to the Corporate Social Responsibility and the relations with stakeholders, we can talk about the spread of communication towards them, the attention to employees and the end-users’ satisfaction.

Firstly, even if only the 35% of the firms is used to draw up Social or Sustainability Reports in order to formally communicate their activities to stakeholders, the most of them (90%) have declared that they consider the compilation of such Statements absolutely relevant for better communicate about themselves and what and how they are doing and all of them have said that they will be working on it in the next years.

Secondly, concerning the employees, it is possible to highlight that all the firms pay a particular attention to them through the provision of training in order to improve their productivity and the service provision in order to increase their commitment to the firm itself. The training activities cost about 10% of the total amount of revenues per year, with an average of three courses provided by each company per year. Every surveyed enterprise has declared to offer more than 2-3 services to its employees, as the following “Fig.2” clearly represents.

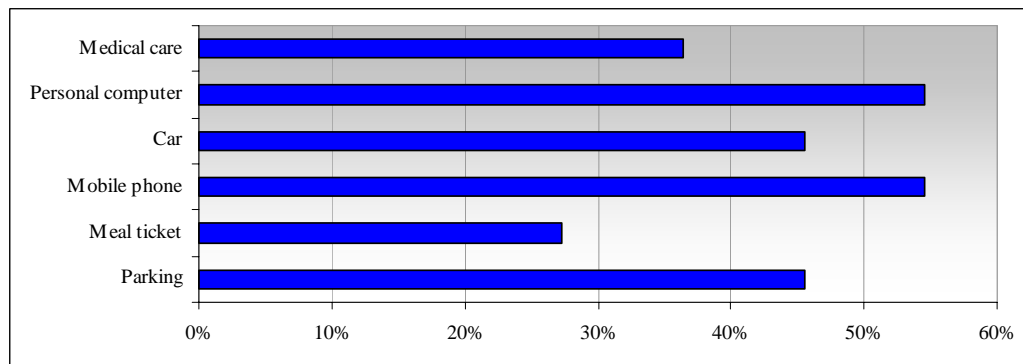


FIG. 2: SERVICES PROVISION TO EMPLOYEES

Eventually, the customers' satisfaction is relatively high if we take into consideration the fact that even if the most of the products offered by the firms are tailored and built on specific needs which change from time to time, the percentage of the repeated purchases by clients is about 40% on the average. This could be due to the continual attention to customers' needs and demands and to the quality offered thanks to steady improvements of processes and products obtained by a high spread of innovation among all the sample. Customers' care and quality are surely two indispensable competitive advantages for increasing business performances.

Concerning Corporate Social Responsibility towards quality, environment and ethics, the "Fig. 3" below clearly shows that the most of the companies (the 70% of the sample) have already implemented the ISO 9001 standard on quality for demonstrating their ability to consistently provide products that meet customers' satisfaction through the continuous improvement of processes and the high quality of training to the human resources.

Moreover, all the firms are used to do internal quality control to ensure the conformity of products and procedures.

As the "Fig. 3" describes, the environmental responsibility within them is basically related to a variety of different actions to become simply more efficient in reducing, recycling and reusing raw materials and waste materials, minimizing the impact of transportation, energy and water usage, trying to reduce the pollution as well. Only the 25% of the surveyed SMEs have implemented the certified Environmental Management System ISO14001 and only the 20% use the Eco Management and Audit Scheme (EMAS, voluntary initiative designed for improving companies' environmental performances).

This could be due to the fact that there are some barriers for SMEs to comply with environmental legislation: firstly, it does not often take into account the specificities of SMEs operations; secondly, monitoring the environmental indicators represents high costs as well as the implementation of a system of reporting.

None of the firms are used to draw-up the SA8000 standard on ethics and only one of them has implemented the OHSAS 18001 (Health and Safety Standard). As a matter of fact, these standards are more common in multinational companies which base their production in developing countries and have more concerns in order to assurance their respect of human rights and labour standards.

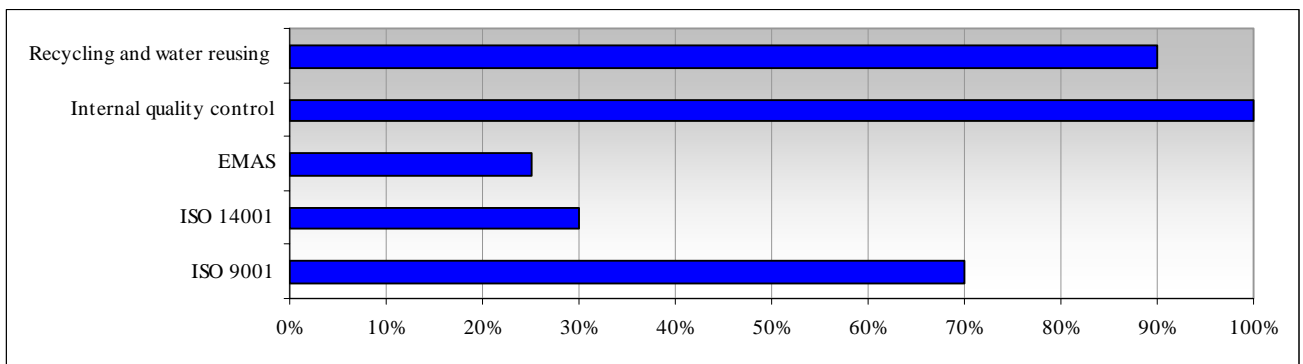


FIG. 3: QUALITY AND ENVIRONMENTAL STANDARDS AND PROCEDURES

Discussion and Design of the Rulebook for SMEs

Given our findings from the questionnaires to Piedmont family business small and medium enterprises, it seems clear that these surveyed most successful SMEs have implemented and now are strengthening the use of strategies of social responsibility and innovation and development as critical key factors of their core business.

Both the implementation and the use of these strategies and other tools connected to the business responsibility and sustainability growth are generally known as critical elements for obtaining a long term success, as it is shown by an international empirical research conducted by Pricewaterhouse Coopers on 1124 Chief Executive Officers in

2009 (Pricewaterhouse Coopers, 2009). According to these results, the most relevant key success factors a company should focus on and implement are: ability to attract and retain talents, capacity to adapt to changes, strong brand and reputation, high quality in customer service, pro-active responses to the market needs, technological innovation, efficient supply-management, access to financial resources, ability to implement and manage successful partnerships, effective corporate social responsibility programmes and access to natural resources which are also economically sustainable (raw materials, water, energies, etc..).

In 2010 another empirical research conducted by Fortune, combined the America's Most Admired Companies (AMAC) survey with the World Most Admired Companies (WMAC) one to generate a global ranking which analyzes what kinds of features distinguish the "best" from the rest, despite the size of the company; some of them are represented by the ability to retain talents, to implement responsible policies and strategies and the attitude to continuous innovation (Royal and Stark, 2010).

According to our results referred to excellent SMEs and to these two researches it clearly emerges that the focus on innovation, human resources management, CSR and sustainability truly represent the best ways to reach the expected value creation.

At this point, we have all the elements at our disposal to set up a rule book (based on the empirical research on our sample) concerning behaviours and strategies a family business small and medium firm should use and strengthen in order to better perform; our suggestions for SMEs are related to five main strategic areas: entrepreneurship, innovation, environment, human resources ethics and communicating corporate social responsibility.

Strengthen the rule of entrepreneurship. As emerges into the first part of the paper, small and medium enterprises depend more than other types of companies on their entrepreneurs. The entrepreneur plays many important roles inside the firm, with very relevant impact on human resources area, product, process or business model innovation, implementation of corporate social responsibility programmes and many other strategies connected to internationalization, global sourcing policies, decentralization, etc.. generally concerning the increase in company's market share.

The ideas, the creativity and the spirit of innovation are common core features of entrepreneurs; they can be found in all professions but a unique definition groups them together: "entrepreneurship is the process of creating something different with value by devoting the necessary time and efforts, assuming the accompanying financial, psychic, and social risks, and receiving the resulting rewards of monetary and personal satisfaction" (Bowen and Hisrich, 1986). It is clear that the behaviour, the spirit and the perspectives of a single entrepreneur can really affect the destiny of the whole organization, from its creation to its survival and growth.

General and specific entrepreneurs' skills, knowledge and abilities are relevant also to existing SME managers and to wider SME workforce as much as an entrepreneur is able to share them within the whole organization. Firstly, one of his main features is the knowledge in recognizing available opportunities that can be significant for his business activities; secondly, the attitudes, the use of his own initiative, and the adaptability to the external environment are key factors for the firm's success; eventually, the skills include strategic thinking, self confidence and the ability to deal with business environment changes and challenges by strengthening his company and make people aware about new strategies which have to be adopted (OECD, 2010).

In particular, having recognized the great impact and importance sustainability and responsibility may have on firm's performances, public opinion and stakeholders' satisfaction, the entrepreneur is the only person inside the firm who really can make those aspects happen.

"When one's business and life are inseparable, as is often the case in owner-managed business and entrepreneurship, personal ethos and business behaviour are inseparable" (Fuller and Tian, 2006). This is the reason why if an entrepreneur has his own responsible behaviour, he truly can transmit this behaviour to the whole organization and affect the ethical perspective of the firm he owns and runs in a positive manner.

Some suggestions for entrepreneurs – which are listed below – are both useful and necessary to foster his rule into family business SMEs in order to strengthen them and to create more effective internal business environment:

- setting up clear and shared strategies among employees;
- recognizing the strategic importance of collecting and assessing information on the competition in the market;

- fostering the exchange of information at the internal level by planning, organizing and communicating the desired objectives;
- “because a chaotic external world requires internal cohesion and flexibility” (Werbach, 2009), it is necessary to create such a flexible, creative and open environment in which employees feel empowered to take risks;
- fostering innovation by using entrepreneur’s capacity and skills as well as by creating a situation of freedom, time for experimentation, flexibility, trust and dynamism in which employees may come up with new ideas to be supported;
- having attitude to team building and attribution and rewarding of success;
- having the ability to attract, motivate and retain talents, also in order to avoid the risk of succession: if no one inside the entrepreneur’s family has the aim to cover his position in the future, he will soon be able to identify a suitable manager for leading the firm;
- seeking for new technological opportunities with a proactive orientation to changes (OECD, 2010);
- making the best of personal networks and activating partnership with Universities, Research Institutes and the inter-firm collaboration;
- combining the perspective of innovation with the environmental-sustainability one; environmental-responsible business process often provide a range of new opportunities for entrepreneurs (Shaper, 2005);
- leading the firm to CSR policies implementation since the smallest organizations may have the greatest opportunity to base their entire culture on sustainability related positioning (Haanaes, Balagopal, Arthur, Kong, Velken, Kruschwitz, and Hopkins, 2011).

Be steady innovators. The rule of entrepreneurship is strictly connected to the possibility to foster innovation inside the family business SMEs. Since these kinds of smallest organizations are defined as the motor of the European economy, the implementation of innovation policies surely represents one of the most relevant way through which this motor can continue to work.

According to this statement, encouraging innovation in SMEs remains at the heart of policy initiatives for stimulating economic development at the local, regional, national and European levels (Edwards, Delbridge, and Munday, 2005). The little amount of resources (both financial and human) at disposal of smallest organizations remains a limitation factor to continue improvement and adoption of new technologies, that they may exceed by using their competitive advantage in flexibility, dynamism and creativity fostering by entrepreneurs.

Nowadays, innovating is a difficult process for all companies (even big global ones), since both new technologies and information and communication technologies become more complex and pervasive (Edwards, Delbridge, and Munday, 2005). Moreover, end-users will no longer be satisfied only about quality and product function and features; they want more in terms of well-made and reliable solutions and, in this sense, product innovation needs process innovation as keys to success (Johnson, 2010). Eventually, CSR can be a route to innovation and can be perceived in terms of both potential cost-savings and new value creation for stakeholders.

Given these challenges, SMEs should consider those following suggestions to become better innovators:

- be partnership-friendly innovators*: exploiting the advantages of partnerships; they should work with academic institutions and other firms through innovation networks in and between sectors, regions and nation – states (Edwards, Delbridge, and Munday, 2005). Sharing ideas and involving people with different perspectives may open opportunities in innovation;
- be consumer-friendly innovators*: trying to compete through product innovation (to meet the needs of high quality), process innovation (by improving manufacturing, customer relationship management, technical support services, quality assurance and control) (Johnson, 2010), as well as business model innovation. This represents the only way to have different competitive advantages in performance, reliability, convenience and costs in order to better respond to the new consumers’ demand mainly based on customization, attention to social and environmental issues, competitive price and shifting to a niche segment;
- be environmental-friendly innovators*: combining the use of social, environmental and sustainability drivers to create new ways of working (business models) new products, services, processes and market spaces (European Commission, 2008);
- adopting a clear strategy of innovation which includes objectives, resources, skills, risks, processes and indicators and then protecting the innovation with patents and registered trademarks.

In conclusion, the extent to which partnership, attention to new customers' needs, social and environmental issues are integrated into the core business strategy of an enterprise will be an important determinant of its ability to exploit business opportunity in innovating.

Take care of environment. Interests and worries about the environmental issues has rocketed during the last few decades. The need for reducing the environmental impact of products and processes is an ongoing issue which should be addressed by the management of all organizations and – in particular – by the entrepreneurs of the smallest ones, since they represent the 99% of the total amount of European enterprises and they contribute the 64% of the industrial pollution in Europe (European Commission, 2010).

If, on one hand, there are many costs – saving effects from environmental sustainability such as lower energy costs or lower waste of resources; on the other hand, some other costs are strictly connected to the implementation of formal standards or regulations on environment.

Despite of this, it is both useful and necessary to include the implementation of such official regulations or standards into the following list of suggestions for SMEs:

- implementation of the ISO 14001 standard or the EMAS regulation or other specific national schemes which may lead the organization to superior benefits, such as: enhanced quality of management, improved quality of training (especially for “green skills”), improved working condition and safety, improved quality of environmental information, demonstrated legal compliance, encouraged innovation, communication and demonstration of environmental sustainability which can contribute to create a better firm's image among stakeholders, improved procedures and environmental performances, financial benefits, improved employee qualifications and commitment (based on Hillary, 2004);

- if certified environmental management systems are not implemented yet or they can not be implemented, create programmes sensitizing on environmental issues and simply improve the awareness of formal environmental management system, environmental laws and/or remediation processes within the organization (Shaper, 2005);

- adapt the green business perspective to new products or processes (e.g. biodegradable materials or processes aimed at reusing water or other types of resources);

- look more actively toward clean technologies through the collaboration with suppliers and sector organizations or through applied research schemes (European Commission, 2010).

To conclude, it is important to underline the fact that SMEs can do any type of effort but they surely need much many supports for easier certification processes: from alleviating the costs of complying with environmental legislation to the creation of tools and facilities to gather free and clear information and the simplification of the administrative requirements for reporting on environment (European Commission, 2010).

Get the employees engaged and satisfied. Since the employees are (at every level) the real engine of any organization, nobody has doubts concerning the treatment every leader (manager, director, chair man and – most of all – entrepreneur) must reserve to them; at every stage of their career they must be motivated, they have to feel themselves embedded in the organization in which they work. According to many authors, people are the key to growth in good times and survival in bad moments (Winston, 2009); people detain human capital and intellectual capital (Casalegno and Pellicelli, 2008), which are considered and valued by Fitz-Enz (1998, 2000, 2001) as profit levers in the knowledge economy. People are knowledge lever (Bahra 2001); employees represent the most important intangible asset in any organization (Kiessling, Harvey, 2006). According to Fitz-Enz, this asset can and should be measured as a fundamental asset for achieving competitive advantage; this is a precious resource, a lever to create organization's value. This is what the literature is always saying, but what is really happening in the moment of crisis the whole world is still facing of? For the majority of the times, firms seem do not care about the “human factor”, just thinking about the costs reduction; employees are costs and – moreover - they are perceived in this way in small or medium realities. But if a SME wants to overcome the competition leveraging on technology and on something more than tangible assets, employees must be taken into account; if the innovation comes from the inside – from the minds of whom we can call “knowledge workers” - it is a valuable intangible asset which competitors cannot imitate and a company can achieve this result only when employees feel themselves as a part of the whole organization. Indeed competitive advantages are earned when it is possible to build a link between employees' and company's goals; this kind of link is effective only when exists a corporate culture able to make employees share the same values the organization has. Eventually, it is necessary to pay attention to the recruiting,

the selection of new employees, the training and the reward management; these are important tools for building the most effective connection strategies inside the organization (Casalegno, 2008). Not everything concerning the ethical human resource management is left to the management free will, which sometimes can be arguable; the European Economic Community, the United Nations, the International Labour Organization (ILO), the Organization for Economic Co-operation and Development (OECD) have been legislating during the last twenty years about human rights and the firm citizenship culture. For item, the Global Compact, launched in the year 2000 by the United Nations, encourages companies to incorporate the ten human rights principles in their own strategy and to consider a broad range of stakeholders in setting strategy (Rose, 2008).

At the international level companies are adapting themselves to ethical norms and measures concerning the employees' safeguard; for item they are doing it in UK, where the ethical conduct in business practice and HR procedures is no longer a matter of choice for companies and organizations in general (Rose, 2008). In conclusion, in Italy firms are trying to adapt (and in the future, they must do that, if they want to have an useful tool to make their people capital more effective and engaged) to the international norms even if the adaptation – at the moment – is not mandatory and perceived as necessary (especially for companies mainly operating into the national market); the certifications on ethics and health and safety at work are not well-known and complex to adopt and to put in practice. Talking about the employees aspect, these certifications – concerning spaces, procedures and internal services conformity to the law – are important internal communication tools through which every employee can feel safer and more aware that the own goals are closed to the ones of the organization which he is working in.

Increasing the Corporate Social Responsibility (CSR) Communication. The business innovation degree regards in part also to the environmental respect and – in an extended sense – to the social responsibility towards every stakeholder. “CSR is about businesses and other organizations going beyond the legal obligations to manage the impact they have on the environment and society. In particular, this could include how organizations interact with their employees, suppliers, customers and the communities in which they operate, as well as the extent they attempt to protect the environment” (Lea, 2002).

Corporate Social Responsibility takes actions beyond the environmental and economic/business and aims at implementing legal obligations in the triple bottom line approach, in which the economic, the social and the environmental perspectives are all relevant.

According to the results coming from our analysis, only the 35% of the considered enterprises have drawn up a Corporate Social Report. So we have to underline that it might be preferable to increase this practice in order to involve the stakeholders in the corporate activities and obtain more overconfidence from the financial actors within the community.

Actually many researches demonstrate the positive relation between environmental performance and financial performance (Kenneth, Archie, and Hatfield, 1985). Also Fombrun and Shanley (1990) established that investing in CSR attributes and activities may be important elements of product differentiation and reputation building. As Dahlsrud (2008) underlines “Due to globalization, the context in which business operates is changing at an increasingly rapid pace. New stakeholders and different national legislations are putting new expectations on business and altering how the social, environmental and economic impacts should be optimally balanced in decision making. Thus, in such a context, CSR management tools are needed, in addition to the previously established patterns, to develop and implement a successful business strategy”.

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End Notes

¹ The principles of ethical practices in hiring and treatment of employees and the related production of goods and services are defined by the Standard Accountability 8000. It was released by the Social Accountability International in 1997, based on the International Labour Organization principles and agreements, the Universal Declaration of Human Rights and the UN Convention on the Rights Of A Child.

The standard contains eight guidelines regarding: child labour, forced labour, health and safety, freedom of association and right to collective bargaining, discrimination, disciplinary practices, working hours, remuneration, management system (Social Accountability International, SA8000, 2001).

² Interest and power of influence are intrinsic features of stakeholders. Every day companies have to focus their efforts on setting up strategies and policies to face challenges and taking advantages of the opportunities created by the stakeholders (Carrol and Buchholtz, 2003).

³ The principles of sustainability in managing people, planet and reaching profit are generally knew as Triple Bottom Line principles. This term was coined by John Elkington in 1994.

⁴ The main standards and codes a company might implement and use as certifications or documents demonstrating its Social Responsibility are: Standards on quality and environment published by the International Organization for Standardization; ISO 9001 which specifies requirements for a quality management system and ISO 14001 which specifies requirements for an environmental management system both to enable an organization to develop and implement a policy and objectives taking into account specific rules of conduct (for further information about other standards, including the new ISO 26000:2010 on sustainable development and social responsibility, see the website

www.iso.org); the Standard Accountability 8000 on ethics, the OHSAS 18001 which provides and international occupational health and safety management system specification (www.ohsas-18001-occupational-health-and-safety.com); the Code of Ethics (referred to corporate or business ethics) and the Code of Conduct (employee ethics); the Social and Environmental Statements.

⁵ Micro enterprises employ fewer than 10 people and have an annual turnover or an annual balance sheet total not exceeding 2 million euros; small enterprises employ fewer than 50 people and have no more than 10 million euros of either annual turnover or annual balance sheet total; the medium-sized enterprises have no more than 250 people employed, an annual turnover not exceeding 50 million euros and an annual balance sheet total not exceeding 43 million euros (European Commission, 2005).

⁶ Survey Monkey is a private American company that enables users to create and publish their own Web-based surveys and view results graphically. It was founded in 1999 by Ryan and Chris Finley.

Annex 1 – Questionnaire Complete Version

Corporate Social Responsibility and Innovation as drivers to SMEs Success

1. INNOVATION

The first part of the survey is intended to analyze the attitude to continuous innovation

1. Research and Development amount per year

2. Percentage of increase/decrease in R&D during the last three years

3. R&D employees' number

4. Number of partnerships with Universities and/or local Research Centers

5. Bank loans - specific public project funds for developing innovation

- yes
 not

6. If yes, please specify the amount

2. CORPORATE SOCIAL RESPONSIBILITY - STAKEHOLDER

The aim of the second part of the present is to analyze CSR towards Stakeholders

1. Do you publish Social/Environmental Report or Sustainability Report?

- yes
 not

2. Total amount of the employees' training (last fiscal year)

3. Number of training curricula in which your employees are enrolled

4. Number and type of services for the employees

- Baby parking
 Gym
 Parking
 Meal tickets
 Mobile phone
 Car
 PC
 Medical care

5. Employment conventions and standard implementation (Italian and International level)

- OHSAS 18001 (Safety and Health)
 ILO CONVENTIONS ON DECENT WORK

Other (specify)

6. Percentage of repeated purchases on the total amount of sales (last fiscal year)

3. CORPORATE SOCIAL RESPONSIBILITY- QUALITY, ENVIRONMENT AND ETHICS

1. ISO 9001

- yes
 not

2. Internal quality control

- yes
 not

3. ISO 14001

- yes
 not

4. EMAS

- yes
 not

5. Recycling and water reusing

- yes
 not

6. SA 8000

- yes
 not

The Impact of Top Management Team on Innovation and Performance

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Abstract

This paper examines the impact of TMT characteristic on firm innovation and performance. We focus on the education, functional background heterogeneity and international experience of TMT reflecting TMT's ability to possess innovative activities. The relationship between TMT characteristic, innovation, and performance are empirically investigated in a sample of 581 Taiwanese listed companies in electronics industry. The result shows that TMT' international experiences positively related to innovation. Moreover, innovation is negatively related to performance.

Key words: Top Management Team, Innovation

Introduction

Previous studies found the characteristic of Top Management Team (TMT) have impact on performance. Particularly, TMT diversify such as age, education, tenure and functional background influence on strategic decision and performance. However, previous empirical studies found the mix results of TMT and performance. The heterogeneity of TMT represents diversify of skill, knowledge and experience will benefit for innovative thinking and performance but also hamper flexibility, time of decision making and task implement. Studies suggest the better understanding of mix results is trying to find other intervening or mediating mechanisms between TMT characteristics and organizational outcomes. In this study, we argue the effect of TMT will affect on performance through strategic behavior of innovation.

In this study, apply upper echelons researchers (Bantel and Jackson, 1989; Boeker, 1997; Hambrick and Mason, 1984; Wiersema and Bantel, 1992) to examine those the characteristic of TMT diversify on strategic decision. We investigate the influence of TMT education heterogeneity, functional heterogeneity and international experience on innovation. Engaging in innovative activities will further benefit for firm performance. Given our interest in: (1) predicting the relationship between education heterogeneity, functional heterogeneity and international experience of TMT and innovation; and then (2) examining the influence of innovation on firm performance.

Research background and Hypotheses development

Education Heterogeneity and Innovation

Demographic characteristics have been proposed as the primary determinants of each individual's cognitive base, values and biases (Hambrick and Mason, 1984). Education background is viewed as an important factor influence on TMT's strategic decision. It is related to forming of value building, preference and knowledge accumulation. Educated individuals are more likely to consider the external environment, with higher tolerate ambiguity, and be able to deal with complexity (Dollinger, 1984).

Innovation is more likely when people of different disciplines, background, and areas of expertise share their thinking. In creative work due to the innovation requirement, it is essential to have people approaching a problem from different perspectives used for reduce uncertainty and ambiguity. Sometimes the complexity of a problem demands diversity, creativity from different perspective. Diverse groups are expected to be more externally focused

and creative when making decisions (Jackson, 1992). TMT with heterogeneous education background training will benefit for various innovative thoughts and contribute TMT to have multi-ideas and to provide more innovative solutions.

H1: the TMT's education background heterogeneity is positively related to innovation.

Functional background heterogeneity and Innovation

The functional background heterogeneity is related to TMT's openness and tolerance of risk. Appropriate heterogeneity of TMT is crucial in the innovation process. TMT with diversify functional experience bring different ideas and visions. Different work experience background enable TMT with higher possibilities to receive creative ideas derived from more considerations. Innovative decisions are translated based on their ability and knowledge learned and experienced before. Cognitive diversity rooted in different working experiences which promotes constructive debate and strategic innovation, in the form of technological and administrative innovation, and entry into new product markets (Bantel and Jackson, 1989; Boeker, 1997; Wiersema and Bantel, 1992).

TMT with experience different functional tasks will have higher willingness to receive and undertake novel and unprecedented strategies. It is also easier to receive changes, bring knowledge to organization and pursue risky strategies. Thus, heterogeneous functional background benefits to outward-oriented differentiation strategy and to implement a strategy with a broader scope. Diversifies work background also enhance managers' task-related knowledge, industrial technology trends. It make him/her with more open and risk-taking orientation to make investments in innovation that are necessary to capitalize on these market changes as they have more experience in the industry. It also brings continuous new thoughts development, build innovative organizational cultures and aggressive R&D activities. In other words, TMT with more diversified functional experience is more able to enhance firms' innovative competence and novel strategies. Thus, in this study, we propose:

H2: the TMT's functional background heterogeneity is positively related to innovation.

TMT's International experience and Innovation

The international knowledge associated with international environments help the firms to reduce the awareness of the uncertainty of foreign market. Those international experiences can be gained from foreign education or working aboard experience. International education and work experience are viewed as important determinants of executive global skills and mind-sets (Hannerz, 1996; Hordes et al., 1995; Carpenter and Fredrickson, 2001). TMT's international experience further can lower the time of learning market and probability of failure in market. TMT with international experience can increase firms' flexibility and have more innovative activities. Previous international experience leads TMT have better sensitivity of international environment change. TMT use can leverage their knowledge and capabilities to evaluate and manage environmental changes and take a response to uncertain environment quickly.

H3: the TMT's international experience is positively related to innovation.

Innovation and performance

Facing dynamic market change, innovative activities make firms can upgrade competitive position against other competitors. Technology innovation can provide production with higher quality and lower production cost; products innovation can attract more market and increase profit; managerial innovation can lower managerial and staffing cost. By innovative activities, firms can lower production cost, provide more qualified products and operation efficiency and therefore benefit for performance (Hitt et al., 1994). Engaging in innovative activities not only contribute for the competitive position also benefit for profit. Thus, this study proposes:

H4: Firms with more innovation will have better performance.

Methods

Sample and Data

The sampled firms were 581 Taiwanese firms in electronic industry which is listed of Taiwan Stock Exchange

in 2007. We collected the detailed demographic data on the TMT and information of innovation and performance from the companies' annual reports. Information about the TMT's education, functional background and international experience was collected from executive biographies published on companies and in annual reports. We used the data at the firm level for all variables.

Measurement

Dependent Variables

Performance

A variety of measurements have been used in previous studies to measure firm performance. Return of assets (ROA) is often considered an indicator of performance.

Innovation

In this study, we measure firm innovation as the ratio of expenditures by a firm on research and development to the firm's sales, namely R&D intensity.

Independent Variables

In this study, TMT was defined as the officers who were members of the manager board or executive committee as identified in the firm's annual reports. Those managers are as a group and have power of important strategic decisions and this definition was used wisely previous research (Pettigrew, 1992; Nielsen, 2010).

Education Heterogeneity

TMT educational background diversity was measured of Blau's heterogeneity index: $H = 1 - \sum_{i=1}^n S_i^2$, where H is the homogeneity index, S is the percentage of TMT members with a dominant educational track i , and n is the number of different educational backgrounds (Wiersema and Bantel, 1992). We coded TMT's educational background to six categories; law, liberal arts, business, science, and others. This indicator varies between 0 and 1, where values close to 1 indicate higher diversity in educational backgrounds and low values indicate that one educational background of the TMT.

Functional Background Heterogeneity

We collect TMT members' previous working background; however, we do not have information about the number of years of previous working experience. Thus, we verify the diversified working experience by coding 1 if the member has previous work experience in different function from current position; 0 if the member has the work experience in the same function with current position. Summing the number of members' different functional experience then divide it to the total number of TMT.

International Experience

Following previous studies, we measured international experience by using the number of TMT member who has experience of study or work abroad (Wiersema and Bantel, 1992; Daellenbach, McCarthy and Schoenecker, 1999). We code "1" if they educated or worked outside Taiwan and "0" if they don't have any foreign study or working experience. We sum the number of TMT members who has international experience and divide to total number of TMT.

Control Variables

We measured TMT size by using the number of all managers of TMT. These data were available from annual reports. Innovation also be influenced by the number of employees of a firm, since larger firms are more likely to have larger scale of TMT. Thus, this study use firm size measured by number of employees as control variable.

Results

Table 1 shows the results of the effects of TMT characteristics on innovation. Model 1 showed that education heterogeneity were negatively associated with firm innovation ($\beta=-0.116$, $p<0.05$), which was conflict with our statement. Hypothesis 1 is not supported. Model 2 shows the influence of functional heterogeneity on firm innovation. The result suggests functional heterogeneity does not drive a firm's innovation. Therefore, Hypothesis 2 is not supported. Model 3 show the relationship between TMT's international experience and firm's innovation and the result indicate international experience is benefit for innovation ($\beta=0.193$, $p<0.05$). Hypothesis 3 is supported.

Model 4 shows the influence of innovation on performance. The results indicates the relationship between innovation and performance is insignificant ($\beta=-0.041$, $p>0.1$). This finding suggested that a firm's innovative activities do not impact a firm's performance, which did not support Hypothesis 4.

Table 1 Regression result

Variables	Model 1		Model 2		Model 3		Model 4	
	E.H →Innovation		F. H→ Innovation		International Experience →Innovation		Innovation →Performance	
	Beta	t	Beta	t	Beta	t		
Education Heterogeneity	-0.116**	-2.642						
Functional Heterogeneity			-0.054	-1.195				
International Experience					0.193***	4.613		
Innovation							-0.128**	-3.123
TMT Size	-0.075	-1.63	-0.08*	-1.691	-0.083*	-1.949	0.016	0.362
Firm Size	-0.037	-0.809	-0.029	-0.616	-0.073	-1.661	0.120	2.798
F-Value	4.332***		2.012		8.996***		6.853***	
R ²	0.024		0.012		0.045		0.034	
AdjR ²	0.019		0.006		0.04		0.029	

Discussion and Conclusion

This research is aim to examine the influence of TMT on firms' innovation and the effect of innovation on performance. In hypothesis 1 and 2, we propose educational heterogeneity of TMT will benefit for the firms' innovation and internationalization. However, both of hypotheses are not supported. In hypothesis 1, the result, opposites of our argument, indicates that the lower heterogeneity of TMT will tend to progress more innovation. Diversified educational background of TMT also brings different ideas, perspective, and ways of thinking. The huge diversity may generate conflict and hamper innovation. Therefore, there is a negative relationship between educational background heterogeneity and degree of innovation.

According hypothesis 2, we propose TMT with more diversify of functional background will have higher degree of innovation. Functional background may affect differences on individual knowledge because of the prevalence of cross-functional teams in complex organizations. Such differences are important prerequisites to deal with the overload of complex and unstructured information, common in TMT decision-making contexts (Hambrick 1995). Thus, too many differences on functional background may not benefit for the degree of innovation.

According to Hypothesis 4, we proposed firms with more innovation will perform better. This statement is not supported may due to the lag effect of innovation on performance. The outcome of innovation is showed in later year. Particularly due to huge R&D and marketing spending in the early product stage, it may not show the benefit of firm's revenue immediately. Hence, the result of innovation will not have the influence on performance improvement, not in the same year immediately.

Limitation and Future Research

This study has several limitations. In measuring TMT heterogeneity, age and seniority or experience of TMT did not included in this study. Related research indicates that the willingness to change the status quo of people with different tenures and ages will be different. The shorter the average tenure of top management team, thoughts tends to be more innovative and unwilling to maintain unsatisfied status quo. The younger the manager, the more willing in taking risk of change, enabling enterprises to have a higher degree of innovation. Therefore, this paper suggests more consideration of possible future research in this area so that the results will be more complete. Furthermore, we did not consider different innovative types, in term of patents and new products development, as variables those can affect business performance. Company with more new product development and innovation, tends to manifest on

patent application for the purpose of protecting their products; and continuous new product development aims to create revenue for the company. Thus, new product development is also one of innovation index can be measured in future studies.

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R&D, distance, level of development and technological intensity of merchandise trade

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Abstract

This paper focuses on merchandise trade by four technological intensity groups of products (low, medium-low, medium-high, and high technological intensity) between OECD countries. We employ the baseline adapted gravity model on panel dataset in which merchandise trade is explained by the economy size, level of economic development, distance, and proximity variables of having a common border, speaking a common language, and having a free trade agreement. In addition to the baseline adapted gravity model, our special focus is on the impact of the research and development (R&D) expenditures on merchandise trade by technological intensity of products. Finally we test whether greater R&D expenditures mitigate the effects of distance on trade and whether greater R&D expenditures help to overcome the level of economic development on trade. We find that R&D is positively associated with merchandise trade in exporting and importing OECD countries. R&D mitigated the effect of distance. R&D play important role in developing OECD countries in catching-up merchandise trade. Having a common border, common language, and regional free trade agreement membership positively enhances merchandise trade between the analyzed OECD countries by technological intensity of products.

Introduction

The purpose of this paper is to understand the impact of research and development (R&D) on manufacturing trade using the panel gravity equation model for OECD countries. Theories in the literature explain various internal and external factors of technological sources, technology acquisition, R&D intensity and innovation at academia, firm, industrial sector, and nation levels. The previous research in international trade has underlined the role of tariffs, quotas, other formal and informal barriers to trade (e.g. Anderson and van Wincoop 2004, Baier and Bergstrand 2006), information distance costs (Rauch 2001), and unobserved trade costs. However, the changing global competitiveness and trade patterns between the nations have generated a search for the determinants which are causing these changes. R&D intensity and innovation activities are seen as key factors in explaining the changes in technological gaps and in competitiveness in world trade (e.g. Wakelin 1998). There is a growing literature on the determinants of trade performance, either for one country (e.g. Özçelik and Taymaz 2004), or for more or a group of countries (Roper and Love 2002), in order to assess and point to a role for R&D intensity and innovation activities as factors influencing the trade performance of developed industrialized countries (Fagerberg 1988, Greenhalgh 1990) and developing countries (Montobbio and Rampa 2005).

This paper investigates the impact of R&D intensity by analyzing the determinants of the bilateral manufacturing trade flows between OECD countries. We employ adapted gravity equations to identify the effects of R&D on bilateral manufacturing trade using a panel data analysis. Among possible explanation for differential in merchandise trade performances by technological intensity of products between OECD countries might be differential in R&D expenditures, transportation costs, and level of economic development. First, we employ baseline adapted gravity model on panel dataset in which merchandise trade by technological intensity is explained by the economy size, which is expressed by gross domestic product (GDP) in exporting and importing OECD countries, level of economic development, which is expressed by GDP per capita in exporting and importing OECD countries, then by the distance between the countries' capitals, and the OECD countries proximities in terms of

having a common border, speaking a common language, and having a free trade agreement. Second, in addition to the baseline model, our special focus is on the impact of the R&D expenditures on merchandise trade by technological intensity of products. We expect that greater R&D expenditures improved innovation by the increase of exports in differentiated products by the decrease in transportation costs. Therefore, third, we test whether a greater R&D expenditures mitigated the affects of distance on trade, and fourth, whether a greater R&D expenditures helped to overcome the level of economic development on trade.

So far there are scare similar studies in the literature. Therefore, our paper aims to contribute to the literature in three significant directions. First, the starting point of our investigation is the relationship between R&D and manufacturing trade performance in the OECD countries using a panel data analysis by applying the adapted baseline gravity equation model. We integrate the Ghazalian and Furtan (2007) econometric approach in our estimation. Second, we analyze whether the R&D intensities have mitigated the effect of distance on manufacturing trade, and therefore we check the rationale for long-distance on manufacturing trade. We employ the Freund and Weinhold (2002, 2004) specification for the investigation of the effects of R&D on distance and long-distance into the adapted gravity equation model. Third, we investigate for the impact of the level of development on manufacturing trade and check the sensitivity of the panel regression results to the choice of R&D by investigating the effects of R&D by the level of countries' economic development.

The rest of the paper is organized as follows. The first section presents the literature review. In the next section after that we present the methodology and data used by focusing on the R&D intensity in the adapted gravity regression analysis. After that, we present and discuss the regression results for alternative specifications of adapted gravity models. In the final section we summarize the main findings and give conclusions.

Literature review

The literature provides a theoretical background for export and R&D relationship at both macroeconomic and microeconomic level. Since our study focuses on the macroeconomic level, we concentrate mainly on the former literature. The macroeconomic research offers two main theoretical perspectives to account for the relationship between R&D and exports. First, the neo-endowment models which concentrate on trade specialization on the basis of factor endowments, such as materials, labor capital, knowledge and human capital (Wakelin 1998). Second, neotechnology models which predict innovative industries will be net exporters instead of importers. The latter type of models provides an extension of the conventional technology-based models such as the product life-cycle theory (Vernon 1966) and technology gap theory (Posner 1961).

In his seminal work, Krugman (1979) showed that countries and products can be ranked by technological level and that economies ahead on this scale specialize in the technological intensive goods. Increasing returns to scale and product innovations generate trade specialization and first mover advantages. But in equilibrium, imitation reduces technological gaps between countries, and the monopolistic power of leaders is temporary. In addition, he argued that the causal chain ran from R&D and innovation to international trade and not the other way round.

Grossman and Helpman (1995) argued that, in a framework of monopolistic competition, a country could shift its export demand curve outwards by increasing the quality of goods it produces; meanwhile, it could shift its import demand curve inwards by increasing the quality of goods produced for the domestic market. These demand-shift factors can possibly be proxied by factors that represent improvements in product quality, i.e. R&D and technological innovation.

A wealth of literature provides evidence at the macroeconomic level on the linkage between a country's export performance and its R&D, creativity/innovation. Various empirical studies confirm the importance of R&D, technology and innovation as one of the major factors contributing to facilitating entry into global markets and thereafter maintaining competitiveness and boosting export performance (e.g. Fagerberg 1988, Greenhalgh 1990, Wakelin 1998, Montobbio 2003, Narula and Wakelin 1998, DiPietro and Anoruo 2006).

In addition, there are a growing number of studies at firm level on the export-R&D relationship, taking into account the heterogeneity of firm characteristics amongst exporting and non-exporting firms (Roper and Love 2002). A firm's export orientation has been extensively investigated in the literature, and various empirical studies

have emphasized the role of technology and innovation as one of the major factors contributing to facilitating entry into global markets and thereafter maintaining competitiveness and boosting export performance (Barrios et al. 2003). Contrary to the uniformly positive export and R&D-innovation linkage revealed in the macro economics literature, some empirical studies at the firm level present contrary findings. For instance, Lefebvre et al. (1998) and Sterlacchini (2001) found that the association between R&D investment and export intensity was insignificant. Moreover, based on Japanese manufacturing firms, Ito and Pucik (1993) found that R&D intensity was a significant determinant of a firm's export performance only when size was dropped from the regression.

The literature highlights three channels for R&D and innovation influencing the level of trade (Ghazalian and Furtan 2007). First, R&D and innovation may foster the product differentiation, allowing for more product variety choices and higher quality products for consumers. Second, R&D and innovation may reduce the production costs, making firms more competitive on the international markets. Third, R&D and innovation may reduce the transaction costs along the supply chain and between trading partners, making exports more competitive. For example, the literature on international trade emphasizes the role of institutions and infrastructure in export growth (e.g. Anderson and Marcouiller 2002, Dollar and Kray 2002, de Groot et al. 2004, Depken and Sonora 2005, Levchenko 2007). Bojnec and Fertő (2010) find that the use of the Internet has also encouraged exports of manufacturing and agro-food goods between the developed OECD countries. Our specific contribution is investigation of the association between R&D and merchandise trade for the four groups of products classified by the OECD classification of technological intensity of products.

Methodology and data

Traditional gravity trade theory indicates that bilateral trade is positively associated with their national incomes and negatively associated with their geographical distance (e.g. Frankel and Rose 2002). We apply standard gravity model variables including market size, which is real gross domestic product (GDP) of host i and destination j countries, geographical factors like the distance between capital cities (Distance) and common border (Contiguity), common cultural linkage (Language), and a dummy variable for Regional Free Trade Agreement (RFTA) membership as explanatory variables. First, we specify the following adapted baseline gravity model:

$$\ln X_{ij,t} = \alpha_0 + \alpha_1 \ln GDP_{i,t} + \alpha_2 \ln GDP_{j,t} + \alpha_3 \ln GDPCAP_{i,t} + \alpha_4 \ln GDPCAP_{j,t} + \alpha_5 \ln Distance_{ij} + \alpha_6 Contiguity_{ij} + \alpha_7 Language_{ij} + \alpha_8 RFTA_{ij} + u_1 \quad (1)$$

The trade data used is supplied by the OECD Bilateral Trade Database at the two-digit level of the International Standard Industrial Classification (ISIC) of all economic activities in US dollars. We use data for the manufacturing exports (X_{ij}). The sample contains 18 OECD countries¹ between 1995 and 2003 resulting in 2,754 observations. GDP is a proxy for the market size, and GDPCAP is a general proxy for economic development for both exporter and importer countries. The source of data is the World Bank, World Development Indicators (WDI) database. The $Distance_{ij}$ variable measures the geographic distance between the countries' capitals i and j , whereas the other dummies reflect whether i and j share: a land border ($Contiguity_{ij}$), their primary language ($Language$), and membership in a RFTA. The source of these data is the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII): <http://www.cepii.fr/anglaisgraph/bdd/distances.htm> database.

The literature argues that richer and larger exporters and importers trade more, as do countries linked by regional trade agreements, a land border, or a common language; and landlocked and physically large countries do less trade, while that trade falls with geographic distance. Distance can have an influence on technology transfer (Eaton and Kortum 2002, Kneller 2005).

Second, we are interested in the role of R&D with innovation in manufacturing trade. The previous section provides some evidence on how R&D inputs/innovation-related variables are expected to directly raise export intensity. Thus, we employ an augmented adapted gravity model with R&D expenditure variables:

$$\ln X_{ij,t} = \beta_0 + \beta_1 \ln GDP_{i,t} + \beta_2 \ln GDP_{j,t} + \beta_3 \ln GDPCAP_{i,t} + \beta_4 \ln GDPCAP_{j,t} + \beta_5 \ln Distance_{ij} + \beta_6 Contiguity_{ij} + \beta_7 Language_{ij} + \beta_8 RFTA_{ij} + \beta_9 R\&D_{it} + \beta_{10} R\&D_{jt} + u_1 \quad (2)$$

The variables of a particular interest are the expenditures on R&D as a proxy variable for innovation. The data for governmental R&D outlays are collected from the OECD STAN R&D dataset. The R&D intensity is

measured as the OECD R&D expenditure for total manufacturing (in million current US\$ in 2000 purchasing power parity – PPP – prices). In the light of previous research, we would expect that the higher the R&D intensity, the higher would be the export activity performance.

Third, we investigate the effects of R&D on distance. R&D with pertaining innovation may also reduce the transaction costs fostering the merchandise exports. Thus we check whether R&D intensity influences the distance effect between trading partners. Following Freund and Weinhold (2004) we re-estimated our model to check the effect of R&D intensity on distance:

$$\ln X_{ij,t} = \beta_0 + \beta_1 \ln GDP_{i,t} + \beta_2 \ln GDP_{j,t} + \beta_3 \ln GDPCAP_{i,t} + \beta_4 \ln GDPCAP_{j,t} + \beta_5 \ln Distance_{ij} + \beta_6 Contiguity_{ij} + \beta_7 Language_{ij} + \beta_8 RFTA_{ij} + \beta_9 R\&D_{it} + \beta_{10} R\&D_{jt} + \beta_{11} R\&D_{it} * Longdistance_{ij} + \beta_{12} R\&D_{jt} * Longdistance_{ij} + u_1 \quad (3)$$

where $Longdistance_{ij}$ is a dummy variable, which equals one if the distance between countries i and j exceeds the average distance between all the analyzed OECD countries. The rationale for use of the interaction effect of R&D and $Longdistance$ is that with more R&D intensity it would be possible to overcome the greater distance. If a particular R&D variable has reduced (increased) the effect of distance on manufacturing trade, then the regression coefficient on the interaction $R\&D * Longdistance$ term should be positive (negative).

Fourth, we test the effects of the level of economic development on merchandise trade by technological intensity of products. Barrios et al. (2003) argue that the effects of R&D do matter more for exports to technologically advanced countries, such as the European Union and other OECD countries where exporters have to improve technology in order to be able to compete on those markets successfully. Thus the effects of the R&D variables are empirically tested in association with the level of economic development:

$$\ln X_{ij,t} = \beta_0 + \beta_1 \ln GDP_{i,t} + \beta_2 \ln GDP_{j,t} + \beta_3 \ln GDPCAP_{i,t} + \beta_4 \ln GDPCAP_{j,t} + \beta_5 \ln Distance_{ij} + \beta_6 Contiguity_{ij} + \beta_7 Language_{ij} + \beta_8 RFTA_{ij} + \beta_9 R\&D_{it} + \beta_{10} R\&D_{jt} + \beta_{11} R\&D_{it} * GDPCAP_{it} + \beta_{12} R\&D_{jt} * GDPCAP_{jt} + u_1 \quad (4)$$

The rationale for use of the interaction effect of R&D and GDPCAP is that more economically developed countries with high higher GDPCAP invest more in R&D intensity and thus they can increase merchandise exports through higher-valued product differentiation.

Finally, there are some issues that we have to address when we estimate such panel models (Ghazalian and Furtan 2007). First, heteroskedasticity may occur because trade between two smaller countries or between a smaller and larger country is probably more volatile than trade between two larger countries (Frankel 1997). The panel dataset is also subject to the existence of autocorrelation. Contemporaneous correlation across panels may occur because exporting to one country can take place as an alternative to exporting to another country. Similarly, adjacent exporter(s)/importer(s) time specific shocks result in larger correlated error terms of their trade with their partners. To deal with issues of contemporaneous correlation we apply the panel corrected standard error model (PCSE) which controls for heteroskedasticity and the AR(1) type of autocorrelation and contemporaneous correlation across panels (Beck and Katz 1995, 1996).

TABLE 1: MERCHANDISE EXPORTS BY TECHNOLOGICAL INTENSITY (BILLIONS OF CURRENT PURCHASING POWER PARITY DOLLARS)

	High technology	Medium high technology	Medium low technology	Low technology
1995	1401.5	2725.7	1019.7	1361.6
1996	1421.3	2777.4	1027.6	1365.0
1997	1582.1	2860.8	1037.0	1346.8
1998	1692.3	3012.4	1049.9	1361.8
1999	1861.2	3153.9	1037.8	1382.5
2000	2111.6	3237.0	1135.3	1370.8
2001	1980.0	3117.5	1098.8	1344.8
2002	1962.0	3300.1	1113.3	1385.1
2003	2096.5	3779.9	1300.3	1563.7

Source: own estimations based on the OECD Bilateral Trade dataset.

Table 1 presents summary statistics on structures and patterns in merchandise exports by technological intensity of products. As can be seen there is an increase in exports in each of the four categories of exports by technological intensity of products. However, the increase is much bigger for medium high and high technologically intensive products than for low and medium low technologically intensive. This is consistent with our theoretical expectations. The most important single export category of products by technological intensity is the medium high technologically intensive products.

Our variable of a specific interest is R&D expenditures. Table 2 presents the structure and patterns in development of the R&D expenditures by technological intensity of products. The increase is seen for each of the technological group of products. However, the greatest share with fast growth is observed for high technologically intensive products, followed by medium high technologically intensive products. As expected, less R&D expenditures is invested into low and medium low technologically intensive products.

TABLE 2: THE DEVELOPMENT OF THE R&D EXPENDITURES BY TECHNOLOGICAL INTENSITY (MILLIONS OF CURRENT PURCHASING POWER PARITY DOLLARS)

	High technology	Medium high technology	Medium low technology	Low technology
1995	6779.1	5191.8	1048.5	1056.1
1996	7349.3	5595.5	1142.7	1149.4
1997	8145.8	5712.2	1195.6	1201.3
1998	8205.4	5803.4	1180.0	1141.9
1999	8268.2	6148.9	1091.7	1266.0
2000	8978.3	6638.4	1209.5	1431.3
2001	8991.2	6871.9	1263.0	1610.3
2002	9158.8	6669.5	1190.2	1701.4
2003	9565.9	7115.0	1244.0	1848.4

Source: own calculations based on the OECD ANBERD dataset

Econometric results

The baseline adapted gravity model estimations

Table 2 presents our regression results based on the baseline adapted gravity model without R&D variables by technological intensity of merchandise products. The size of GDP has a positive and statistically significant impact on bilateral merchandise trade for exporting and importing countries. The size of the economy and its growth over time encourages bilateral merchandise trade between the OECD countries. In the case of exporting countries, the regression coefficients are higher for high and medium high technologically intensive products than for medium low and low technologically intensive products. This suggests that the size of GDP and its increase in exporting countries are in a greater extent pertained to high and medium high technologically intensive products. On the other hand the regression coefficients for the size of GDP in importing countries are more equal.

Similarly to the size of GDP, the level of development measured by GDPCAP has also a positive and statistically significant impact on bilateral merchandise trade for exporting and importing OECD countries. The coefficient of elasticity for exporting countries is the highest for high technologically intensive merchandise exports, followed by medium high technologically intensive merchandise exports. In the case of importing countries, medium low technologically intensive merchandise trade has the highest coefficient of elasticity.

As expected, the Distance between the countries' capitals has a negative and statistically significant impact on bilateral merchandise trade between the OECD countries. The regression coefficient is the highest for medium low technologically intensive merchandise trade indicating the importance of geographical proximity and trade costs

in conducting international merchandise trade business. The medium low technologically intensive trade has also the greatest response on a fact of the having common border as suggested by the regression coefficients of the Contiguity, and vice versa in the case of having the RFTA, which seems to be the most important for low technologically intensive merchandise trade. The empirical results for Language are mixed, of a positive sign and significant for high and low technologically intensive merchandise trade and of a negative sign and significant for medium low technologically intensive merchandise trade.

TABLE 3: THE BASELINE ESTIMATIONS

	High technology	Medium high technology	Medium low technology	Low technology
log GDP exporter	0.918***	0.994***	0.837***	0.592***
log GDP importer	0.879***	0.825***	0.855***	0.943***
log GDPCAP exporter	2.293***	0.708***	0.525***	0.701***
log GDPCAP importer	0.511***	0.393***	0.843***	0.095
log Distance	-0.603***	-0.685***	-0.920***	-0.577***
Contiguity dummy	0.542***	0.782***	1.051***	0.838***
Language dummy	0.596***	0.160	-0.183**	0.704***
RFTA dummy	1.072***	0.898***	0.440***	1.321***
Constant	-59.918***	-41.942***	-40.019***	-32.820***
N	2751	2754	2753	2754
R ²	0.9801	0.9881	0.9824	0.9918
Rho	0.826	0.898	0.868	0.923

Notes: * p<0.1; ** p<0.05; *** p<0.01. Parameters are estimated by the Prais-Winsten estimator. The common AR(1) parameter is denoted by rho. The z values are computed from standard errors that are corrected for heteroscedasticity and contemporaneous correlation of error terms across panels.

The effects of R&D on manufacturing trade

TABLE 4: THE EFFECT OF R&D ON MERCHANDISE TRADE

	High technology	Medium high technology	Medium low technology	Low technology
log GDP exporter	0.178***	0.461***	0.393***	0.448***
log GDP importer	0.646***	0.697***	0.619***	0.885***
log GDPCAP exporter	1.099***	0.852***	0.427***	0.520**
log GDPCAP importer	0.462**	0.289**	0.817***	0.176
log Distance	-0.627***	-0.703***	-1.013***	-0.718***
Contiguity dummy	0.396***	0.601***	0.807***	0.735***
Language dummy	0.705***	0.425***	-0.009	0.812***
RFTA dummy	0.608***	0.843***	0.406***	1.198***
log R&D exporter	0.734***	0.422***	0.468***	0.210***
log R&D importer	0.181***	0.118***	0.256***	0.094***
Constant	-27.675***	-28.297***	-24.019***	-26.984***
N	2751	2754	2753	2754
R ²	0.9777	0.9909	0.9846	0.9923
Rho	0.531	0.524	0.880	0.953

Notes: * p<0.1; ** p<0.05; *** p<0.01. Parameters are estimated by the Prais-Winsten estimator. The common AR(1) parameter is denoted by rho. The z values are computed from standard errors that are corrected for heteroscedasticity and contemporaneous correlation of error terms across panels.

In the process of international expansion, R&D with innovation is a significant determinant for the development of competitive advantage (Krugman 1979). In general, a positive relation between a country's export performance and its R&D intensity /creativity/innovation has been confirmed by previous studies (e.g. Greenhalgh 1990, Verspagen and Wakelin 1997, DiPietro and Anoruo 2006).

Table 4 presents the econometric results of the effect of R&D on merchandise trade by technological intensity of products. The coefficient of elasticities for the size of GDP in exporting and importing countries remain of a positive sign and significant, but by their absolute size there is a drop in the size of the coefficient of elasticity for high technologically intensive exports in exporting countries. This implies possible correlation between high technologically intensive trade and R&D expenditures in the OECD exporting countries. The size and the signs of the associations and statistical significance of the regression parameters for the other explanatory variables from the baseline adapted gravity model are less substantial.

The regression coefficients that are pertaining to the R&D expenditure variables are positive and statistically significant at. The absolute size of the coefficient of elasticity is higher for exporting than for importing countries. The coefficient of elasticity that is pertaining to the R&D expenditure is the highest for high technologically intensive merchandise export in exporting countries, and for medium low technologically intensive merchandise trade in importing countries. Therefore, these econometric results confirm the importance of R&D expenditure for competitiveness in high technologically intensive merchandise export as well as for other merchandise export. It can play also significant role in export as well as mitigating import of merchandise products in importing countries.

The effects of R&D on distance

TABLE 5: THE EFFECT OF R&D ON MERCHANDISE TRADE AND DISTANCE

	High technology	Medium high technology	Medium low technology	Low technology
Log GDP exporter	0.153**	0.473***	0.378***	0.475***
log GDP importer	0.643***	0.690***	0.611***	0.878***
log GDPCAP exporter	1.065***	0.912***	0.363***	0.521**
log GDPCAP importer	0.362**	0.275**	0.873***	0.184
log Distance	-0.344***	-0.671***	-0.821***	-0.478***
log Longdistance	-1.676***	-1.269**	-2.392***	-1.819***
Contiguity dummy	0.691***	0.618***	1.047***	0.828***
Language dummy	0.745***	0.545***	0.102	0.879***
RFTA dummy	0.639***	0.870***	0.405***	1.199***
log R&D exporter	0.686***	0.356***	0.438***	0.219***
log R&D importer	0.243***	0.151***	0.147***	0.022
log R&D exporter *log Longdistance	0.150***	0.160***	0.111**	0.045
log R&D importer *log Longdistance	-0.020	-0.009	0.211***	0.160***
Constant	-27.653***	-28.891***	-23.929***	-28.940***
N	2751	2754	2753	2754
R ²	0.9797	0.9899	0.9828	0.9906
Rho	0.694	0.584	0.876	0.9563

Notes: * p<0.1; ** p<0.05; *** p<0.01. Parameters are estimated by the Prais-Winsten estimator. The common AR(1) parameter is denoted by rho. The z values are computed from standard errors that are corrected for heteroscedasticity and contemporaneous correlation of error terms across panels.

As in the previous recorded econometric models, the model specification assumes and empirical estimates in Table 5 confirm that the regression coefficient pertaining to the Distance is negative. However, the regression coefficients have changed only slightly when the (R&D*Longdistance) variables are included in the models. The regression coefficients on R&D variables remain positive and statistically significant. These results indicate that R&D intensity has strong impacts on the distance and merchandise trade, particularly for encouraging merchandise trade by exporting countries. This is further confirmed by the regression coefficients for the interaction (R&D*Longdistance) variables. There is a positive and statistically significant association for exporting countries, and except for high and medium high technologically intensive merchandise trade for importing countries. These results imply that the R&D variable has reduced the effect of distance on bilateral merchandise export for exporting OECD countries, and except for high and medium high technologically intensive merchandise trade, as well as in importing OECD countries. The OECD countries, which have invested more in R&D have also expanded and strengthened their

merchandise exports on longer distances. The merchandise import specialization by importing OECD countries has become also stronger in medium low and low technology intensive merchandise trade.

The effects of R&D on merchandise trade and the level of economic development

The effect of R&D on merchandise trade and the level of economic development, it is included in the adapted gravity regression model by the interaction effect of the R&D variables and GDPCAP variables. Table 6 presents the regression results by technological intensity of trade. The positive and significant regression coefficients for the economic size GDP variables and for the GDPCAP variables in general increased for exporting and importing countries. The negative absolute size of the Distance variable on bilateral merchandise trade has increased, and particularly substantially has increased the impact of the R&D variable on merchandise exports in the OECD exporting countries as well as for medium high and medium low technologically intensive trade in importing OECD countries. These findings clearly confirm the important and statistically significant role of the R&D variables for increases of bilateral merchandise exports in exporting OECD countries, and for import specialization by increase in merchandise trade of medium high and medium low intensive products in importing OECD countries. However, the regression coefficients that are pertaining to the interaction R&D*GDPCAP variables are negative and statistically significant, except for insignificant regression coefficient that is pertaining to the interaction R&D*GDPCAP variable for medium high intensive merchandise export for exporting countries, but also negative and statistically significant for medium high and medium low merchandise trade in importing countries, indicating the increasing importance of developing OECD countries in competitive merchandise exports in high, medium low and low technologically intensive merchandise exports as well as less successful import specialization in medium high medium low technologically intensive products in developed OECD countries in bilateral merchandise trade between the OECD countries.

TABLE 6: THE EFFECT OF R&D ON MERCHANDISE TRADE AND DEVELOPMENT

	High technology	Medium high technology	Medium low technology	Low technology
log GDP exporter	0.332***	0.516***	0.530***	0.596***
log GDP importer	0.596***	0.722***	0.662***	0.868***
log GDPCAP exporter	4.859***	1.866**	3.264***	2.346***
log GDPCAP importer	0.780**	1.299***	1.728***	0.176
log Distance	-0.712***	-0.740***	-1.065***	-0.757***
Contiguity dummy	0.221**	0.568***	0.824***	0.573***
Language dummy	0.708***	0.489***	0.099	0.884***
RFTA dummy	0.421***	0.861***	0.357***	1.145***
log R&D exporter	6.824***	1.948*	5.870***	3.694***
log R&D importer	0.484	1.722**	1.887**	-0.037
log R&D exporter *log GDPCAP exporter	-0.613***	-0.154	-0.549***	-0.359***
log R&D importer *log GDPCAP importer	-0.026	-0.161**	-0.163**	0.015
Constant	-70.387***	-50.246***	-65.306***	-47.875***
N	2751	2754	2753	2754
R ²	0.9813	0.9897	0.9851	0.9918
Rho	0.517	0.537	0.894	0.949

Notes: * p<0.1; ** p<0.05; *** p<0.01. Parameters are estimated by the Prais-Winsten estimator. The common AR(1) parameter is denoted by rho. The z values are computed from standard errors that are corrected for heteroscedasticity and contemporaneous correlation of error terms across panels.

Conclusion

Using adapted gravity trade model on panel data variables for OECD countries, we have investigated merchandise trade by technological product intensity with specific focus on association between merchandise trade in association with R&D, distance, and level of economic development. Different countries perform differently in output and trade

specialization by technological intensity of products. We focus on merchandise exports by four technological intensity groups of products (low technological intensity, medium-low technological intensity, medium-high technological intensity, and high technological intensity) between OECD countries. Differential in export performances by technological intensity of products between OECD countries has been explained by differential in research and development (R&D) expenditures, distance with transportation costs, and level of economic development. The greater R&D expenditure mitigates the importance of the distance for exporters by expanding their export opportunities, and reduces the distance for importers' countries. With the R&D investments, the developing OECD countries are catching-up in merchandise trade. The R&D expenditures in the economically most developed OECD countries have not been sufficient to sustain a competitive position in merchandise exports as well as in manufacturing import specialization particularly for medium high and medium low technologically intensive products.

The baseline adapted gravity model on panel dataset confirms that merchandise exports is explained by the economy size (GDP) in exporting and importing OECD countries, level of economic development (GDP per capita) in exporting and importing OECD countries, distance between the countries' capitals, and the OECD countries proximities in terms of having a common border, speaking a common language, and having a free trade agreement. In addition to the baseline model, we tested the impact of the R&D expenditures on merchandise exports by technological intensity of products and find that greater R&D expenditures are likely to improve innovation and thus positively affect the increase of exports in differentiated products by the decrease in transportation costs. Moreover, we confirm that greater R&D expenditures mitigate the effects of distance on exports. Finally, greater R&D expenditures helped to overcome the level of economic development in exports.

To sum up, we find that R&D is positively associated with merchandise trade in exporting and importing OECD countries. Estimations suggest that R&D mitigated the effect of distance particularly for low and medium-low technologically intensive products in OECD exporting countries, and particularly for medium-high and high technologically intensive products in OECD importing countries. R&D fostered merchandise exports from less to more economically developed OECD countries. Gross domestic product and gross domestic product per capita in exporting and importing OECD countries positively affect merchandise trade by technological intensity, and vice versa distance. Having a common border, common language, and regional free trade agreement membership positively enhances merchandise trade between the analyzed OECD countries by technological intensity of products.

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ⁱ The list of countries included in the data sample: Australia, Belgium, Canada, the Czech Republic, Finland, France, Germany, Ireland, Italy, Japan, South Korea, the Netherlands, Norway, Poland, Spain, Sweden, the United Kingdom, and the United States of America.

The Internet Innovation: Creative Destruction of traditional business models

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Abstract

Over the last 30 years the Internet has grown exponentially and is today influencing many kinds of business. Internet Companies have established new kinds of business models, significantly different from traditional business. Many „free“ offerings are indirectly paid by some kinds of new currencies of the Internet: Attention (number of clicks), recognition (number of links, followers or friends), personal data and information. This can endanger competing traditional business models. Some examples are discussed and indicators for higher risk are described.

Development of the Internet

Internet develops to the “World Wide Web”

The Internet started as an universal platform for the exchange of data between different computers in 1980 with the first 20 Internet – Hosts, growing to over 1000 Internet – Hosts in 1990. The deciding step leading the Internet to be the ubiquitous media of information exchange did Berners-Lee 1990 with the conception of the “World-Wide-Web”. The abstraction of the technical IP-addresses by user-friendly Web-addresses in “Hypertext”-protocol and the derived Email – Addresses became the most important applications in the Internet, so that it grew to more than 750 Million Internet Hosts today. Beginning with the first Website of Berners-Lee in 1991 the Information in the World-Wide-Web grew until now to more than 100 Million Websites. The underlying technology development shows that the three key indicators – computing power, storage capacity and network capacity – have doubled every 18 to 24 months over the last 50 years, causing related costs to halve every 18 to 20 months. This trend – first stated in “Moore’s Law” in 1965 is to be continued for at least the next decade and shows further potential for growth. Corresponding to the number of Internet Hosts the number of Internet Users grew up to a saturation of 97% in the German population group of young adults. Figure 1 shows, by comparing this group with the population group of 50-59 year old people, that over the next generation when the so called “Digital Generation” growth up, the same level of saturation will be reached in the complete German population.

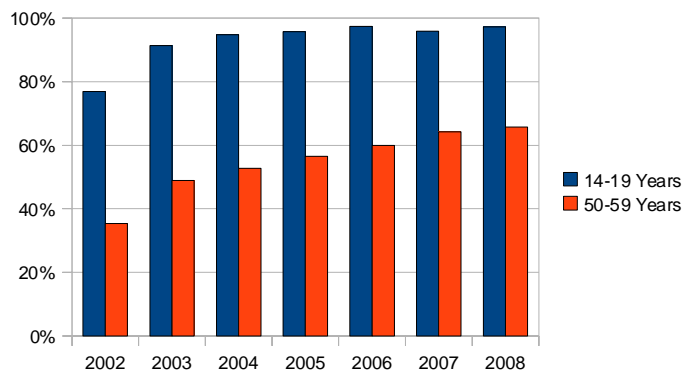


FIG 1: USAGE OF INTERNET IN DIFFERENT AGE GROUPS, DATA FROM STATISTISCHES BUNDESAMT (2009A)

Web2.0 and Social Media

In the first phase of the World Wide Web the Information flow in the Internet was mainly directed from the Internet Hosts to the users, with the creation of the Websites depending on Internet specialists and programmers. This changes fundamentally with new web applications and platforms enabling participation of the users without special Internet knowledge. In 2005 O'Reilly established the term „Web2.0“ for the upcoming architecture of participation in the World Wide Web. As core competency of the upcoming Web 2.0 enterprises in the Internet he sees some criteria, where excellence in one of them is more significant than smaller steps in all. These are: the control over unique, hard-to-recreate data sources that get richer as more people use them, trusting users as co-developers, Harnessing collective intelligence, Leveraging the long tail through customer self-service, Software above the level of a single device, Lightweight user interfaces, development models and business models. Figure 2 shows the usage of the medias of participation as Chat, Forum, Instant Messaging, Blog and up-/download of audio visual content compared to the traditional categories as searching for information and Email over the Internet Users in groups of different age in Germany. The Figure shows that the usage of the Internet is significantly different, with a totally different usage profile in the “Digital Generation”.

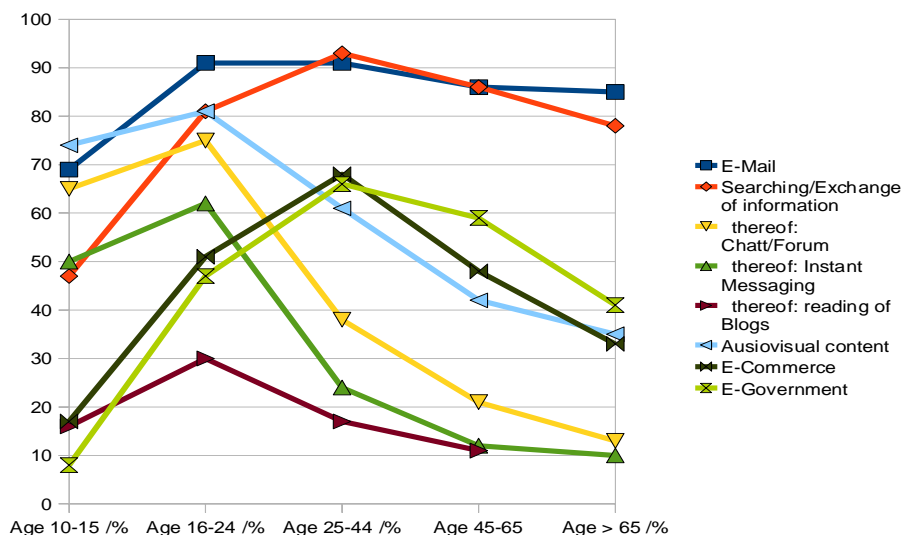


FIG 2: TYPES OF INTERNET USAGE DIFFERENTIATED BY AGE, DATA FROM STATISTISCHE BUNDESAMT (2009B)

Even more significant is differentiation of the age groups regarding the usage of “Social Network Sites”. A Social Network Site is a Web Application enabling the User to create a public or semi-public profile inside the borders of this Web Application, to create a list of connected other Users, called e.g. “Friends”, “Contacts” or “Followers” and to show the list of the own connections, to see the list of connections of others and to interact with this lists. Figure 2 shows the huge difference in the usage of this Social Networks over the age groups. Projecting all this developments in the future, a significant change can be expected for the Usage of Media in enterprises with the openness and participation of Web2.0 and Social Networks. This is summed up by a statement of the author of “The digital Generation” Tapscott: „This new generation of workers is forging a new way of doing Business – using Web 2.0 communication tools to create a collaborative workplace that democratizes and accelerates the performance of an or-

ganization“ (Tapscott, 2009, S. 182). A similar picture shows a study of IBM: „...a typical 21-year-old in the United States entering the workforce today has played video games for 5.000 hours, exchanged 250.000 e-mails, instant messages and phone text messages, has 10.000 hours of cell phone use and has spent 3.5000 hours online“ (IBM, 2008, S. 7)•

New Business Models of the Internet

Changes in Behavior and Motivation

The Need Theory of Maslow, as shown in Figure 3, is still one of the best-known behaviour theories (Maslow, 1943)•. His theory based on the assumption, that psychological needs coming from the biological heritage of men, control our behaviour. He proposes five layers of needs, for which men will aim for, respective which missing fulfilment will trigger an action and likewise block the perception of the next higher layer.

This layers are in the sequence from the base to the top: first the „physiological needs“, as the fundamental biological needs food, sleep and sex, second the “safety need” as the pursuit for a predictable safe, that means not existentially threatening environment, third the „Belongingness“ is the need for a feeling of belonging to other persons or groups of persons, fourth the „Esteem“ as the need for recognition and respect by others or for own respect and fifth the “Self-actualisation” finally as the urge to fulfil the own potential and to develop it’s own personality as far as possible.

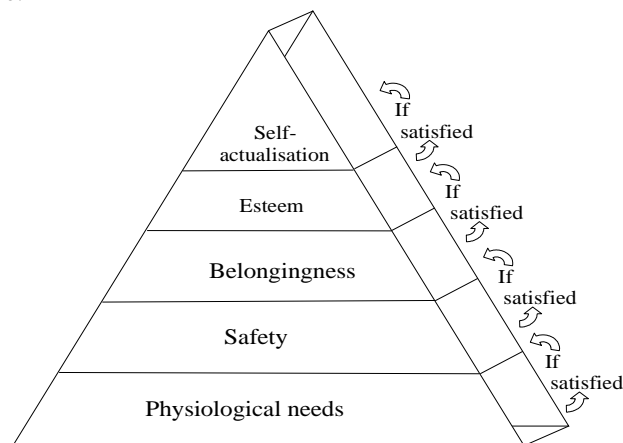


FIG 3: MASLOW'S PYRAMID OF NEEDS

Based on Maslow’s Motivation theory Alderfer proposed 1972 his ERG-theory with only categories of needs: „existence“, „relatedness“ and „growth“, which are related to Maslow’s five layers. „Existence“ matches the physical- and safety needs, „Relatedness“ matches the social needs „Belonginess“ and „growth“ finally matches the individual need „Esteem“ and „self-actualization“. In the modern welfare society we can see, that the physiological needs“ and the safety needs are normally satisfied. The percentage of food spend of the average family income is only 11% in Germany and 7% in the USA, in contrast to 48% in Namibia or even 63% in the Sudan (Statistisches Bundesamt, 2011). Therefore the higher layers come into focus and the traditional economic bases, as „working for money“ loose their fundamental importance. Many people strive for the needs of “Esteem” and “self-actualization” by spending more and more of their time for “Open Communities” and participation in the Web2.0. The differences to the economic model of the “Homo Oeconomicus”, always acting rational and primarily optimizing his material benefit is growing. The traditional economic science is loosing the base. A new discipline of economics, the “Happiness Research” tries to close this gap, by including the “Life Happiness” of people in the analysis (compare Frey et al, 2008). Coming from the assumption of men striving for “Life Happiness” as their ultimate goal this

interdisciplinary science asks if we should not think in the category of “Gross National Happiness” instead of “Gross Domestic Product”.

New Currencies in the World Wide Web: Attention, Clicks, Data

A characteristic of many business models of the Internet is the network effect. This enforces low entry cost into new business models and encourages business models, which are free for the user. The new business models of the Internet are governed by the laws of market economy, and are overlaid by the monetary, not directly measurable, values of “attention” (traffic) and “recognition” (number of links, “friendships”, “followers”). These values are especially significant for the “digital generation”. This increases the importance of non-monetary components, as shown by the free collaboration of users in Web 2.0 and the spreading of free “open source” software. An explanation for the increasing significance of non-monetary motives is supplied in the “needs theory” of Maslow. It is shown that people do not always act according to rational reasons. “Happiness research” is described as a possible explanation of their behaviour. IBM describes the expected impact on the providers of telecommunications services in „The changing Face of communication“ as a significant shift of the traditional communications market to communications in the “Shared Social Space” and to the “Open and Free” model: „A new ecosystem is emerging from these long term shifts in communication trends that will require bold significant changes by existing telecom providers. The option of doing nothing is not a luxury many providers can afford, as revenues from traditional services continue to decline and highly resourceful Internet information providers and IT companies enter the communications space to claim a larger share of communication time.“ (IBM, 2008, S. 2)

Examples for new Business Models: Amazon, Google and Wikipedia

The impact of this change can be seen in the new business models of the World Wide Web. We have to change from exclusively looking at the material and monetary exchange and look at a new „currencies“ in the World Wide Web: Attention (online time), Acknowledgement (Clicks) or other transactions (Input of Data and other User Content). With this exchange is in sequence with the traditional market transactions we can systematically describe the new business models, by differentiating the goods traded and the property rights of this goods:

- What is traded: real goods, real services, digital goods (pictures/videos, music), software, virtual goods, information, internet services
- Against what: money, attention/online-time, Clicks on e.g. banners, user data and information on user behaviour,
- In whose property: Goods/services of own production, goods in own possession, goods in possession of third parties.

Following this systematic Figure 4 show the leading business model of the, with 21,8 Billion Dollar turnover and 129 Billion Dollar market capitalization, leading global Internet company “Google”.

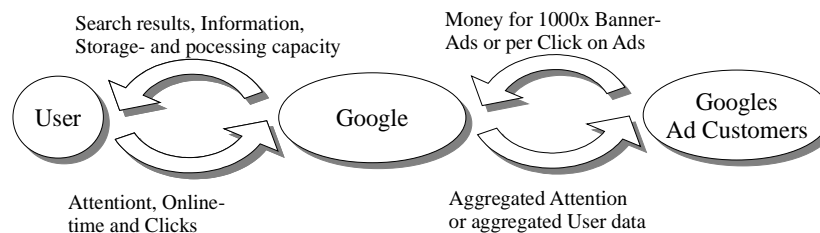


FIG 4: BUSINESS MODEL "ADWORDS" OF GOOGLE

Google is a company founded in 1998 as search engine based on the innovative searching algorithm „Page Rank“, with the target „to organize the available information of the world and to make it open and usable for everyone“. In its Business model „AdWord“, shown in Figure 4, Google enables its advertising customers to place their message over simple web based interfaces to a pricing related to the attractiveness of the related search question. Then Google places the advertising message in relation to the interests of the users of its websites, which are always developed and enlarged by new innovative offerings, free of monetary charge for its customers. With this business model Google has earned almost 4 Billion Dollar in the third Quarter 2009, that is 66,5 percent of its turnover and even more share of its earnings of 1,7 Billion Euro. Google's second business model "AdSense" makes it possible for partner Websites of Google to place adverts of Google's advertising customers – chosen by Google fitting to the content of advert and website. Figure 5 shows this business model, that earns 30,5 percent of Google's revenue.

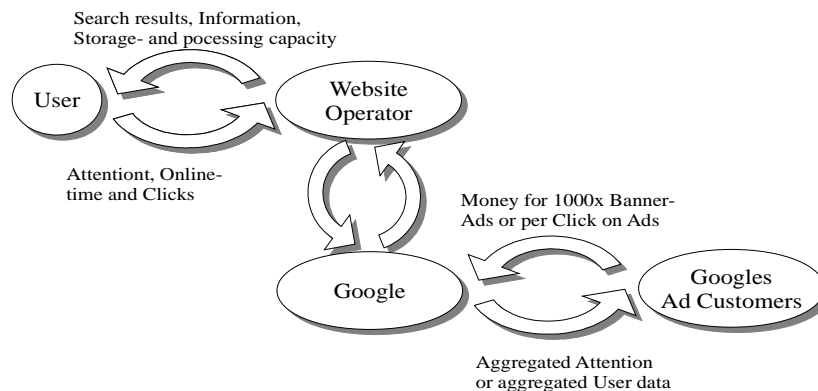


FIG 5: BUSINESS MODEL "ADSENSE" OF GOOGLE

This revenues of the second business model are to be seen in relation to the "Traffic Acquisition Costs" of 1,6 Billion Dollar, where 90 percent are paid to the "AdSense"-Partners of Google. The much higher margin of the first business model explains the high motivation of Google to the on-going development of its own innovative web offerings – documented in the R&D expenses of 13 percents of the revenue, feeding the "Googlelabs" with experimental new web applications, which are brought in the mainstream offerings when successful. The destruction of business models of competitors, offering similar, but paid services can be the consequence. An example is the former paid Email Service of YAHOO, being highly profitable with the offering of free Email Accounts with restricted memory capacity of 10 MByte, which could be enlarged against monthly fees. When Google offered free of charge Email Accounts with the 100 times larger capacity of 1 GByte, the market changed permanently. Similar Impact has the "Google Maps" application for the commercial offerings of other routing planners and some navigations systems.

The World Wide Web as driver of the fifth Long Wave of Innovation

Theory of the Long Waves of Innovation

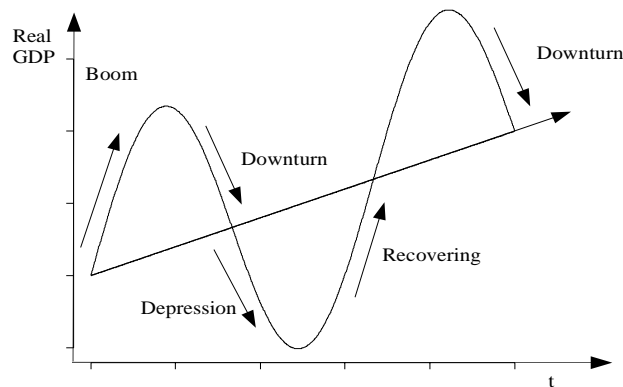


FIG 6: WAVES OF BUSINESS CYCLES

Looking from macroeconomic perspective on economic segments or markets, where such a process of innovation happens, this innovation replaces an existing factor combination. Schumpeter calls this replacement “Creative Destruction”. He describes this process as “.. process of industrial mutation.. that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destructions is the essential fact about capitalism” (Schumpeter, 1942, S. 83). While the initiation of a successful innovation often starts with many prospering new enterprises and a raising productivity in the Boom Phase, the replacement of the old factor combination mostly leads to the adjustment of the factors of production. There will be unproductive factories and people with skill no more needed, leading to a phase of Downturn. This will lead to the phase of Depression, often under the level of productivity before the change, until the adjustment process in the phase of recovery brings a new higher equilibrium. Figure 6 shows this sequence.

This long-ranging Business Cycle is known as „Kondratieff-Cycle“, covering a period of 50-60 years and is based on the described adoption processes to changing base technologies over generations, often requiring complete other

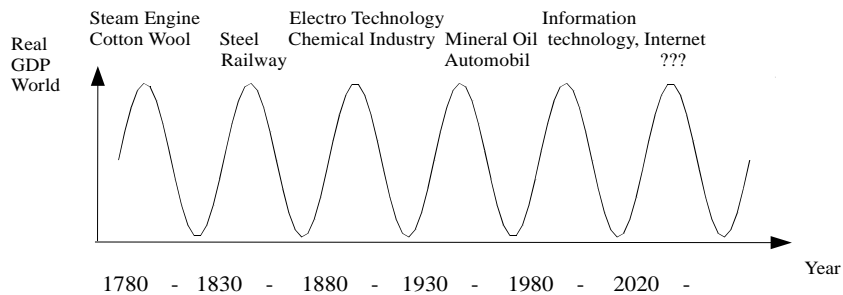


FIG 7: LONG WAVES OF CHANGES

professional education and training or complete new infrastructure layers. “Each Kondratieff-Cycle is a specific

historic reorganisation process of the society, leading to complete new value chains “ (Nefiodow, 2006, S. 211). Figure 7 shows the five waves of change, as described by Schumpeter and Nefiodow.

Examples of Creative Destruction: Photography, Music, Books

Looking into the change by the wave of information technology we can see that the enterprises of different segments are affected in different ways and in different timing. Figure 8 shows some segments, which are already affected.

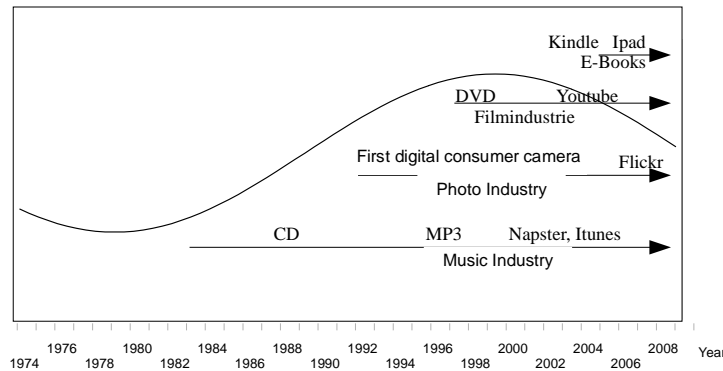


FIG 8: SEGMENTS AFFECTED BY THE WAVE OF INFORMATION TECHNOLOGY

The **music industry** was one of the first segments affected. One reason for the early impact on this segment can be found in the quite easy digitalization of music. Some reasons for the specific hard impact of change in the music segment gives a Study of the Max-Planck-Institut “Das Internet und die Transformation der Musikindustrie“ (Donata, 2008), resulting from an only small ability of anticipation and adaptation. These four reasons are: difficult anticipation and complex implementation, organizational inertness, underestimated technology and overestimated power of music companies. These reasons may intensify the impact of the change, but finally the crisis of the music companies is consequence of digitalization, showing two phases. In the beginning we saw a short time effect, even triggering a boom of selling music by having many former analogue collections of music digitalized. But the following phase with the changing behaviour of music consumers - which are less and less music buyers - will show it’s complete impact only after one or two generations. The respective destruction of the business model of selling music “record carriers” is still on going and will especially hurt the music publishers as intermediaries between musicians and music consumers. Musicians and music consumers may even profit by the change: the consumers by falling prices and broader offerings, also outside of the mainstream music, the musicians by more independency from the publishers and more direct contact to the consumers.

In the **photo industry** the first phase of digitalization has finished with almost the same business model. The segment sees itself again on track as stated by the German photo industry alliance: „Die Foto- und Imagingindustrie ist mit der Absatzentwicklung ihrer wichtigen Produkt-segmente in 2009 – trotz Wirtschaftskrise – durchaus zufrieden und blickt optimistisch in das photokina-Jahr 2010“ (Photoindustrieverband, 2009) . But this is not taking in account the second phase of changing with different behaviour of the consumers. These changes will in mid term cause a significant decrease of the production of physical photos – which are now printed and not chemical developed as before the digitalization. The integration of the camera functionality in the omnipresent Mobil phones and Smartphones and the changing consumer behaviour away form physical photos will hurt the segment again decisively.

The next change of the **book industry** is the EBook in all its manifestations. Since 2009 the „Kindle“ is global available and also usable in Germany with Internet connection in 100 countries without additional costs.

However, the offering of more than 450.000 books is mainly in English language and because of the German price regulation in the book industry the German publishers until now do not support the Kindle and try their own proprietary EBook solutions. But because these do not cover the scope of the business model Amazon, the leading Internet bookseller, and on the other hand try to copy the protected pricing of the physical books, the success is very limited and Amazon dominates with 90 percent market share. A further push comes from Apples initiative in the EBook market with the iPad and the business model “iBookstores” comparable to Apples dominating music store “iTunes” based on the open standard for EBooks Epub. Most of the American publishers and even some German publishers have announced their participation. Like in the music industry this new business models will mostly hurt the publishers by reducing their profit and authors as well as consumers may profit. Even radical new models appear: the authors can publish EBooks completely without a traditional publisher – and also in small niches with only few globally distributed consumers. So also the impact of this changes will dramatically influence all intermediaries like publishers and bookstores but may be positive for authors and consumers.

Summary and the next Creative Destructions coming

Risk Factors and recommended proceedings

The changes triggered by the Internet can be seen especially where the digitalization can include the goods and services in the sphere of the Internet. Figure 9 gives a good overview of the industry and service segments involved.

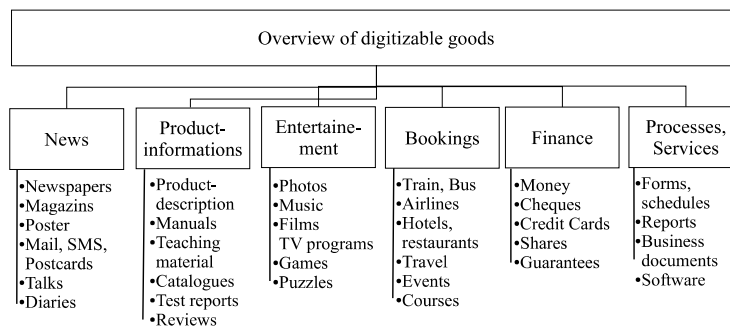


FIG 9: OVERVIEW OF GOODS THAT CAN BE DIGITALIZED, OWN PICTURE AFTER STAHLKNECHT (2009, PAGE 798)

Further the Internet gives transparency on a global level and connects directly users or consumers with the producers of the respective goods – giving all intermediaries in the traditional value chains a challenge to explain their costs in competition to the new Internet Business Models. Some examples show further segments with radical changes coming.

Next Sectors in Change:

Even when the **Software industry** has only 40 years of history, with the biggest software company Microsoft founded in 1975, it is facing a tremendous change with complete different business models threatening the position of the market leaders. The threat is coming from three different sides: first the upcoming open software projects like Linux and OpenOffice are with the contribution of thousands of volunteers a real competition to the paid alternative. Even when Windows and Microsoft Office still dominate the respective markets the free competitors have a significant impact on the pricing. Second threat is the growing offering of applications out of the Internet Cloud:

What means the user needs only a (free of charge) Web-Browser to use the Software running in distant data centers – and in combination with the Cloud Service Provider using open and free software this threat is even bigger. The third and newest threat is new business model of Apps Stores introduced by Apple with the iPhone and just transferred to the Apple Personal Computers. Software sold over the respective App-Store is sold to significantly lower prices and with some 30 percents provision paid to the App-Store Owner.

The business model of **telecommunications** enterprises with the billing of minute prices is more and more reduced and will vanish completely with the diffusion of Internet telephony. Whereas some twenty years ago even local calls from stationary telephones brought good margins this reduced more and more on one side to long-distance and out of country calls and on the other side to mobile telephony. And even this vanishes with voice as an application based on a flat rate Internet connection – independent from the differentiation of mobile or stationary telephony.

The segment of **credit card payment** is today dominated by the three enterprises Visa, American Express and Master Card. It has a yearly earning of around 8 Billion Dollars and is until now so stable that in America examination have started, to check if the three dominating enterprises protect their market against upcoming competitors. But also this segment is threatened by an innovations: the Near Field Communication (NFC) is a module of the next generation of mobile phones and smartphones that enables secure payment over this technology. With Apple announcing to integrate this technology in it's new iPhone generation it can be expected that Apple and others will integrate innovative payment methods based on this technology in their existing business models – and so take away an significant part of the business of the three traditional credit card companies.

This are only three examples. More can be easily found, and others will show up over time. All companies should be aware of the challenges of digitalization and especially of new Internet Business Models based on other currencies and therefore endangering all traditional models based on payment of money.

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Developing and Piloting a Student Entrepreneurship Measure in Finland and Spain

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Abstract

Today a large number of different initiatives to promote entrepreneurial actions have been initiated to respond to different societal challenges (such as aging population, regional inequalities, etc.). However, there seems to be a lack of systematic approaches to evaluate the impact of these various entrepreneurial initiatives at the individual level. As a result to this challenge, an effort is currently under the way to develop an instrument (called *Entre Intention*) to measure the impact of entrepreneurial initiatives at the individual level.

The aim of this research paper is to present the results of a pilot study through which the new instrument was piloted. The developed instrument was largely based on the Theory of Planned Behavior (TPB) by Ajzen (1991). The empirical data of the pilot study came from Spain and Finland, where the instrument was used amongst first year undergraduate students. In this paper, we will describe the content of the instrument and the preliminary observations.

Introduction

At current societies, especially in Western countries, a large number of different initiatives to promote entrepreneurial actions have been initiated to respond to different societal challenges (such as aging population, regional inequalities, etc.). However, there seems to be a lack of systematic approaches to evaluate the impact of these various entrepreneurial initiatives at the individual level. This kind of information would help the further development of these initiatives. As a result to this challenge, an effort is currently under the way to develop an instrument (called *Entre Intention*) to measure the impact of entrepreneurial initiatives at the individual level.

The developed instrument is largely built on the Theory of Planned Behavior (TPB) by Ajzen (1991) because of its detailed and consistent theoretical specification and the great amount of cross-disciplinary research devoted to testing, advancing and criticizing the model (Armitage and Conner, 2001; Sheeran, 2001). According to Ajzen (1991), the TPB is designed to predict and explain human behavior in specific contexts by looking at the individuals' intention to perform a given behavior. Intentions are assumed to be "indications of how hard individuals are willing to try, of how much of an effort they are planning to exert, to perform the behavior" (Ajzen, 1991, p.181). The stronger the intention to engage in a behavior, the more likely should be its actual performance. As such, the intention to perform a behavior has been described as the best single predictor of an individual's actual behavior (Bagozzi et al., 1989; Fishbein and Ajzen, 1975; Krueger and Carsrud, 1993). We set a purpose to develop an instrument to measure the impact of entrepreneurial initiatives on the development of entrepreneurial intentions and its antecedents, that is, attitudes, perceived behavioral control, and subjective norm.

While the overall purpose our research program is to develop and test an instrument to measure the impact of entrepreneurial initiatives on the development of entrepreneurial intentions and its antecedents, in this paper our objective is to present the results of the pilot study where we tested the instrument for the first time. The empirical context of the pilot study is made of two higher education institutions (one in Finland, one in Spain) and concerns their first-year students at undergraduate programs. In the end of this paper, we will discuss the implications of the empirical observations of our pilot study.

Literature review and conceptual framework

The TPB suggests that intention is the immediate antecedent of behavior and, thus, the stronger the intention to engage in specific behavior, the more likely should be its actual performance (Ajzen 1991). The core of the TPB is the idea that intentions have three conceptually independent determinants, namely attitude towards the behavior, subjective norm and perceived behavioral control (Ajzen, 1991, p.188).

Attitude towards the behavior refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question. The more positive an individual's perception is regarding the outcome of starting a business, the more favorable their attitude towards that behavior should be and, consequently, the stronger the individual's intention to go ahead and start a business should be.

Subjective norm refers to the perceived social pressure to perform or not to perform that behavior. It is based on beliefs concerning whether important referent individuals or groups approve or disapprove of an individual establishing a business, and to what extent this approval or disapproval matters to the individual. Generally speaking, the more the opinion of a particular referent group or individual matters to the individual and the more encouraging the individual thinks it is of enterprising activity, the stronger should be the individual's intention to start a business.

Perceived behavioral control refers to the perceived ease or difficulty of performing the behavior. It is based on beliefs regarding the presence or absence of requisite resources and opportunities for performing a given behavior. In general, the greater this perceived behavioral control, the stronger the individual's intention to start up in business should be.

Closely related to the perceived behavioral control is the perception of one's *entrepreneurial skills*. The better one evaluates his/her skills in carrying out entrepreneurial task, the more positive impact this should have on the development of entrepreneurial intentions. Entrepreneurial skills refer to abilities that are usually linked to entrepreneurs such as risk taking propensity (Cantillon), ability to organize (Say) and innovativeness (Schumpeter). As such, a new scale was included in the instrument to measure respondent's entrepreneurial skills.

The following figure presents the developed model of our study.

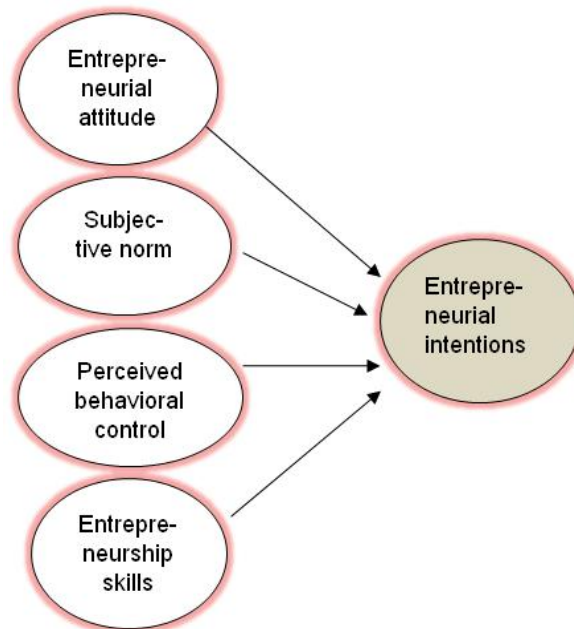


FIG. 1. CONCEPTUAL MODEL

Ajzen's (1991) model has been widely used in entrepreneurial research, and especially amongst student populations. For example, Krueger (1993) and Krueger, Reilly and Carsrud (2000) looked at the entrepreneurial intentions of US university business students, whereas Fayolle, Gailly and Lassas-Clerc (2005) focused on students in a French elite business school. Kolvereid (1996) investigated the employment status choice intentions of Norwegian undergraduate business students and Tkachev and Kolvereid (1999) studied the entrepreneurial intentions of Russian students.

Moreover, all the above mentioned studies have found support for the Theory of Planned Behavior (that is, attitudes, subjective norm and perceived behavioral control) all contributed significantly to the explanation of the variance in intentions, with some interesting nuances. Kolvereid's (1996) results show that demographic variables such as gender, family background and former self-employment have only an indirect influence on intention. The study of Krueger and his colleagues (2000) offered strong statistical, though not complete, support for the model. More specifically, the subjective norm was non-significant. The authors suggest that subjective norm may only be important in ethnic groups who have strong traditions of entrepreneurship. These results are consistent with Boissin et al. (2009), who also used the TPB model of Ajzen to analyze the differences among French and American students. Their results show that entrepreneurial intentions are more positive and advanced among American students than among French students. TPB explained more than 50% of total variance in both countries. However, the subjective norm was insignificant factor in explaining the formation of entrepreneurial intentions. Thus, Boissin et al. (2009) question the influence of subjective norm in the TPB model as well as the effect of culture and context on subjective norm. In their recent study, Engle and his colleagues (2010) come to a different conclusion. The authors observed among twelve-country study that the antecedents of entrepreneurial intentions vary according to the studied countries and that subjective norm was significant contributor to the development of entrepreneurial intentions in every country. As such, the explanatory power of social norm requires further research in international context.

Based on the previous review, in our empirical testing we are interested in investigating (i) whether the level of entrepreneurial intentions varies as a function of country origin, (ii) whether the relative importance of the three antecedents of entrepreneurial intentions varies as a function of country of origin, and (iii) whether the background variables exercise similar effects on the formation of entrepreneurial intentions in different countries.

Methodology

Data collection method

The Entre Intention instrument has been developed and piloted in Finland. The scales for this Finnish version were developed largely based on Kolvereid (1996). However, in some parts of the instrument, new scales (e.g. attitudes, entrepreneurial skills) were proposed and tested using national data during 2008-2009. Common method variance did not seem to be of concern (using Harman's one factor test).

The data for the pilot study was collected using a self-administered questionnaire in fall 2010. In each degree program, a teacher was responsible in administering a printed questionnaire to the first-year and second year students in their educational field (in Finland 6 and in Spain 7 different educational fields). From Finland we got 668 responses (response rate app. 85%) and from Spain 967 responses (response rate app. 48%).

Variables

Entrepreneurial Intentions. An index of entrepreneurial intention was created by averaging the eight items (min = 1, max = 7, mean in total sample = 3.7, Std. Dev. = 0.9). The variable demonstrates good reliability (Cronbach's Alpha = in total sample 0.87, in Finnish sample 0.92, in Spanish sample 0.83)

Subjective Norm. The variable Subjective Norm has three items. Originally each item had a seven-point scale from 1-7. For the statistical analysis the scales were transformed to -3 - +3 scale. In addition, motivation to comply was measured by three items (seven-point scale from 1 to 7) referring to each of the aforementioned belief questions. The belief based items (coded as ranging from -3 to 3) and the corresponding motivation to comply items (coded as ranging from 1 to 7) were multiplied, and then added to create an index of Subjective Norm (min = -63, max = 57, mean in total sample = 0.3 Std. Dev. = 16.3). The variable demonstrates good reliability (Cronbach's Alpha = in total sample 0.87, in Finnish sample 0.85, in Spanish sample 0.88).

Perceived Behavioral Control. An index of Perceived Behavioral Control was created by averaging the five item scores (min = 1, max = 7, mean in total sample = 3.9, Std. Dev. 0.9). The variable demonstrates good reliability (Cronbach's Alpha = in total sample 0.74, in Finnish sample 0.86, in Spanish sample 0.72).

Attitudes towards entrepreneurship. An index of Entrepreneurial Attitude was created by averaging nine item scores (min = 1, max = 7, mean in total sample = 5.2, Std. Dev. = 0.8). The variable demonstrates good reliability (Cronbach's Alpha = in total sample 0.83, in Finnish sample 0.84, in Spanish sample 0.84).

Entrepreneurial skills. An index of entrepreneurial skills was created by averaging eight item scores (min = 1.9, max = 7, mean in total sample = 5.0, Std. Dev. = 0.9). The variable demonstrates good reliability (Cronbach's Alpha = in total sample 0.85, in Finnish sample 0.86, in Spanish sample 0.86).

When all the items used to create the main variables were factor analyzed (Principle component with Varimax rotation), the resulting structure reflected eight components. The items attributed to Entrepreneurial intentions loaded to its respective variable, the items attributed to Subjective norm, Perceived behavioral control and Entrepreneurial skills were spread to two different components. The items of the Entrepreneurial attitudes were spread to three different components.

Control variables

In order to control for effects that might otherwise influence the formation of entrepreneurial intentions among students, we controlled for various effects. *Gender* is operationalized as the gender of the respondent and is included as a dummy variable, with a value of one for female respondents and zero for male respondents. *Age* is operationalized as the age in years of the respondent. *Nationality* is included as a dummy variable, with a value of one for Finnish and foreigners and zero for foreigners. *Earlier start-up experience* is controlled for by the inclusion of a dummy variable with a value of one for respondents who had started earlier their own business and a value of zero otherwise. *Entrepreneurial role models* is controlled for by the inclusion of a dummy variable with a value of one for respondents who knew an entrepreneur in their close family a value of zero otherwise. *Earlier entrepreneurial courses* is controlled for by the inclusion of a dummy variable with a value of one for respondents who had participated in entrepreneurial courses before their current studies and a value of zero otherwise. *Earlier work experience* is controlled for by the inclusion of a dummy variable with a value of one for respondents who had more than 6 months work experience before the current studies and a value of zero otherwise. *Mother's professional background* was included in the analysis as a dummy variable with the value one given to respondents who indicated that mother used to be an entrepreneur and a value of zero otherwise. *Father's professional background* was included in the analysis as a dummy variable with the value one given to respondents who indicated that father used to be an entrepreneur and a value of zero otherwise.

Common method variance

We tested the possible effects of common method variance for the variables collected using Harman's one factor test (Harman, 1976). If common method variance was a serious problem in the study, we would expect a single factor to emerge from a factor analysis or one general factor to account for most of the covariances in the independent and dependent variables (Podsakoff and Organ, 1986). All the items used to create the main variables, a total of 36 items, were factor analysed using principal axis factoring where the unrotated factor solution was examined, which was recommended by Podsakoff, MacKenzie, Lee and Podsakoff (2003: 889). Kaiser's criterion for retention of factors was followed. The sample size seemed to be high enough for the factor analysis, at least based on the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.903).

Factor analytic results indicated the existence of eight factors with Eigen values greater than 1.0. The ten factors explained 57 percent of the variance among the 36 items, and the first factor accounted for 23 percent of the variance. Since several factors, as opposed to one single factor, were identified and since the first factor did not account for the majority of the variance, a substantial amount of common method variance does not appear to be present. Thus, we conclude that common method variance bias is not a threat to the validity of the results. One should bear in mind though that this procedure does nothing to statistically control for the common method effect: it

is just a diagnostic technique (Podsakoff et al. 2003: 889). As a result, the presence of common method problems cannot be fully discarded.

Respondents

The mean age of the respondents in Finland was 21,4 and in Spain 20,2 years. In Finnish data 58 % of the respondents were female, while in Spain it was 57 %. In Finland, 61% of the respondents had an entrepreneur in their close family, and 4 % of the students had an earlier experience of establishing an own business at the moment when they started their studies at the university. Correspondingly, in Spain also 4 % of the students had an earlier experience of establishing an own business, and 52 % of the students had an entrepreneur in their close family. The Table 1 describes the other background variables and earlier experiences of the respondents.

TABLE 1. BACKGROUND CHARACTERISTICS OF THE RESPONDENTS

Background characteristics of the respondents	Finland	Spain	Total
Starting a business at the time of survey	1 %	3 %	2 %
Earlier an entrepreneur (succession)	1 %	3 %	2 %
Earlier an entrepreneur (start-up)	4 %	4 %	4 %
An entrepreneur in close family	61 %	52 %	55 %
Earlier participation in entrepreneurship courses	25 %	14 %	19 %
Earlier work experience more than 6 months	54 %	51 %	52 %
Mother's professional background as an entrepreneur	17 %	15 %	16 %
Father's professional background as an entrepreneur	33 %	27 %	30 %

Results

The use of the same instrument in two different countries revealed some interesting results. As can be seen in Table 1, the level of entrepreneurial intentions varies according to the country of origin as the Spanish students had statistically significant higher level of entrepreneurial intentions. In fact, the Spanish students had consistently higher values in the most of the variables studied. More specifically, Spanish students seem to demonstrate higher level of entrepreneurial intentions, possess more positive entrepreneurial attitudes and perceive having higher entrepreneurial skills compared to their Finnish colleagues. The Finnish students, on the contrary, perceive having higher behavioral control over starting a new business compared to their Spanish colleagues. As such, it seems that while Finnish students perceive of being capable of starting new businesses more than their Spanish colleagues, they have less desire to start businesses compared to their Spanish colleagues. It is also notable that perception of behavioral control and entrepreneurial skills do not seem to follow a clear logic: Finnish students score higher in perceived behavioral than their Spanish colleagues but lower in entrepreneurial skills.

TABLE 2. GENERAL RESULTS IN FINLAND AND IN SPAIN

Variable / Sample	Entrepreneurial intentions	Subjective norm*	Entrepreneurial attitudes	Perceived behavioural control	Entrepreneurial skills
Spanish	3.8 (0.98)	0.59 (17.69)	5.3 (0.86)	3.7 (1.02)	5.2 (0.94)
Finnish	3.5 (1.07)	-0.04 (14.05)	5.0 (0.78)	4.1 (0.65)	4.9 (0.82)
Probability	P=0.000	No significant	P=0.000	P=0.001	P=0.001

Note: Data shows mean (std. dev.).

* All the variables are measured with scales from 1 to 7 except subjective norm scale that is measured from -57 to +60.

Table 3 shows the comparisons in different study fields between Finland and Spain. The differences are statistically significant in the field of Business and Social Sciences and in the field of Engineering (p=0.000). In both of these fields Spanish students scored higher values in entrepreneurial intentions. Only in the field of Natural Resources and Environment Finnish students possess higher entrepreneurial intentions.

TABLE 3. ENTREPRENEURIAL INTENTIONS IN DIFFERENT FIELDS OF STUDY IN FINLAND AND SPAIN

Intentions in different study fields	Whole sample		Finnish		Spanish		Probability
	mean	st.dev.	mean	st.dev.	mean	st.dev.	
Humanities and education	3.3	0.9	-	-	3.3	0.9	-
Business and Social Sciences	3.9	1.1	3.4	1.1	4.1	1.0	0.000
Culture	3.6	0.9	3.6	0.9	3.7	0.9	0.610
Engineering	3.7	1.0	3.4	1.0	3.9	0.9	0.000
Natural Resources and Environmet	4.0	1.3	4.1	1.4	3.9	1.1	0.635
Natural Sciences	3.5	0.9	-	-	3.5	0.9	-
Tourism and Catering	4.1	1.1	4.0	1.1	4.2	1.0	0.552

We also tested how well the antecedents of the intentions explain the formation of entrepreneurial intentions by using standard linear regression. The Table 4 presents the results of standard linear regression.

TABLE 4. LINEAR REGRESSION

Explained (adjusted R ²)	variance	Whole sample	Finnish sample	Spanish sample
		45%	52%	43%
Attitudes		0.28 (.000)	0.27 (.000)	0.23 (.000)
Subjective norm		0.43 (.000)	0.40 (.000)	0.46 (.000)
Perceived behavioral control		0.13 (.000)	0.21 (.000)	0.16 (.000)
Entrepreneurial skills		0.06 (.002)	0.05 (.092)	0.03 (.438)

Note: Standardized coefficients reported.

As can be seen from the Table 4, the relative importance of different antecedents of entrepreneurial intentions does not vary according to the country of origin. Both in Finland and Spain the best antecedent of intentions seems to be Subjective norm followed by Attitudes and Perceived behavioral control. The role of Entrepreneurial skills in explaining the formation of entrepreneurial intentions is somewhat questionable, at least in the Finnish and Spanish sub-samples. In the Spanish sub-sample, there are much more spread between the explanatory power of different antecedents (from 0.16 to 0.46), whereas in the Finnish sub-sample there is less differences between the explanatory power of different antecedents (from 0.21 to 0.40). The role of Subjective norm in explaining the formation of entrepreneurial intentions is relatively high among the Spanish students compared to their Finnish colleagues, whereas the role of Perceived behavioral control is more present among Finnish students. Last, the four antecedents seem to explain the formation of entrepreneurial intentions better among the Finnish students than among the Spanish students when we comparing the explained variance.

The next step in our analysis was to include relevant control variables in to the models (nationality, age, gender, existence of entrepreneurial role models, mother's professional background as an entrepreneur, father's professional background as an entrepreneur, former work experience and earlier participation in entrepreneurship courses). As can be seen in Table 5, the percent of the variance explained by the model increases among the whole sample, when these control variables are included in the model. However, former work experience and earlier participation in

entrepreneurship courses were not utilized in the final model, because those variables did not add to the adjusted R-square and did not have any statistical significance.

In the Finnish sub-sample, none of these control variables showed statistical significance. Thus, the best fit model elements among Finnish sub-sample are presented in Table 4. Tested variables can be seen in Table 5 so that the comparison can be made with the Spanish sub-sample. In Spanish sub-sample, entrepreneurial skills and the existence of entrepreneurial role models did not have any statistical significance. Compared to the Finnish sub-sample, family background - especially father's professional experience as an entrepreneur- had a greater influence on entrepreneurial intentions. Subjective norm is a strong predictor in the Spanish sub-sample, and it is understandable that family background has some influence on entrepreneurial intentions. Age and gender had a statistical significance in the Spanish sub-sample but not in the Finnish sub-sample. As such, the influence of background variables on the formation of entrepreneurial intentions seems to vary according to the country of origin.

TABLE 5. LINEAR REGRESSION WITH CONTROL VARIABLES.

	Whole sample	Finnish sample	Spanish sample
Explained variance (adjusted R²)	49%	53%	46%
Attitudes	0.24 (.000)	0.26 (.000)	0.22 (.000)
Subjective norm	0.41 (.000)	0.37 (.000)	0.43 (.000)
Perceived behavioral control	0.15 (.000)	0.21 (.000)	0.14 (.000)
Entrepreneurial skills	0.05 (.015)	0.08 (.020)	0.02 (.407)
Age	-0.05 (.006)	-0.03 (.374)	-0.07 (.004)
Gender	0.08 (.000)	0.06 (.062)	0.09 (.000)
Existence of role models	0.05 (.038)	0.04 (.238)	0.04 (.141)
Mother's professional background as an entrepreneur	0.07 (.000)	0.06 (.075)	0.08 (.002)
Father's professional background as an entrepreneur	0.08 (.000)	0.06 (.078)	0.10 (.001)
Nationality	-0.14 (.000)	-	-

Note: Standardized coefficients reported.

Implications and further lines of research

Our development project has produced the first version of the instrument to measure the impact of entrepreneurial initiatives on the individuals. We have pilot tested the instruments among first year students of undergraduate programs in two higher education institutes in Finland and Spain. This paper examined the determinants of entrepreneurial intentions among Finnish and Spanish students. Two research questions were put forward. The first questioned concerned whether the level of entrepreneurial intentions would differ based on the country of origin. As it turned out, the Spanish students have higher entrepreneurial intentions than their Finnish colleagues. The second research question asked whether the relative importance of the antecedents vary as a function of country of origin. It turned out that the relative importance of the antecedents did not vary according to the country of origin. The third and final research question asked whether the relative importance of different background/control variables would vary according to the country of origin. We observed some variation in this regard. Nationality, gender and family background were scientifically significant predictors of entrepreneurial intent among the whole sample. However, in the Finnish sub-sample gender and family background did not show scientific significance contrast to the Spanish sub-sample. The results suggest that predictors of entrepreneurial intent may differ by culture.

Our observations point out that the Finnish students seem to show a greater self-confidence in starting businesses, while the Spanish students demonstrate superior trust in their own skills. And yet, the role of entrepreneurial skills in explaining the formation of entrepreneurial intentions was found to be somewhat questionable. In front of such an

observation, one could ask whether we should focus our educational system on fostering the 'sense of control' in our students, rather than their entrepreneurial skills.

Moreover, the fact that the biggest contributor to the formation of entrepreneurial intentions is Subjective norm - the perceived social pressure to perform or not perform the behavior – also cast doubts on the ability of educational system to contribute heavily to the formation of entrepreneurial intentions. Indeed, the social pressure, stemming from friends, family and important others, is to large extent outside the influence of the educational programs of higher educational institutions.

Later, follow-up studies with the same students will allow us to use longitudinal designs to detect development patterns in the formation of entrepreneurial intentions. The next follow-up of data collection will be implemented in the autumn of 2011. Moreover, more international partners will join this research project in the future, and this will provide us with a good basis for international benchmarking and comparison in recognizing good and working practices in promoting student entrepreneurship. One significant practical contribution of developing this Entre Intentio measure has been to “catch” those students most likely to embark on entrepreneurship, at which special measures can be targeted right from the beginning of their studies.

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The search for the development of clusters in Tamaulipas (Mexico): A case study.

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Abstract

The advantages of industrial clusters as drivers of regional and national development have been widely noted. These advantages have prompted various administrations to propose the creation of clusters as a development policy. The state of Tamaulipas in Mexico has not been an exception. The purpose of this paper is to examine the current situation and characteristics of industrial clusters in Tamaulipas, particularly in those industries that are strategic in terms of competitiveness (petrochemical, automotive, electric-electronic, and information technology). The study used case study methodology. The results show that industrial clusters contribute to regional development by increasing the competitive advantages based on the attractiveness of its geographical location, socio-cultural identity, and internal networks. However, the clusters analyzed have the disadvantage of having little presence in foreign markets. This paper helps to clarify the virtues and problems of industrial clusters in Tamaulipas that attempt to increase their competitiveness through international cooperation.

Keywords: industrial clusters, regional development, public policies.

Introduction

There is a growing recognition that industrial clusters play a fundamental role in regional development. Consequently, the factors that impact the performance of these clusters have generated interest from academics, entrepreneurs, and policymakers around the world (McCann, 2008; Nesta, Patel, & Arundel, 2003). In many countries, a form of economic geography has developed, and public policies have been elaborated to promote the creation of clusters (Grajirena, Gamboa, & Molina, 2004).

However, the literature contains few studies that have analyzed whether public policy in agglomerations fulfills its responsibilities and whether it is the most appropriate for businesses (Barkley & Henry, 2001; Hanink & Cromley, 2008). Therefore, this paper conducts a comparative analysis of four clusters located in Tamaulipas, Mexico (petrochemical, automotive, electric-electronic, and information technology) with the purpose of learning about the factors influencing clusters' performance and evaluating their impact on the public policy that prompted their creation and development. The four clusters have emerged based on public policies that have encouraged regional development through the dominant economic sectors in the area. Each cluster has distinct implications for public administration, and each has evolved differently. In this regard, the clusters' development is detailed in critical areas of its performance. To explore this development, we first analyze the most important dimensions and factors influencing the clusters' performance according to the literature. Second, we explain the methodology used in the development of the empirical work. Third, we briefly describe the clusters being analyzed. Fourth, we describe the main results of the study. Finally, we address the most relevant conclusions of the study.

Performance of the Clusters

Based on an analysis of the literature, one can deduce that the performance of clusters is multidimensional. Thus, the dimensions of their performance are classified based on the unity in which they are manifested: the cluster in general (creation of businesses (Fuchs & Knock, 2005; Glaeser, Kerr, & Ponzetto, 2010) and the innovative capacity (Boix

& Trullén, 2010; Cotic-Svetina, Jaklic, & Prodan, 2008; Folta, Cooper, & Yoo-suk, 2006)), and in the businesses that integrate (survival of businesses (Rosenfeld, 2002; Yamawaki, 2002), exportation (Albino, Carbonara, & Giannoccaro, 2005; Colgan & Baker, 2003), economic performance (sales level (Visser, 1999; Yamawaki, 2002), increases in employment (Colgan & Baker, 2003; Visser, 1999) and productivity (Fan & Scott, 2003; Suarez-Villa & Walrod, 1997)).

According to the literature, the previous dimensions of performance are affected by different factors that are present in the economic and social environment. After analyzing the importance and the effects of these dimensions on clusters' performance, we classify these factors into three categories: a) the environment, b) characteristics of the cluster, and c) factors intrinsic to the businesses that are members of the cluster (see Table 1).

TABLE 1: CAUSES OF CLUSTER DEVELOPMENT

Causes related to the cluster's environment	Causes related to the cluster's characteristics	Causes intrinsic to the business that developed the cluster
Location	Research Agencies	Specialization
Social Capital	• Universities	Human Capital
• Role of Public Administrations	• Technology Centers	• Knowledge Management
◦ Public Policies	• Public Agencies	◦ Exchange of knowledge
• Sociocultural Identity	Internal Services	◦ Improvement of Human Capital
Local Demand	Internal Networks	

First, in regard to the environment, the causes that have been shown to influence cluster performance are a cluster's geographic location (Folta et al., 2006; Keeble, 1997; Suarez-Villa & Walrod, 1997), public policies (Eshima, 2003; Romijn & Albaladejo, 2002; Van Looy, Debackere, & Andries, 2003), socio-cultural identity (Nassimbeni, 2001; Nicolini, 2001), and local demand (Nicolini, 2001; Rabellotti, 1999).

Second, the causes related to the intrinsic properties of the clusters included the following: relationships with research organizations, among them are universities (Albino et al., 2005; Romijn & Albaladejo, 2002; Van Looy et al., 2003), technology centers (Albino et al., 2005; Izushi, 2003; Romijn & Albaladejo, 2002), and public agencies (Lemke & Östhol, 2005; Yamawaki, 2002); services (Gabaldón-Estevan & Fernández-de-Lucío, 2006; Nicolini, 2001); and internal networks (Fuchs & Koch, 2005; Nassimbeni, 2001; Rogers, 2004).

Finally, the causes relating to the proper functioning of internal clusters and their member companies are specialization (Boix & Trullén, 2010; Nicolini, 2001), the exchange of knowledge (Bell & Albu, 1999; Gordon & McCann, 2005; Segün, 2010), and the improvement of human capital (Bell & Albu, 1999).

Methodology

A study of clusters requires the analysis and interpretation of the internal process and culture that characterize each of their components. Therefore, qualitative methodology is more appropriate (Colgan & Baker, 2003), and the most effective method for conducting this investigation is the use of multiple case analyses (Eisenhardt, 1989; Meredith, 1998; Yin, 1989).

Due to the nature and variety of what has been defined as a cluster, it has assumed a definition that includes a geographically centered reality that integrates diverse businesses and institutions (learning and related institutions) and is maintained by an active industrial association with a strong and explicit culture of clusters.

Considering the established aims of this study, we decided to use the analysis of clusters in different sectors of activity that are located in the same geographic territory and managed by the regional government. The selection of the four clusters (petrochemical, automotive, electric-electronic, and information technology) was based on the above definition and on criteria of specialization in regional competitive industries that had developed cluster associations. These clusters are geographically distributed along the state of Tamaulipas: one on the south

(petrochemical), two at the north (automotive and electric-electronic), and the last one at the center and south area (information technology). We contacted the associations that have experience managing these clusters so that we might gain insight from their experiences. The main areas investigated were the above factors: a) related to the cluster's environment; b) related to the cluster's characteristics and c) intrinsic to the businesses that integrate the cluster. The main goal was to evaluate how these were influencing the clusters performance.

The analyses were carried out from June 2009 to August 2010, starting with the study of their main characteristics. The analysis has been completed by interviews to relevant actors. We contacted five members of the petrochemical cluster: three companies, an industrial association, and a political agency. Nine members of the automotive cluster were interviewed: seven companies, an industrial association, and an educational institution. In the electric-electronic cluster, we communicated with eight members: six companies, an industrial association, and an educational institution. We had access to thirteen members of the information technology cluster: nine companies, three educational institutions, and one technological center.

Clusters analyzed

The Petrochemical Cluster

The petrochemical cluster emerged in 1980 due to the growth of installation of plants in the Altamira area and the founding of the industrial organization Asociación de Industriales del Sur de Tamaulipas, A. C. (AISTAC). The petrochemical cluster is one of the most important clusters in the state of Tamaulipas and is composed of thirteen companies in the petrochemical and derivative sectors. The AISTAC manages the cluster, promotes and strengthens synergies among its members, provides representation to members, and contributes to sustainable development in the area.

The Automotive Cluster

The automotive cluster formally became a cluster in May 2009; its base is in Matamoros, a city located in the northern part of the state and at the United States-Mexico border. Some of the cluster's plants are between twenty-five and thirty years old. This cluster is composed of ten companies and is supported by local educational institutions. Founded in 1972, the industrial organization Asociación de Maquiladoras de Matamoros, A. C. (AMMAC) has been one of the principal drivers of this cluster. The AMMAC represents the interests of its members and encourages their development. In addition, the public agency Secretaría de Desarrollo Económico y del Empleo (SEDEEM) has contributed to the cluster's consolidation by establishing management for the cluster.

The Electric-Electronic Cluster

This cluster was formally created in May 2007, and its base is in Reynosa, which borders the United States. Ten companies and three educational institutions participate in this cluster. The SEDEEM has had an equally important role in the growth of this cluster. In addition, the industrial organization Reynosa Asociación de Maquiladoras and Manufactureras, A.C. (RAMMAC) has strengthened this cluster. Among its missions, the RAMMAC seeks to promote cooperation among its members, share information, improve techniques and strategies, and procure communication and cooperation within the local community.

Information Technology Cluster

Information technology cluster in Tamaulipas (cluster TITAM) emerged on June 27, 2005, due to the initiative of four entrepreneurs in the sector; this cluster's base is in Tampico. It obtained formal status as a cluster in June 2007, and it was the area's first cluster in this sector. The cluster is comprised of more than thirty members that are primarily small and medium-sized enterprises. Thirteen educational institutions in the region attend the meetings organized by the management of this cluster.

The state government has played an important role in the consolidation of this cluster. Additionally, this cluster has the support of various regional government agencies, including the SEDEEM through the department of Dirección de Promoción and the technological business incubator Incubadora de Empresas de base tecnológica Victoria Emprende of the municipal council for economic development Consejo Municipal de Desarrollo Económico de Victoria, A.C. (COMUDE).

Results

To analyze the primary causes that influence the performance of clusters in Tamaulipas, a comparative analysis was conducted among four sectors in the present study. We analyzed the impact of environmental factors, the characteristics of the clusters, and the factors intrinsic to the companies within each cluster.

Environmental factors

The *geographic location* of the automotive cluster positively impacts the creation and survival of new companies. This positive impact results from the cluster's proximity to the United States, the availability of products and service companies related to the sector, and the qualifying work that facilitates the installation of providers connected to the sector.

Location influences the petrochemical cluster at the exportation level. This influence results from the cluster's proximity to the port of Altamira; respondents have identified this port ideally suited for managing its products and facilitating shipment to their clients abroad. Foreign sales do not represent a significant portion of the business in this cluster.

This factor is also important for all clusters under analysis because it relates to the region's employment rate. In the petrochemical and information technology clusters, companies have access to a diverse group of graduates seeking employment and possessing the necessary preparation and skills. Meanwhile, in the automotive cluster, the variety of companies belonging to the regional auto body repair industry has attracted skilled labor from other states. In the electric-electronic cluster, this impact emerges due to the large quantity of graduates from various educational institutions in the area that were created as a result of the presence of international corporations.

Additionally, the *geographic location* helps to increase the productivity of the four clusters. The information technology cluster enjoys low production costs in comparison with the larger cities in the country and greater governmental support due to its proximity to the state government of Tamaulipas. Meanwhile, the petrochemical cluster is favored due to its proximity to the port of Altamira and its ability to transport raw materials (generally from the United States). In addition, this cluster has lower operation costs compared with clusters in other parts of the country (for example, water costs). The cluster is close to the main terminal of chemical products in the country. Meanwhile, specialization in the automotive industry has created technical knowledge in the city, and this knowledge has contributed to the employment of companies in the area and the ability of these companies to continuously adapt. In the electric-electronic cluster, the proximity to the United States and the international bridge at Nuevo Laredo is essential to its members' productivity.

Moreover, *public policy* positively influences the growth of innovative capacity for the information technology cluster. Federal public policy, which created a program to support software development, has facilitated the creation of the TITAM cluster by the regional administration and contributed to increased innovation.

One of the most important factors influencing the performance of most clusters is the *socio-cultural identity* of their members. This factor has contributed to the creation of enterprises in the information technology cluster because five of its members combined their skills and efforts to start a new company. Additionally, this factor has driven the innovative capacity of this cluster, in which companies cooperate to develop innovative projects, such as a robotics school for children and adolescents in the city of Tampico. Furthermore, the *socio-cultural identity* positively influences the sales growth of companies in the information technology and automotive clusters. First, entrepreneurs exchange information about potential clients and about sector trends. Second, monthly meetings organized by the AMMAC association of the automotive cluster present opportunities to meet new companies that arrive in the area and to learn about their products and services.

Similarly, the *socio-cultural identity* contributes to the productivity of many of the companies under analysis. In the information technology cluster, companies combine their resources and knowledge to conduct joint projects. In the automotive cluster, members take advantage of each association meeting as an opportunity to meet potential clients. In the petrochemical cluster, companies benefit from the proximity by benchmarking and jointly resolving common problems.

Regarding environmental factors, the *local demand* positively influences sales growth in the information technology cluster. Due to insufficient local demand, many software companies in other regions have searched for markets throughout the rest of the country. The *local demand* is strengthened by the presence of potential markets in the area (e.g., application services and small to medium-sized companies in the northern zone of the state).

Factors related to the characteristics of the clusters

With respect to the clusters' characteristics, we observe that *universities* have an important impact on the productivity of the four clusters analyzed because they are an important source of students who participate in social services and apprenticeships, which can assist in decreasing a company's costs. In the petrochemical, automotive, and electric-electronic clusters, the *universities* have created programs of study that adapt to the needs of companies in the area. Additionally, incorporating students in their businesses allows companies to identify students who have the required skills for later employment; the electric-electronic and automotive clusters have frequently taken advantage of these opportunities.

Although they are not formally integrated with the cluster, *internal services* have a positive influence on the capacity to export of the companies associated to the petrochemical cluster because Altamira's port contains all the crucial services necessary to send and receive merchandise. Similarly, *internal services* impact the productivity of companies in the electric-electronic and petrochemical clusters. In both clusters, this impact has emerged due to the local presence and diversity of service companies that are necessary for the proper functioning of the plants. With respect to the petrochemical cluster, the area has maritime terminals, logistics companies, shipping, storage, and other services. The electric-electronic cluster has logistics companies and shipping services, which are helpful for enabling new service providers to be known at the monthly the RAMMAC association meetings.

Internal networks are also important to the development of clusters. In the information technology cluster, these networks have emerged due to the trust that prevails among companies in the sector located in the southern part of the state. Due to the close relationship that exists among five entrepreneur members of the cluster, these members have created a new company that is in the process of opening. In addition, the networks among these entrepreneurs have promoted their innovative capacity, primarily through the development of joint projects, such as the creation of the school of robotics for children and adolescents; this school is considered one of the cluster's most important achievements. Similarly, members of the information technology cluster take advantage of internal networks in promoting their sales because the cluster's members refer potential clients to one another.

Additionally, *internal networks* are essential to the growth of productivity in all of the clusters studied because their members share information about the sector (e.g., clients, providers, new trends). The members of the information technology cluster that develop software create alliances to conduct projects that could not be accomplished individually. The members of the automotive cluster, in which the AMMAC association is the most important element, create synergies that reduce costs (e.g., rent and the use of storage and joint applications to the government). In the petrochemical cluster, in which the AISTAC association plays an important role, plants share a maritime terminal for receiving shipments of raw materials. In the electric-electronic cluster, the RAMMAC association creates incentives for communication among members; these incentives lead to joint training, benchmarking, communication with the government, and reduced competition among network members.

Factors intrinsic to the business that integrate the cluster

Finally, among the factors that are intrinsic to the companies that compose the clusters, *specialization* can result in diverse positive results. This factor enabled the creation of a company in the information technology cluster by five software developers with a great deal of experience in the sector. In addition, *specialization* in the

automotive and electric-electronic clusters has facilitated the settlement of companies in the area due to its proximity to the United States, the existence of infrastructure and skilled labor, and the presence of important corporations in those cities for more than two decades.

Specialization positively impacts the innovative capacity of the information technology cluster because its members jointly develop products and services and obtain grants for innovative developments within the sector. Moreover, in the information technology cluster, *specialization* influences the sales growth of companies that create commercial associations to raise their market power. This factor also encourages job creation in the automotive and petrochemical clusters because the settlement of diverse automotive plants in the city attracts skilled labor and creates technical knowledge. Meanwhile, the petrochemical cluster has access to institutions of higher education (technical universities) that have adapted their career program to suit the sector's needs and thus facilitated the integration of its graduates.

Furthermore, *specialization* has contributed to increases in productivity in all of the clusters analyzed. Members of the information technology cluster have experienced decreased costs as a result of creating synergies for the joint development of products. Members of the automotive cluster share information through various committees of the AMMAC association to reduce costs, gain certifications, and train their workers. Meanwhile, the petrochemical and electric-electronic clusters benefit from the infrastructure and skilled labor.

Finally, the study of clusters in Tamaulipas shows that *improving human capital* through training increases productivity for the companies in the four clusters analyzed. The positive impacts observed include the following: motivation, acceleration of the learning process, quality of work (electric-electronic), creativity, better relationships with clients and providers, loyalty (automotive), efficiency (information technology), reduction in the number of accidents, and labor stability (petrochemical).

Conclusion

In summary, the petrochemical, automotive, electric-electronic, and information technology clusters in Tamaulipas have different characteristics that drive regional development. Productivity is the dimension of performance that members of these clusters most emphasize. The creation of new companies, the growth of innovative capacity, and the increase of sales and of employment contribute to the development of these clusters.

The main factors that drive cluster development include the clusters' geographic location, socio-cultural identity, internal networks, specialization, and improvement of human capital. The positive influence exerted by socio-cultural identity among members of a cluster is particularly important because it is the principal driver of the synergies created within those clusters. This factor can contribute to increasing the level of exports and the innovative capacity of companies. Similarly, specialization can be used as a regional competitive strategy that may assist companies in investing in employee training. Although clusters already include a large share of companies, educational institutions, and representatives of public agencies, the integration of more active members would be beneficial, particularly of service companies.

Moreover, the clusters analyzed continue to face various difficulties. The area's infrastructure could be improved, especially roads, to increase investment. Similarly, public agencies should act as facilitators for clusters because their management implies a delay in decision making and diversity of processes, which are also present in the assemblies developed to support the industry.

Although universities located in the areas maintain associations with clusters by attending meetings and promoting apprenticeship agreements for companies, they could also be useful in performing joint actions, including training and the development of new products. Similarly, the region requires that research centers and public agencies collaborate with the clusters to develop improvement and increase innovation in a joint effort with the companies that belong to the clusters. Although this study is qualitative, it has contributed to the understanding of a phenomenon that is difficult to quantify (Colgan and Baker, 2003). Additionally, conducting a comparative study contributes to the cost-benefit analysis of adopting clusters as a regional development strategy (Barkley and Henry, 2001). Certainly, this study is a launching pad for future studies in Mexico that examine the relevance of informal relationships for the development of this phenomenon.

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The Effect of Organizational Factors on the E-Commerce Adoption among Small and Medium Sized Enterprises in Saudi Arabia

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Introduction

The information and communication technology has rapidly and radically changed the way various organizations conduct their businesses. The use of e-commerce opens up the opportunity for firms to reach their customers anytime and anywhere, and enable a firm to gain a competitive advantage over its competitors (Soliman & Janz, 2004; Li, 2008). E-commerce involves the trade of goods and services in an electronic manner, such as by computer-based transactions from businesses that utilize internet networking systems as well as several technologies that are digital in nature (Lauden & Laudén, 2000). However, the small and medium enterprises (SMEs) are generally slower in adopting this technology compared to large firms, and this makes SMEs more vulnerable to changing economic conditions as they may have relatively lower level of competitiveness. SMEs are considered as major economic players and a potent source of economic growth for most nations (Taylor & Murphy, 2004; Ramdani, Kawalek & Lorenzo, 2009). Thus, SMEs should have greater ability than the large firms in the adoption of administrative services and guidance to new and innovative ideas because of their flexibility (Rao, Metts & Monge, 2003).

The advantages of e-commerce adoption are numerous and have been well acknowledged empirically by numerous studies. It can help SMEs to gain better access to information and expertise, reach new markets and customers, and manage the business more efficiently and effectively (Wilcott, Kamal & Qureshi, 2008), and create innovative products and be competitive (Barba-Sanchev, Matinez-Ruiz & Jimenez-Zaroo, 2007). E-commerce adoption can also lower production and labour costs, add value to product and services, increase a firm's competitive advantage (Nguyen, 2009; Premkumar, 2003), and enhance the business process (Acar, Kocak, Sey & Ardit, 2005). Thus, the use of e-commerce by the SMEs is a challenge in both developed and developing countries. This paper considers the challenges faced by SMEs in Saudi Arabia in adopting e-commerce to improve their businesses. To be competitive in the globalization era, SMEs in Saudi Arabia also need to develop new strategies and employ new technologies.

SMEs in Saudi Arabia

SMEs represent more than 93 percent of the total business establishments in Saudi Arabia (Ismail, 2004). Their role in the economic development become more important after Saudi Arabia joined the WTO, where the businesses require more technical expertise than in the past. E-commerce activities of SMEs are determined by the extent to which they use the technology to coordinate their international and inter-regional operations. However, like their counterparts in most countries, SMEs in Saudi Arabia also face various obstacles in the adoption of technology, particularly the e-commerce (Li, 2008). The main reasons cited for the non usage of e-commerce among the SMEs is due to a lack of training facilities, and also their belief that there is no need for the use of technology in their work (CITC, 2007). Therefore, efficiently adopting the technology among the SMEs has become a national agenda. The government has initiated the essential policy framework for a nationally comprehensive ICT and or e-commerce strategy that SMEs have made use of to adopt sound ICT strategies, including expansion programs on the internet. These initiatives have enabled SMEs to achieve some corporate goals with remarkable success (Soliman & Janz, 2004). To accelerate the adoption of this technology, the policy makers are also searching for answers about the important factors that would influence the SMEs to adopt the e-commerce. One of the factors rooted in the OTE Model developed by Tornatsky and Fleisher (1990) is the organizational context. The organizational context contains all the internal factors that could affect the firm's innovation adoption in terms of organizational and managerial skills. The organizational factors related to e-commerce adoption among SMEs include the firm size, owner's attitude and innovativeness (Iacovou, Benbasat & Dexter, 1995; Dholakia & Kshetri, 2004; Sabherwal, Jeyaraj & Chowa, 2006; Thong, 1999; Chang-Shuo, 2006).

Objectives of the Study

The objective of this study is to determine the effect of the organizational context on the extent of e-commerce adoption among SMEs in Saudi Arabia. The characteristics in the organizational context seem to be the primary focus of many studies on SMEs. Specifically, the objectives of this study are:

1. To determine the significant relationship between firm size and the extent of e-commerce adoption among SMEs in Saudi Arabia,
2. To determine the significant relationship between owner/manager's attitude and the extent of e-commerce adoption among SMEs in Saudi Arabia, and
3. To determine the significant relationship between owner/manager's innovativeness and the extent of e-commerce adoption among SMEs in Saudi Arabia.

Hypotheses Development

One of the most vital elements that will influence the adoption of e-commerce technology by SMEs in Saudi Arabia is the nature of the firm, including the different characteristic elements manifested within the organization such as the firm size, and owner/manager's attitude and innovativeness.

Firm Size

Firm size is one of the most influential factors of internet adoption among SMEs (Karakaya & Khalil, 2004). The size not only influences a firm's ability and readiness to adopt e-commerce, it also influences the extent to which technology will be adopted by the firm (Chang-Shuo, 2006). Thus, larger firms tend to adopt technology at higher levels, while smaller firms are inclined to adopt technology at lower levels (Cragg & Mills, 2009). A firm with a large amount of transactions and data is also more likely to adopt e-commerce as this can be of great assistance in streamlining operations and offering process efficiency within the firm (Thong & Yap, 1995). Thus, the following hypothesis:

H1: There is significant relationship between firm size and the extent of e-commerce adoption among SMEs.

Owner/manager's Attitude

The adoption of e-commerce relies heavily on the acceptance of the technology by the business owners (Lubbe & Heerden, 2003). If the owner does not identify with the usefulness of the technology or has limited understanding of its potential then naturally the owner will be reluctant to adopt e-commerce. Previous studies have also found that management's attitude and support of the owners had a positive relationship with the e-commerce adoption (Seyal & Rahman, 2003; Levy & Powell, 2003; Chang-Shuo, 2006). The need for commitment and support from the owners or top management during the process of assessment of the innovation or technology is of utmost importance. This commitment and support ensures that there is an obligation within the resources, which in turn will create conducive environment within the firm for the adoption process of the technology. The following hypothesis is thus postulated:

H2: There is significant relationship between owner/manager's attitude and the extent of e-commerce adoption among SMEs.

Owner/manager's Innovativeness

Owner's innovativeness was found to be the strongest determinant for the adoption of information systems (Lee & Runge, 2001), while it also affected the cultural dimensions (Thatcher, Srite, Stepina & Liu, 2003). An innovative owner will definitely identify the advantages of incorporating e-commerce into the business, and accordingly be able to create new benefits through an innovative utilization of the e-commerce technology (Sanchez, 2002; Al Qirim, 2005). Therefore, the following hypothesis is formulated:

H3: There is significant relationship between owner/manager's innovativeness and the extent of e-commerce adoption among SMEs.

Methodology

Sampling

The sampling frame of this study comprised of all SMEs operating in the Kingdom of Saudi Arabia, irrespective of whether they were using e-commerce applications or not. The sampling frame consisted of 78,488 firms. A SME is a firm or business that employs not more than 250 workers. These firms are distributed among thirteen regions across the Kingdom. Most of these firms were concentrated in the three main areas namely; Riyadh, Eastern Saudi Arabia and Mecca. This study used a self-administered questionnaire survey. The questionnaire was mailed to the owner/managers of the firms. Owner/managers were targeted as respondents of this study because they are likely the key informants who are directly involved in the overall running of the business. As such they are in better positions to understand the current operations and future trend of the firms.

A total of 1150 questionnaires were sent to the owner/managers who were systematically and randomly selected from the population in the sampling frame. Direct phone calls as a reminder of those respondents that delayed in responding were made to increase the response rate. A total of 423 were finally received, out of which 400 were usable resulting in a response rate of 34.78 percent. This is relatively high for a mail-survey research (Sekaran, 2003).

Scale Reliability

The instruments used in this study were developed from prior research and previously tested for reliability. Some of the questions used were slightly modified to make them more relevant to the purpose of the study. Table 1 below shows that all the constructs have Cronbach Alpha values of more than 0.7 which is higher than recommended by Hair, Black, Babin, Anderson and Tatham (2006).

Table 1: The number of items of the variables and alpha values

Variable	No of items	Alpha value
Owner's attitude	4	0.861
Owner's innovativeness	11	0.737
E-commerce adoption	7	0.946

Factor Analysis

Construct validity in this study was validated through factor analysis. Principal component analysis was applied to determine how and to what extent the items are linked to their underlying constructs (Zhang, Waszink & Wijngaard, 2000). According to Hair et al (2006), factor loadings greater than 0.30 are considered as significant; loadings of 0.40 are considered as more important, while loadings that are greater than 0.50 are very significant. Thus a factor loading of 0.40 was used as the cut off point for this study. From Table 2, all three factors and most the items were loaded on the correct factors. However, five items under owner's innovativeness did not sufficiently loaded on the correct factor and were removed.

Table 2: Factor Analysis

Variable	Scale Item	Factor 1	Factor 2	Factor 3
Attitude	1	.676		
	2	.559		
	3	.729		
	4	.660		
Innovativeness	2		.667	
	4		.834	
	5		.757	
	7		.730	
	8		.713	
	9		.430	
E-commerce adoption	1			.777
	2			.882
	3			.927
	4			.812
	5			.500
	6			.593

Results and Discussion

Sample Characteristics

A demographics profile of the respondents is illustrated in Table 3 below. The geographic location of the firm is 44.0 percent in Riyadh, 33 percent in Eastern Saudi and 23 percent in Mecca. Majority of the firms have more than 25 employees (61 percent). More than 22 percent of the firms have been operating for over two decades, 29.75 percent have been in the business between 11 and 20 years, while only 25 percent of the firms have been established between 5 and below years. The profile of respondents was also sorted by gender, age and education level. A significant number of respondents were male and only 35 (8.75 percent) of them were female. Most of them were at the age of 40 years and above, and majority of them attained the academic qualification higher than the high school level (79 percent).

Table 3: Characteristics of Respondents

Characteristics	Frequency	Percentage
<i>Gender</i>		
Male	365	91.25
Female	35	8.75
<i>Age (years)</i>		
18-29	62	15.50
30-39	84	21.00
40-49	153	38.25
50-59	74	18.50
60 and above	27	6.75
<i>Education</i>		
Below high school	32	8.00
High school	52	13.00
Associate	192	48.00
Bachelor	96	24.00
Master	22	5.50
Doctorate	6	1.50
<i>Location of firm</i>		
Riyadh	176	44.00
Eastern	132	33.00
Mecca	92	23.00
<i>Number of employees</i>		
25 and below	156	39.00
26-50	102	25.50
51-100	46	11.50
101-150	29	7.25
151-250	67	16.75
<i>Tenure in business (years)</i>		
5 and below	100	25.00
6-10	91	22.75
11-15	64	16.00
16-20	55	13.75
Above 20	90	22.50

Correlation Analysis

Pearson Product moment Correlation Coefficients were computed between the extent of e-commerce adoption and each of the independent variables. As can be seen in Table 4 below, when considering the independent variables individually, all variables show significant relations with e-commerce ie size of firm ($r = 0.19$, $p < .001$), attitude ($r = 0.17$, $p < .001$) and innovativeness ($r = 0.11$, $p < .001$). Each of these variables was positively related to the extent of e-commerce adoption such that increases in those variables were related to a greater extent of e-commerce adoption.

Table 4: Correlations between e-commerce and the independent variables

	E-commerce
Size of firm	0.19**
Attitude	0.17**
Innovativeness	0.11*

* $p < .05$ ** $p < .001$

Multiple Regression Analysis

The result for the multiple regression analysis is presented in Table 5 below. When all three independent variables were considered simultaneously in the regression model, the two variables that had the strongest positive significant correlations with e-commerce remained significant, where attitude ($B = .27$, $p < .001$) and size of firm ($B = .16$, $p < .001$). Innovativeness which had a significant positive correlation with the e-commerce was no longer a significant predictor.

Table 5: Multiple regression analysis

Predictors	Beta	SE B	Et	T	Sig.
Firm size	0.10	0.03	.16	3.51	.000**
Attitude	0.44	0.10	.27	4.53	.000**
Innovativeness	0.07	0.05	.07	1.40	.162

** $p < .001$

The results of the regression analysis provided support that there is a significant relationship between the firm size and the extent of e-commerce adoption. Firm size was also one of the most determinant factors of e-commerce adoption among SMEs in Saudi Arabia. In addition, it had the strongest positive significant relationship with e-commerce adoption. This shows that size can influence the extent to which technology will be adopted by the firm. The larger the firms, the higher will be the adoption levels of technology, while the smaller firms may incline to adopt technology at the lower level (Cragg & Mills, 2009). The findings of this study are also in line with those of Teng (2000), Dandridge and Levenberg (2000), Karakaya and Khalil (2004), Al Qirim (2005) and Chang-Shuo (2006).

The results also support the hypothesis that there is significant relationship between owner/manager's attitude and the extent of e-commerce adoption. According to Lubbe and Heerden (2003), the attitude influences a firm's ability and readiness to adopt e-commerce. Moreover, if the attitude of the owner is positive, that he or she is well aware of the intricacies of the computers and has some knowledge of technology and how to reap its benefits, then the business is likely to adopt e-commerce. The findings corroborate previous studies such as Seyal and Rahman (2003), Levy and Powell (2003), Chang-Shuo (2006), and Nasco, Toledo and Mykytyn (2008). They all found that the management's attitude and support had positive relationship with e-commerce adoption.

The third hypothesis of this study was not supported. The result reveals that there is no significant relationship between owner's innovativeness and the extent of e-commerce adoption. Interpretation of this finding could lead to two possibilities regarding the owner's innovativeness among SMEs in Saudi Arabia. On one hand, it could be used alone to determine its impact on the adoption of e-commerce, and on the other hand it could be used in the same context with other factors taking into account the desire of the owners to accept new thing that will improve their budget against unexpected risks in the future. However, the result of this study is not in line with previous studies such as those of Thong (1999), Thong and Yap (1995) and Al Qirim (2005). But it supports the study by Chang-Shuo (2006) who found that innovativeness was not statistically significant to the extent of e-commerce adoption among SMEs.

Conclusion

The results of this study shed several interesting insights about e-commerce adoption by SMEs in Saudi Arabia. First, the size has an influence on the firm to adopt e-commerce. The larger the firm size, the more willing of the firm to adopt e-commerce. Moreover, larger firms have more ability to adopt e-commerce by hiring employees with specialized skills. SMEs, on the other hand, do not have enough resources and are

less likely to make large investment to take advantage of the competitive significance of the e-commerce adoption. Nevertheless, personal computer has made computing accessible to businesses of all sizes. Technical advances have made computers more powerful and less expensive giving many SMEs the potential to use software to make the business more competitive. Second, the owner/managers' attitudes play crucial role in promoting the e-commerce adopting. Owner/managers who have positive attitudes toward e-commerce are more likely to support and adopt the technology for the firms. Therefore, owner/managers would be well-served by becoming informed and educated about the benefits of e-commerce for business transactions. Nurturing a positive attitude among them will help with effective adoption of e-commerce within the SMEs. Finally, the innovativeness of the owner/managers is not significantly related to the e-commerce adoption, and thus does not play a significant role in the acceleration of the adoption and usage of e-commerce within the SMEs in Saudi Arabia.

This study may not only expand the current body of knowledge on the e-commerce, but also provide useful findings to SME owner/managers and policy makers in Saudi Arabia to further understand the e-commerce adoption. This will help them to develop better strategies regarding e-commerce in SMEs to gain potential benefits and competitive advantages.

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Flexibility in Knowledge-Intensive Sectors

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Abstract

The ‘flexible firm’ refers to a process of continuous change which requires high trust and high skill workplaces. It is primarily the rapid rate of innovation and change in products and technologies that asks for the capacity of the workforce to create knowledge. Thus, highly-educated and well-trained people represent a key resource. In addition consumers have become more demanding than ever before, enhancing competition in the market place which in turn forces firms to organize production in such a way as to remain innovative and flexible. Simultaneously, the relationship of knowledge workers and employers in the knowledge economy has become a key area of interest for organizations, policy makers and, primarily, academics.

The paper deals with the results of the research whose objective was to identify the rate of utilization of flexible work arrangements in knowledge-intensive businesses in Slovakia today and in the near future.

Introduction

EC Green Paper *Partnership for a New Organisation of Work* (1997) is perceived to be the formal grounds for the shift from traditional work organizations to ‘the flexible firm’ as the European Commission wanted organizations to embrace the trajectory towards becoming such ones. Atkinson is believed to have coined the term ‘flexible firm’ in which organizations combine a mix of numerical flexibility, functional flexibility, contracting out and flexible remuneration as an answer to changing market circumstances, resulting in a core staff of employees who are functionally flexible, and several periphery groups of non-permanent employees, self-employed persons and subcontractors.

The definition of European Commission differs from this one. The ‘flexible firm’ refers to a process of continuous change which requires high trust and high-skill workplaces. Three factors represent this change: First, the rate of innovation and change in products and technologies is so rapid that the competitive advantage of companies and countries lies in the capacity of the workforce to create knowledge. Therefore (highly-educated and well-trained) people represent a key resource. Second, consumers are more demanding than ever before, enhancing competition in the market place which in turn forces firms to organize production in such a way as to remain innovative and flexible. The third factor is ICT. One of the main effects of the new ICTs has been a dramatic reduction in the cost and time for storing, processing and transmitting information with fundamental consequences for organizing the production and distribution of goods and services and for work itself.

In the context of knowledge-based economies, employers claim that flexible work options to keep knowledge workers, i.e. key employees, are vital for the success of the organizations. Soon it became clear that pay and benefits will get people to show up for work, but they will not generate attitudinal commitment so that a valuable employee would not only become a high performer, but also will stay with the company. It is often argued by successful employers that a professional worker desires family-friendly programs, flexible work arrangements, and particularly, career development opportunities. They remain with the organization as long as the work environment allows them to continually learn, to grow intellectually and to work on interesting projects and last but not least to balance their professional and private life. In this context, the question is “how” to institute a flexible work, not “if”.

The above mentioned European Green Paper stresses the need for policies which support fundamental organizational renewal and enhance a productive balance between the interests of business and the interests of workers. This brings two main trends the organization can implement – a more human oriented one versus a path to more efficiency. Knowledge-based economy inevitably turns towards human factor orientation model, i.e. the orientation is on workers and their knowledge as a key resource. It is accompanied with high level of decentralization. Decentralized organizations are flexible themselves. Human factor in this model is seen as human capital which is indispensable factor of production instead of a debit item. Human factor orientation is closely linked with the ability to innovate and be creative, attention to quality of work and life, functional flexibility, and stressing the company’s knowledge as a key competitive factor (Hamel and Prahalad, 1994; Nonaka and Takeuchi, 1995).

FIG.1: DECENTRALIZATION – HUMAN FACTOR ORIENTATION MODEL (adopted from Oeij and Wiezer, 2002)

		Human factor orientation	
		<i>Low</i>	<i>High</i>
Decentralization orientation	<i>Low</i>	Rigid efficiency	Social rigidity
	<i>High</i>	Flexible efficiency	Humanized Flexibility

This shifts the focus to work organization. In its nature, work organization is a static concept, it is managerial behavior that makes it dynamic. Drivers for managerial choice are as follows (adopted from Oeij and Wiezer, 2002):

Extra-organizational (environmental):

1. Market circumstances
2. Use of and access to technology
3. Financial situation (investment, financing)
4. Legislation
5. Political stability (includes national culture)
6. Labor market situation
7. Industrial relations
8. Governmental policy making

Intra-organizational (endogenous):

1. Employees interests (job satisfaction)
2. Organizational culture, relations and communication
3. Organizational policy (financial, technologic, HRM)
4. Management’s view and competence on business, technology and social aspects

As mentioned above, management has the autonomy in making choices about these drivers which will have consequences for the structure of work organization, working conditions and, indirectly, have an impact on quality of work. Quality of work is regarded as a characteristic of individuals, more specific, as an evaluation from employees of their working conditions in the pursuit of the following four objectives (based on Quality of Work and Employment Indicators, 2001): job security (effects of status, income, social protection, worker’s rights); health and well-being (effects of occupational accidents and diseases, exposure to risks); competence development (effects of opportunities for training skills, career development); combining working and non-working life (effects on time,

equal opportunities, discrimination, social structures). It brings about subjective evaluation of the effects of work organization, the working conditions and managerial behavior at job level by workers themselves.

It is approved that working patterns have changed in many countries during the last decades. Most researches have been carried out to identify changes in male and female tenure as well as their preference for one or another work arrangements be them part-time jobs, temporary jobs or short-hour jobs. However, the influence of socio-cultural changes goes much further. The need for knowledge embodied in knowledge workers as a condition for establishing the organization's competitive advantage becomes the imperative for introducing specific working environment to retain such key employees and satisfy their needs. The change towards "high performance work practices" is evident and is introduced within the principles of "high trust", "high skill" and extensive employee involvement in decision-making. Through better communication and consultation the creativity of employees in the organization is harnessed. There is a greater focus on development of individuals. In practice this means staff's involvement in the empowerment to make decisions, rewards for creativity and help in developing and realizing their potential. Organizations tend to encourage their employees to play more roles than usual which means to move towards multi-oriented attitudes. To be multi-effective means to enhance one's knowledge and experience through the variety of work and permanent development that includes motivation to learn, motivation to be functionally flexible (multi-effective), motivation to operate under flexible working times (numerically flexible), the motivation to be mobile (geographically mobile and mobile on the labor market) and to be well-disposed towards (organizational) change.

Flexible Work Arrangements in Knowledge Intensive Business Services (KIBS)

There is no one single definition of flexibility, but we take for flexibility "a share of atypical workers as opposed to full time workers with permanent contracts and traditional work arrangement". As for types of flexible work arrangements, de Nanteuil's typology (De Naunteuil, G., 2000) based on combinations of variables is quoted most (FIG.2). It is obvious that knowledge workers will tend towards qualitative flexibility, be it internal or external.

FIG.2: FLEXIBILITY: THE FOUR DIMENSIONS (adopted from Goudswaard, and De Naunteuil, 2000)

	Quantitative flexibility	Qualitative flexibility
EXTERNAL FLEXIBILITY	Employment status (fixed term, temporary agency work, work on call...) <i>Numerical flexibility</i>	Production systems (subcontracting, use of self-employed workers...) <i>Productive/geographical flexibility</i>
INTERNAL FLEXIBILITY	Working time (overtime, weekend work, varying work hours...) Wage (stock options, performance-related pay) <i>Temporal/financial flexibility</i>	Work organizational (job rotation, multitasking, responsibility of workers over planning, budget...) <i>Functional/organizational flexibility</i>

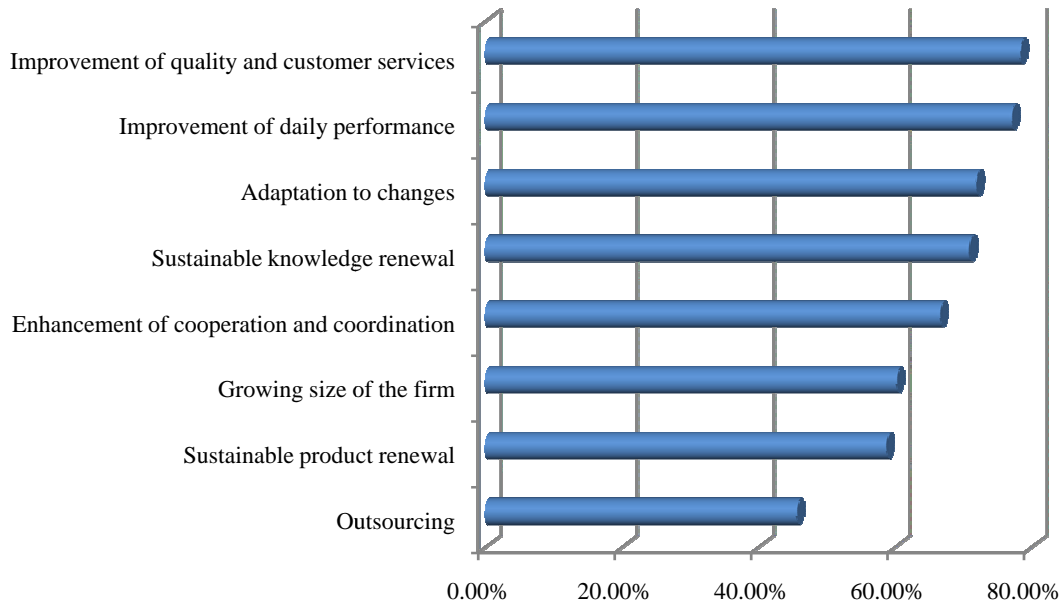
Research and Methodology

The objective of the research was to identify the rate of utilization of flexible work arrangements in knowledge intensive businesses in Slovakia today and in the near future. The sample consisted of 91 organizations in the selected sectors of the knowledge-intensive business services within the following NACE categories (some of them combined): IT Services (J62 and J63); Financial and Legal Services, Accounting (K64.9, K66.1 and M69); Consultancy in Management (M70); Architectural and Engineering Activities – Technical testing and Analyses (M71); Advertising and Market Research (M73); Employment Activities ((N78); Education Services (P85.5).

The data were collected within structured interviews with the relevant organizations' managers and processed in Microsoft Excel application. The methods of descriptive statistics were used to gain the results. The surveyed flexible forms of work arrangements included: teleworking from home once a week, telework, mobile

work, part-time work and flexi-time. FIG.3 introduces the reasons for KIBS to implement flexible work arrangements.

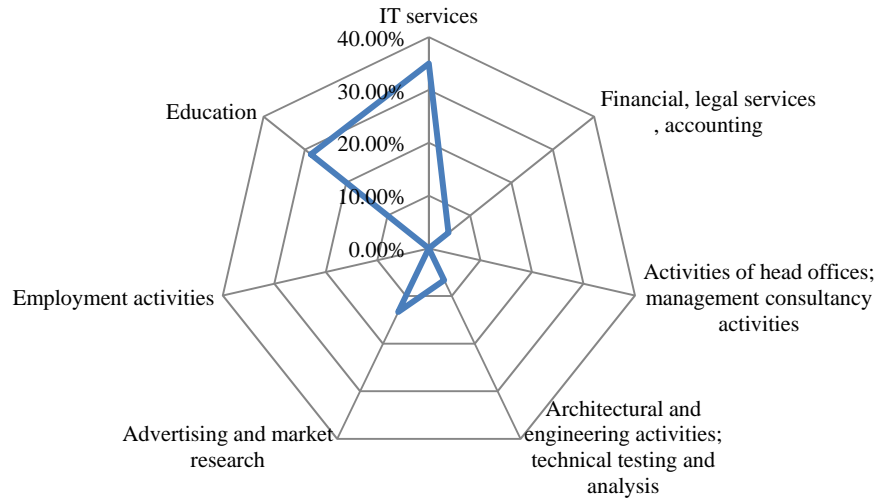
FIG.3: REASONS FOR ORGANIZATIONAL CHANGE IMPLEMENTATION



Teleworking from Home Once a Week

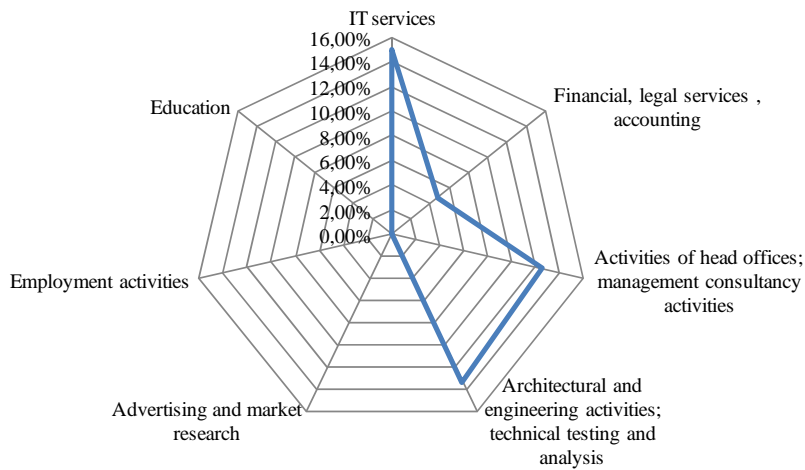
FIG.4 depicts teleworking from home once a week (in contrast with regular telework) and shows that this type of flexible work arrangement is mostly utilized in IT and Education Services. On the contrary, such an arrangement is not used in Employment Services at all. This type of flexible work arrangement is not planned to be used more intensively in Advertising Services and Education, however its utilization will increase in IT Services even more.

FIG.4: TELEWORKING FROM HOME ONCE A WEEK



Even though this form of flexible work is not introduced in Employment Services, however, it is planned to be utilized by a number of organizations (see FIG.5) in the near future. At present, this form of flexible work arrangement is used least.

FIG.5: TELEWORKING FROM HOME ONCE A WEEK TO BE INTRODUCED IN THE NEAR FUTURE

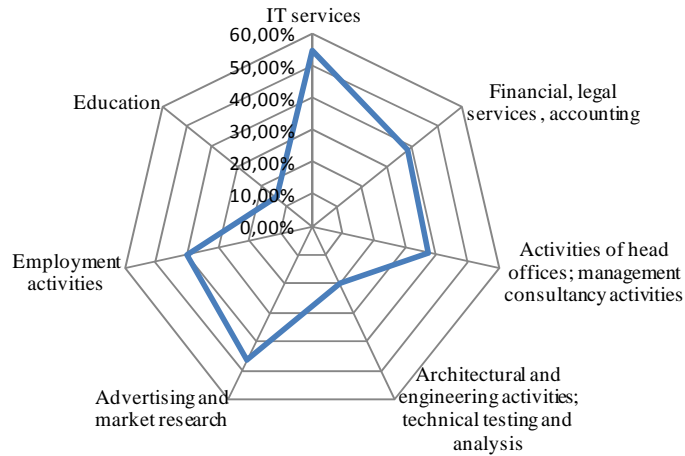


Telework

Here we differentiate between teleworking from home once a week and teleworking from home several times a week. The findings show that telework is used more frequently than teleworking from home once a week

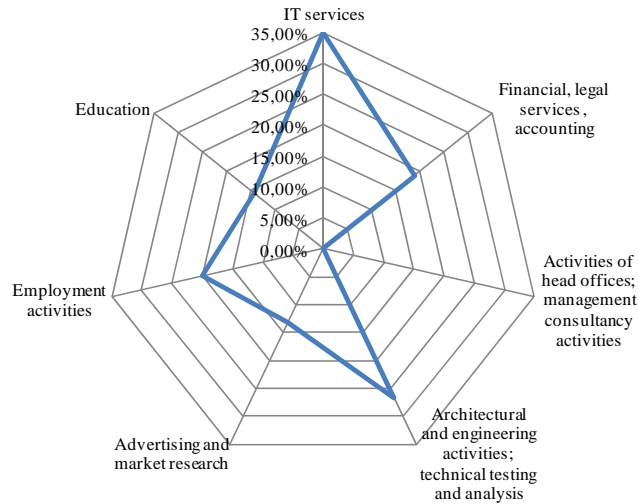
and it is taken for a standard form of flexible work arrangement. Traditionally, it is mostly utilized in IT sector, followed by Advertising and Market Research, least in Education and Architectural and Engineering Services (FIG.6).

FIG.6: TELEWORK



This is to be changed soon. The most evident planned increase in telework will be in IT Services and Architectural and Engineering Services (over a quarter of the organizations claim that they will introduce telework soon). As comes from FIG.7, the surveyed organizations in Management Services do not plan to implement telework at all.

FIG.7: TELEWORK TO BE INTRODUCED IN THE NEAR FUTURE



Mobile Work

This form of flexible work arrangement again requires specific technologies to allow for its implementation. This is why it is mostly utilized in IT Services, followed by other sectors with Education Services accounting for its least usage. It must be stressed, however, that this form is used to a level in all surveyed sectors (see FIG.8). This is

actually the form of work that moves the services closer to the client and thus its growth is planned in all surveyed businesses. In most of them it accounts for 50% increase; the minimum growth is planned in Management Services (see FIG.9).

FIG.8: MOBILE WORK

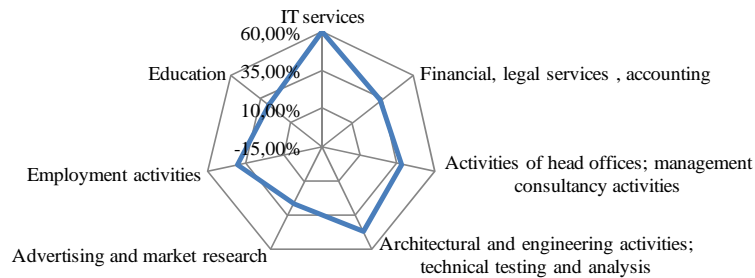
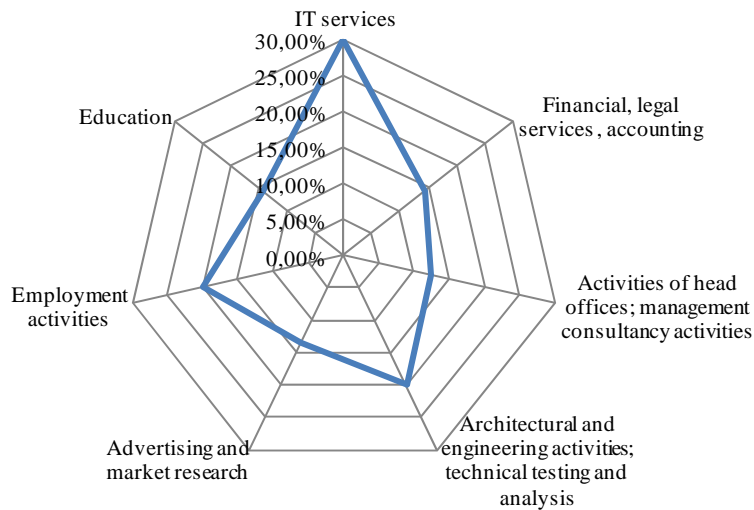


FIG.9: MOBILE WORK TO BE INTRODUCED IN THE NEAR FUTURE



Part-time Work

Part-time work is widely used in Education Services (85.71% of the relevant organizations claim use of this work arrangement). The second position is occupied by Advertising and Market Research Services. On the other hand, it is least used in Architectural and Engineering Services and Management Services (see FIG.10). Similarly to mobile

work, part-time work accounts for the highest level of increase in the future and its wider implementation is planned in all the surveyed sectors (see FIG.11).

FIG.10: PART-TIME WORK

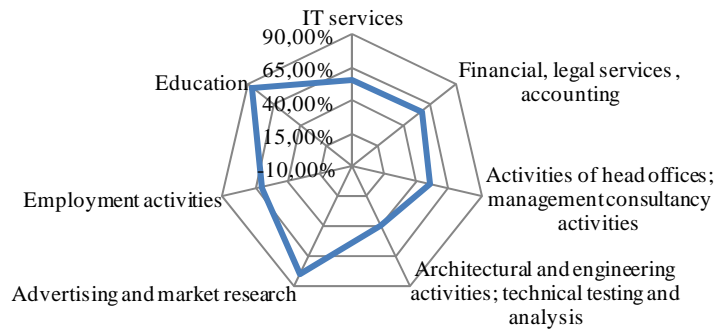
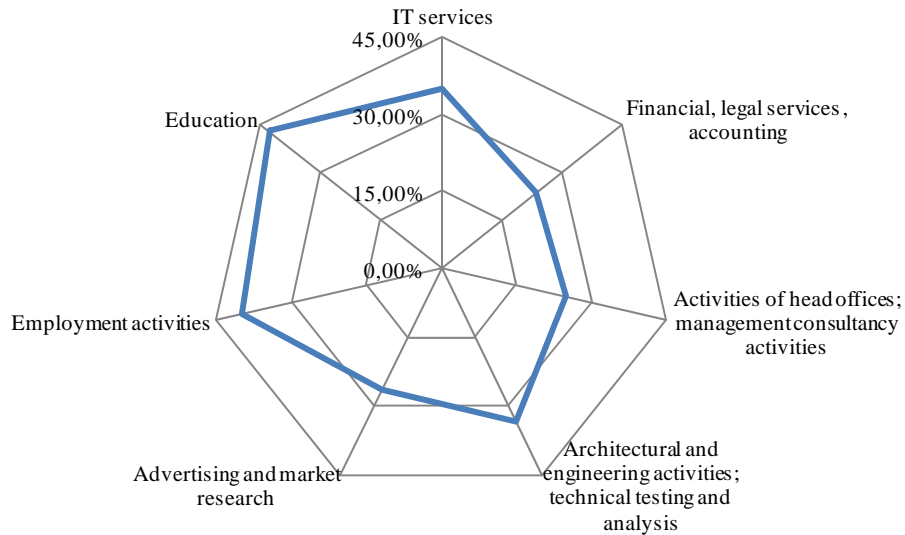


FIG.11: PART-TIME WORK TO BE INTRODUCED IN THE NEAR FUTURE



Flexi-time

Flexi-time is traditionally utilized in Slovak organizations and it represents the mostly used flexible work arrangement. As comes from FIG.12, it is widely used in all the surveyed sectors, mostly in IT Services, least in Education. FIG.13 shows that its use in future will be growing as well.

FIG.12: FLEXIBLE WORKING TIME

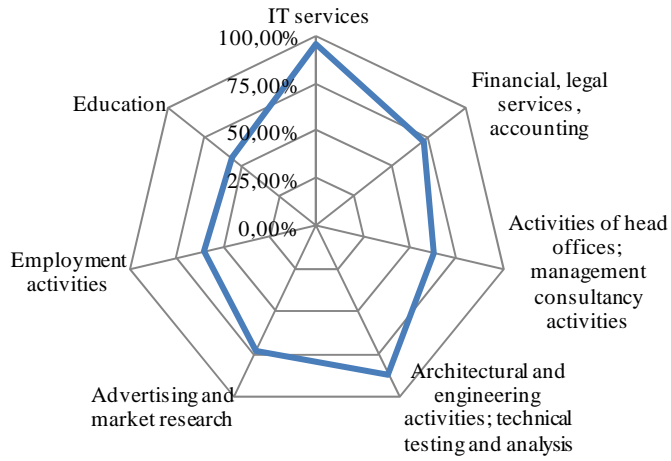
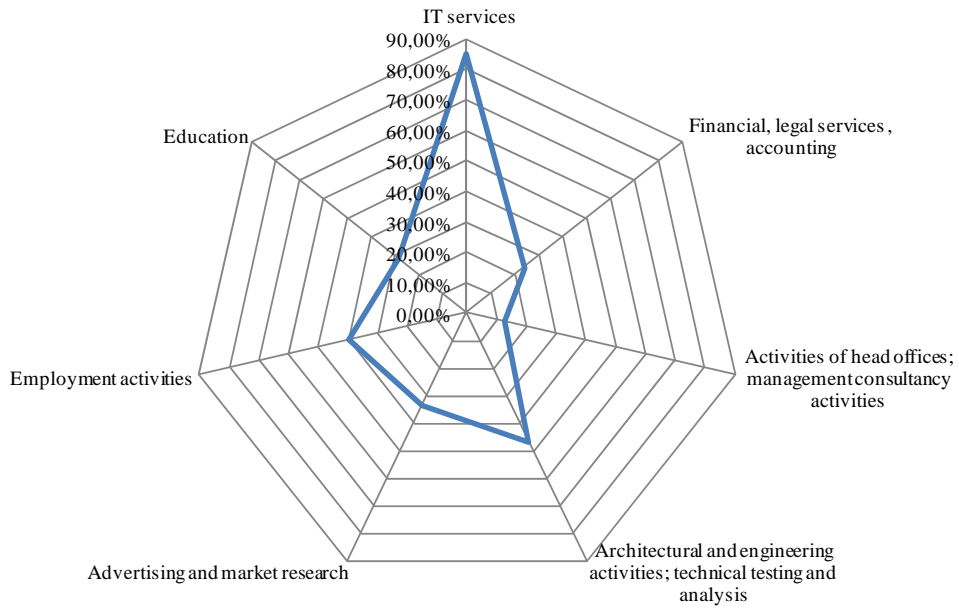


FIG.13: FLEXIBLE WORKING TIME TO BE INTRODUCED IN THE NEAR FUTURE



Conclusion

As for the flexible work arrangements, the firms in the intensive knowledge business services mostly use flexible working time (72.29%) as an effect of the strong customer-orientation of the firms in question (see FIG.14).

The other flexible work arrangements can be ordered as follows: part-time work (61.126%), mobile work (38.96%), telework (35.93%), teleworking from home once a week (12.62%).

The survey of the planned flexible work arrangements covered introduction of new ones or increasing their use. The planned organizational innovations can be summarized as follows: flexible working time (38.55%), part-time work (32.38%), telework (18,53%), mobile work (17.77%), teleworking from home once a week (6.51%) (see FIG.15).

The data suggest that the ratio between telework and mobile work will change in the future. Currently the higher use of mobile work will be substituted by telework.

The KIBS in Slovakia utilize flexible work arrangements above the national average.

FIG.14: SUMMARY OF FLEXIBLE WORK ARRANGEMENTS UTILIZED IN SLOVAK KIBS

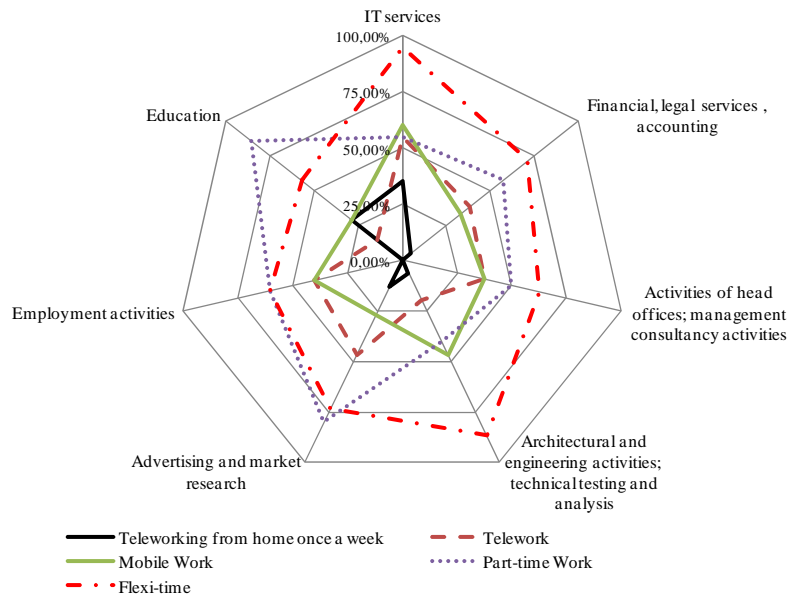
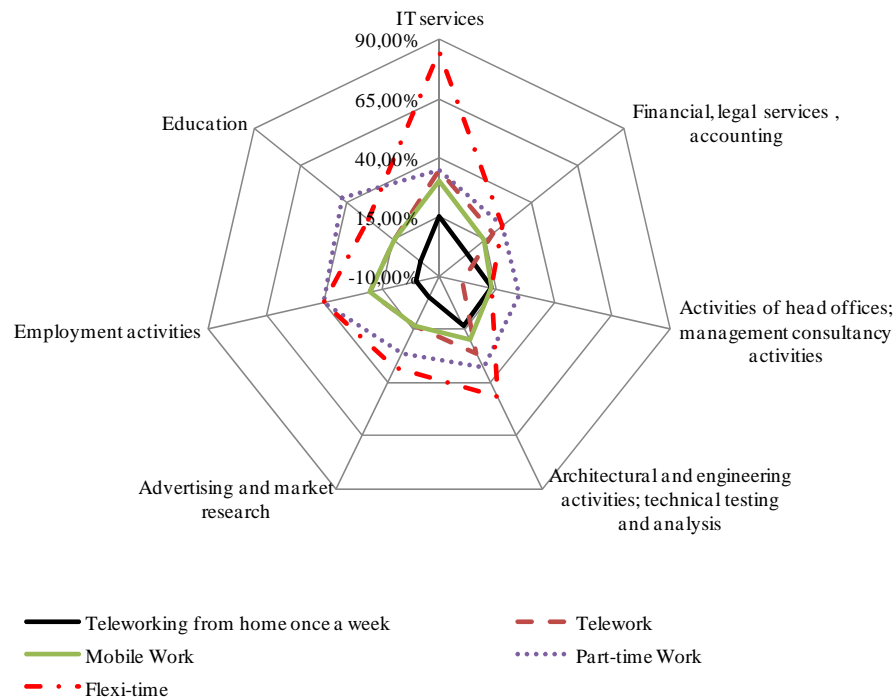


FIG.15: SUMMARY OF FLEXIBLE WORK ARRANGEMENTS TO BE IMPLEMENTED IN SLOVAK KBIS IN THE NEAR FUTURE



All the identified changes show serious interest of the surveyed organizations in cutting costs, moving services closer to clients and taking their comfort into account (mobile work and flexi-time) on the one hand, but also the respect for the preferences of knowledge workers in order to attract and retain them. In this respect, Slovak KIBS follow the overall trend in implementation of flexible work arrangements.

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Holistic Systemic Failure Prevention in the Software Development Process

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Abstract

This work aims to propose a qualitative model for the new software failure prevention. Software failure prevention methods and models have made substantial progress in recent years. But this still falls short of the needs of today and the future. One contribution is a qualitative model that takes into account key determinants and their interlinked effects. The model is based on System Dynamics and the elements involved in the software development process, e.g. the human being, management, members of staff, work psychology, quality, methods, organizations, customer, culture etc. Current research status comprises 15 identified important key determinants, their respective strength, interrelationships and dynamics. The model is operationalized with a software tool capable of modelling all the key determinants defined, their effect directions and other data of the comprehensive matrix they make up. With the research results made, the new failure prevention model shows promise. The research is due to continue further in order to contribute to improved failure prevention in the software development process.

Keywords: Holistic Systemic, software, failure prevention, System Dynamics, qualitative model, the human being, process, methods, technology, organization.

Introduction

Over the past years, software complexity has been rising steadily, with more complex processes in all areas of life progressively automated through software. Spectacular software failures over the last years have put man and nature at risk, causing extensive cost and frustrating customers. Consequently, software failure prevention in the software development process is growing in importance. Today's failure prevention techniques have made substantial progress over the last years in a contribution to better failure prevention. This paper aims via comprehensive systemic approach that takes account of key determinants and their interlinked effects to further improvements to software failure prevention. The model is not meant to replace current failure prevention procedures but rather to consequently expand and complement the procedures.

The key focus in the research effort is on the first two phases (Requirement Analysis and Specification) of the software development process. Based on the results of the research of available sources and in author's own experience, 50 to 70 % of all failures come about in these two first development phases, with most of them only found in later phases.

Desk Research and Theoretical Background

Software Development Process

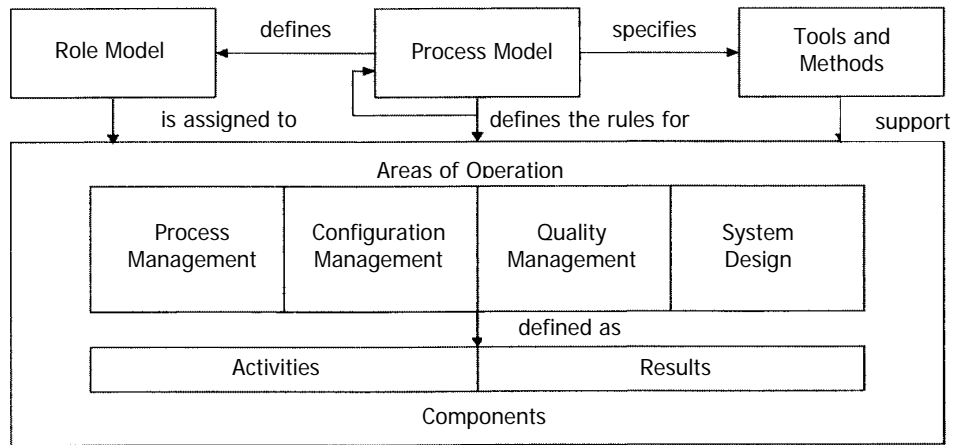
Methods

Different methods have found their use in the software development process. Consequently, the process may be implemented with various tools and methods. The methods and CASE (= Computer Aided Software Engineering) tools employed are major determinants of productivity and failure prevention efficiency (Balzert 1998, p. 15).

Process-/Procedure Models

For the development of software, process and procedure models are currently applied. A process model structures the software development process into activities and results (see Fig. 1). The model defines the rules governing the scope of the activities, their course and output. The activities and results fall under different types of operations such as project management. Process models further also define the relevant roles, tools and methods.

FIG. 1: PROCESS MODEL
(Source: Bunse 2008, p. 4)



Software Failures

Software failures mainly are a result of human error in the development process. As the development process entails several phases, the failures may result e.g. from: Misconceptions in initial requirements; Design inadequacies; Programming errors. Failures not detected in the respective stages of development phases may add up and multiply in the follow-up development phases by causing further failures. Hence a failure summation effect applies (Wallmüller 2001, p. 15).

Software Failure Prevention

Failure prevention is a key activity in the software development process. Late failure detection adds up massively to costs. According to the various analyses and author's own experience, failure elimination costs as a variable multiply by a factor of about five to ten for each phase in the sequence. Consequently, failure prevention should be pursued as the primary aim. The following **analytical, constructive, organizational** and **psychological** failure prevention actions and **Software Process Improvement Models** are important Inputs for the present Holistic Systemic Failure Prevention Model. They are a part of a number of different sources of applicable determinants.

Outline of the four classes of actions:

1. Analytical Quality Actions

Analytical quality actions are implemented e.g. in order to verify current quality levels. The examinations do not establish absolute certainty as regards conformity/non-conformity of a product.

2. Constructive Quality Actions

Constructive quality actions mainly aim at the failure prevention.

3. Organizational Quality Actions

Organizational quality actions include the design, implementation and maintenance of e.g. a corporate Quality Management System, Project Management System, and others.

4. Psychological Prevention Actions/People Actions

Software development should not be considered only as a purely technical procedure. A software development is carried out by the human input (the development team), communication processes, leadership, quality culture and other variables that this entails are key to the quality output.

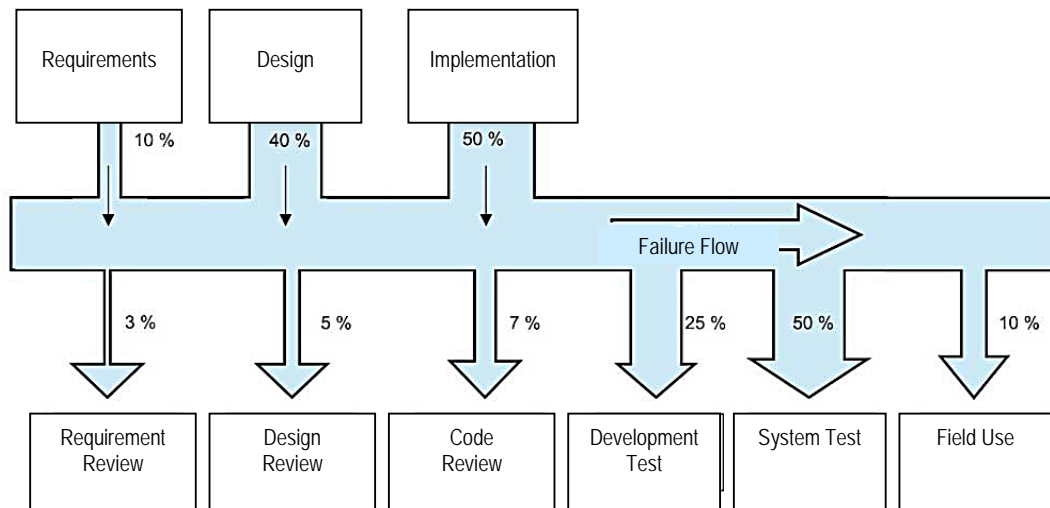
Software Process Improvement Models for Failure Prevention

Process improvements may be implemented in a number of different ways such as with the help of the classical PDCA (Plan, Do, Check, Act) cycle or by way of capability maturity models. An advantage to using capability maturity models is that they systematically impose successful practices on different models. Examples of capability maturity models include CMMI or SPICE (Hörmann, 2006, p. 5).

Costs and Benefits of Practical Software Failure Prevention

Fig. 2 shows that most failures are produced in the first two phases of Requirements and Design but are only recognized in later phases. For instance in the Requirements phase, 10% failures are produced but only 3 % detected by the Requirement Review. Such circumstances always have a negative effect on costs.

FIG. 2: PHASES OF OCCURENCE AND ELIMINATION OF SOFTWARE FAILURES
(Source: Masing 2007, p. 835)



Summary of Desk Research and Theoretical Background

Software Development Process

In software development processes, a progress has been made in recent years. This has been facilitated e.g. through the use of process models, optimization in processes, new and improved methods, professional project and risk management, new and improved tools and other systematic means. Further improvements are needed e.g. in requirement analysis.

Failure Prevention in the Software Development Process

Failure prevention has also experienced improvements in recent years credit to optimization in software development processes. The newly implemented processes in failure prevention such as design-related quality actions, quality methods and particularly the use of capability maturity models all add up to the difference. Nevertheless, the number of failures still remains high. Further research is needed in the software development and failure prevention.

This paper aims at helping to optimize failure prevention specifically in the phases of the Requirement Analysis and Design by means of a comprehensive and interlinked perspective that includes the human factor.

Method

The research is performed using a theoretical and an empirical concept respectively.

Concept Design

Based on the insights gained with scientific methods in the research of available sources, a concept design is compiled for holistic systemic failure prevention. Related themes and topics such as organization, leadership and quality culture are also included in the examination. The holistic systemic concept is very closely related to the complex network systems.

The assumptions drawn on and based on the research of available sources and authors' personal experience will be complemented by an empirical survey. The persons interviewed include managerial functions and experts in the areas of Software development and Software Quality Management. The expert interviews are not a part of this paper, as they will be done in a later research phase.

Finding the Method/Model for Solving Problems in Complex Network Systems
Method / Model

For the present model of "Holistic Systemic Failure Prevention", a method/model is required to deal with the complex network systems. The methods for dealing with complexity are subjected to 26 criteria according to Grossmann (Grossmann 1992, p. 44). Some of the criteria are: providing for a large number of components; reflecting mutual relationships between the components; providing for changing cause and effect chains. Further needed is the emphasis on facts, clarity, dynamics, creativity, inclusion of social aspects and human interactions, openness and promotion of integration.

In order to be able to effectively deal with complexity and hence to facilitate holistic systemic failure prevention, a model has to include both the factual and behaviour-related dimensions. In Grossmann (1992, p. 188), nine concepts are investigated. A conclusion based on comprehensive analysis of the nine concepts has left two remaining: Thinking in Networks and the Sensitivity Model (SM). The final decision was – after a consideration of various aspects – for "Thinking in Networks".

For operationalizing the "Sensitivity Model" and "Thinking in Networks" methods/models, software tools have been developed by universities and industry. For purposes herein, the "Consideo Modeler" modelling tool by Consideo GmbH in Lübeck, Germany, has been chosen that is based on the "Thinking in Networks" model.

Systemic Thinking / Cross-linked Thinking

Systemic thinking amounts to identifying mutual interdependencies and the rules behind causal interactions (Hamilton 2007, p. 110). Fig. 3 shows an example systemic software development process. Hints and ideas for solving the problem of "comprehensive interlinked failure prevention in the software development process" have been supplied among others by the following authors who spearheaded research into systemic thinking:

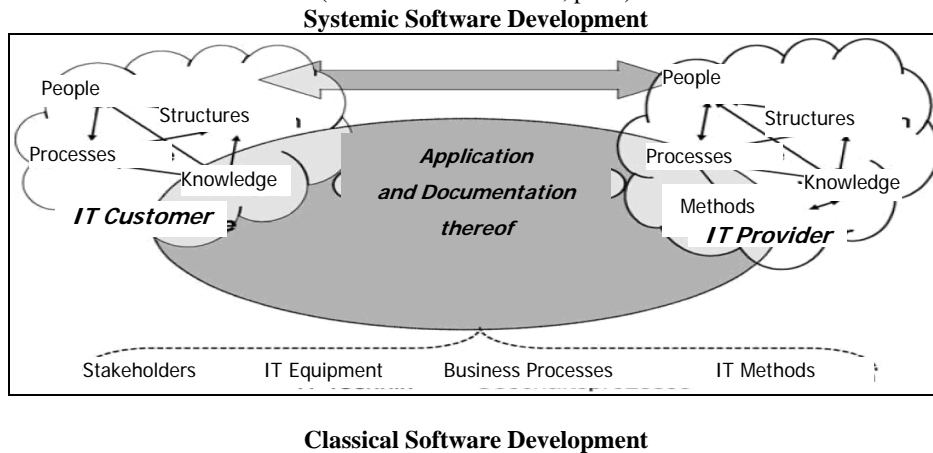
(Dörner, 2008); (Gomez/Probst, 1987); (Gomez/Probst, 1997); (Senge, 1996); (Vester, 2007)

Systemic thinking relies on six steps:

- (1) *Defining objectives and modelling the problem situation*
- (2) *Analyzing causal chains*
- (3) *Exploring and interpreting possible trends in the future based on the current status*
- (4) *Exploring control options*
- (5) *Planning strategies and actions*
- (6) *Implementing the problem solution*

FIG. 3: SYSTEMIC SOFTWARE DEVELOPMENT

(Source: Hamilton 2008, p. 91)



The Model Concept
Model Structure

Applicable determinants are identified based on the insights of a number of disciplines. The key focus areas are:

- Processes, activities, methods and models from software development and quality management
- The human factor
- Other disciplines dealing with failure prevention such as medicine, aviation, work psychology etc.

The model amounts to a generic model that in its practical application splits further into sublevels. In this paper, one such "sublevel" is presented. The determinants at work, their interlinked effects, effect directions and effect intensities are modelled with the "Consideo Modeler" tool.

Objective

- The model is meant to represent in a true-to-reality manner the complex applicable interdependencies and causal chains
- The use of insights from other sources and disciplines such as medicine, psychology and culture shall provide new incentives to further improve software failure prevention.

System Theory-based Assessment

In order to develop a network matrix model for analyzing the problem and finding solutions, insight is needed into causal relationships between the variables involved (Gomez/Probst 1997, p. 72).

Interdependencies are quantifiable through three aspects.

1. In their effect: - Is there a promotive or inhibitive/stabilizing effect?
2. According to intensity: - Is it weak, moderate or strong?
3. According to temporal presence: - Is the causal effect short, medium or long in duration?

Identifying the Determinants

For identifying relevant determinants, the following "sources" are used: techniques, models and activities used in software development and in quality processes, case study, human factor-related aspects and insights from other disciplines. For further details, refer to "Software Failure Prevention" herein and relevant sources, such as Masing (2007), Balzert (1998), Gerlich (2005), Hoffmann (2008).

Examination of Applicable Determinants Based on:

- **Case Study**

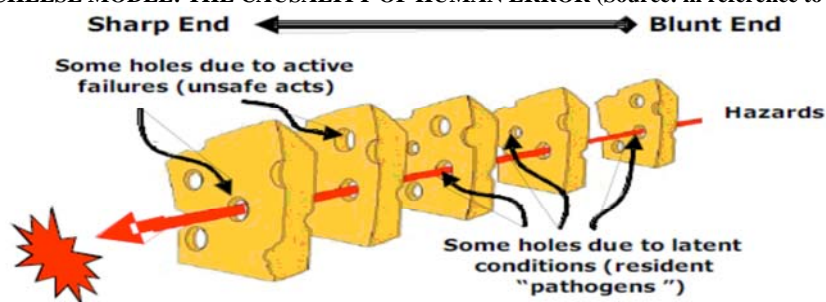
In order to determine applicable determinants for purposes of comprehensive failure prevention based on real customer projects, the authors and their team carried out an RCA in the firm with a follow-up evaluation of the results. The results of the case study largely confirm the desk research findings and provide additional new insights of use in the future failure prevention.

- A higher number of reviews of specifications and design documents greatly improve failure prevention and hence also help to reduce failure costs.
- With software developers, testers and quality experts working closely together, a team spirit is promoted and a boost to quality culture is achieved that benefits failure prevention.

- **Determinants that Relate to the Human Factor**

At present, software still is prevalently compiled by humans. This means the key failure source for software errors is the human factor. Generally at the individual human level, the cause and effect logic does not always apply. The human performance potential is shaped by a comprehensive variety of factors. Fig. 4 provides a visual analogy to the causal origin of human failures in the form of the Swiss Cheese Model based on J. T. Reason (1990/2008).

FIG. 4: SWISS CHEESE MODEL: THE CAUSALITY OF HUMAN ERROR (Source: in reference to J.T. Reason



)

J. T. Reason essentially differentiates between **latent and active** failures. **Latent** failures relate causally e.g. to the organization where some activities are not defined in operating instructions for the respective task/workplace. **Active** failures refer to human error while performing the actual task.

- **Determinants from other Disciplines**

The following variables have been derived from other disciplines such as work psychology, organization theory and culture: workload and stress at work, emergent software failures, corporate culture and quality culture.

Comments on Target Variable and Determinants

- **Target Variable**

The target variable is identifiable with the factor of "**successful failure prevention**" in the centre of Fig. 5.

- **Determinants**

The following determinants affect the target variable directly or indirectly.

- **Clearly defined customer requirements**

The core element in failure prevention is a precise definition of requirements.

- **Employee workload and stress**

The above and further determinants that relate to this area have a negative effect in failure prevention by causing e.g. lower employee concentration.

- **Attained level of process maturity**

Capability maturity models such as SPICE and CMMI amount to dedicated tools for process improvement purposes, hence also determinants in failure prevention. Process maturity levels are measured in grades where for instance in CMMI, the top grade is Level 5.

- **Emergent software failures**

Emergence refers in philosophy and psychology to a phenomenon where specific properties or behaviour of a whole cannot be derived from the sum of behaviour of its individual parts (Hamilton 2007, p. 119). Applied to software, emergent failures may come about through instable hardware.

- **Staff expertise and empirical experience**

Professional expertise and empirical experience of individuals are essential to the failure prevention.

- **Application software complexity**

Complexity of target application software also is a key determinant as it may drive complex and to some part, in conjunction with instable hardware, even emergent failures.

- **Leadership qualities in management**

Leadership is defined in expert sources in a number of different ways, some of which are: Being a role model (Seghezzi 2007, p. 79) and actively dealing with topics (in reference to Strunz 2001, p. 168); Directing staff towards a vision so that they respond in a motivated manner; Making staff understand the context by means of suitable communication (employee orientation).

- **A learning organization**

Continuous learning in organization is a factor of essential importance in complex systems. Available sources such as Senge (2008) provide comprehensive examinations of the topic.

- **Motivated employees**

Motivation is interpreted as the cause for a specific human behaviour (Strunz 2001, p. 49). As a result, the employee becomes directed towards a specific objective. Applied to the effort herein, the objective is "to avoid software failures". Available sources deal comprehensively with the topic which is why it shall not be discussed in more detail herein.

- ***Open and fair communication & feedback***
Within the comprehensive variety of communication, open communication that includes feedback promotes fairness, the will to listen and the readiness to report failures including software failures without fear. Open communication also promotes motivation.
- ***Requirement analysis quality***
The quality of the requirement analysis and understanding customer needs and expectations is a difficult and complex task as the process frequently involves two individuals or cultures that think in different patterns. The customer defines and/or proclaims their expectations in a particular 'language' which differs from that of the supplier and/or software developer. A 'language' signifies in this context also a different culture.
- ***Quality culture***
For successful failure prevention, the quality culture practiced by the firm is key to the quality culture that grows out of corporate culture is an integral part of enterprise quality (Seghezzi 1996, p. 181). Managerial functions should be a role model in quality matters in their everyday stances and attitudes.
- ***Unstable hardware***
Unstable hardware frequently drives emergent software failures that are difficult to identify. The process of failure location entails a complex effort that often branches into wrong directions with frustration as a result.
- ***Corporate culture***
Corporate culture is the entirety of shared values, standards, stances and attitudes that shape the decisions, actions and behaviour of the members of the organization. Consequently, the attitudes towards successful failure prevention essentially grow out of the corporate culture. For further discussion, refer to Schein (2003).
- ***Causal interdependencies, their effect directions and effect intensities***
In the following parts, some causal interdependencies, their effect directions, effect intensities and temporal variations are briefly outlined. In the network matrix visualization in Fig. 5, the effect direction always is indicated by an arrow and the effect intensity by the line width and/or the attached numerical indication, where 10 = weak, 17 = moderate, 25 = strong. Strikethrough arrows indicate a temporal delay. One strikethrough in a line that connects the determinants amounts to one temporal unit. The temporal unit (second, minute ...) is definable in Consideo Modeler. In this particular model, a temporal unit is approximately equal to one year.
- ***Clearly specified customer expectations → successful failure prevention***
Clear and precise specifications of customer expectations are the initial reference basis in failure prevention, hence have a direct effect. They strongly affect failure prevention as wrong or missing specifications may have fatal consequences.
- ***Clearly specified customer expectations → application software complexity***
Clear and precise specifications moderately lower the complexity of application software.
- ***Clearly specified customer expectations → requirement analysis quality***
The quality of customer expectations has a moderate positive effect on requirement analysis quality.
- ***Workload and stress → motivated employees***
Higher workload and stress intensity has a moderate negative effect on employee motivation.
- ***Emergent software failures → successful failure prevention***
Due to non-controllability of emergent software failures, they have a moderate negative effect on successful failure prevention.
- ***Emergent software failures → motivated employees***
Emergent software failures also have a fair negative effect on employee motivation.

Further interdependencies and their respective effect directions and intensities are provided in the network matrix visualization in Fig. 5 and the weighting matrix in Fig. 6.

Results

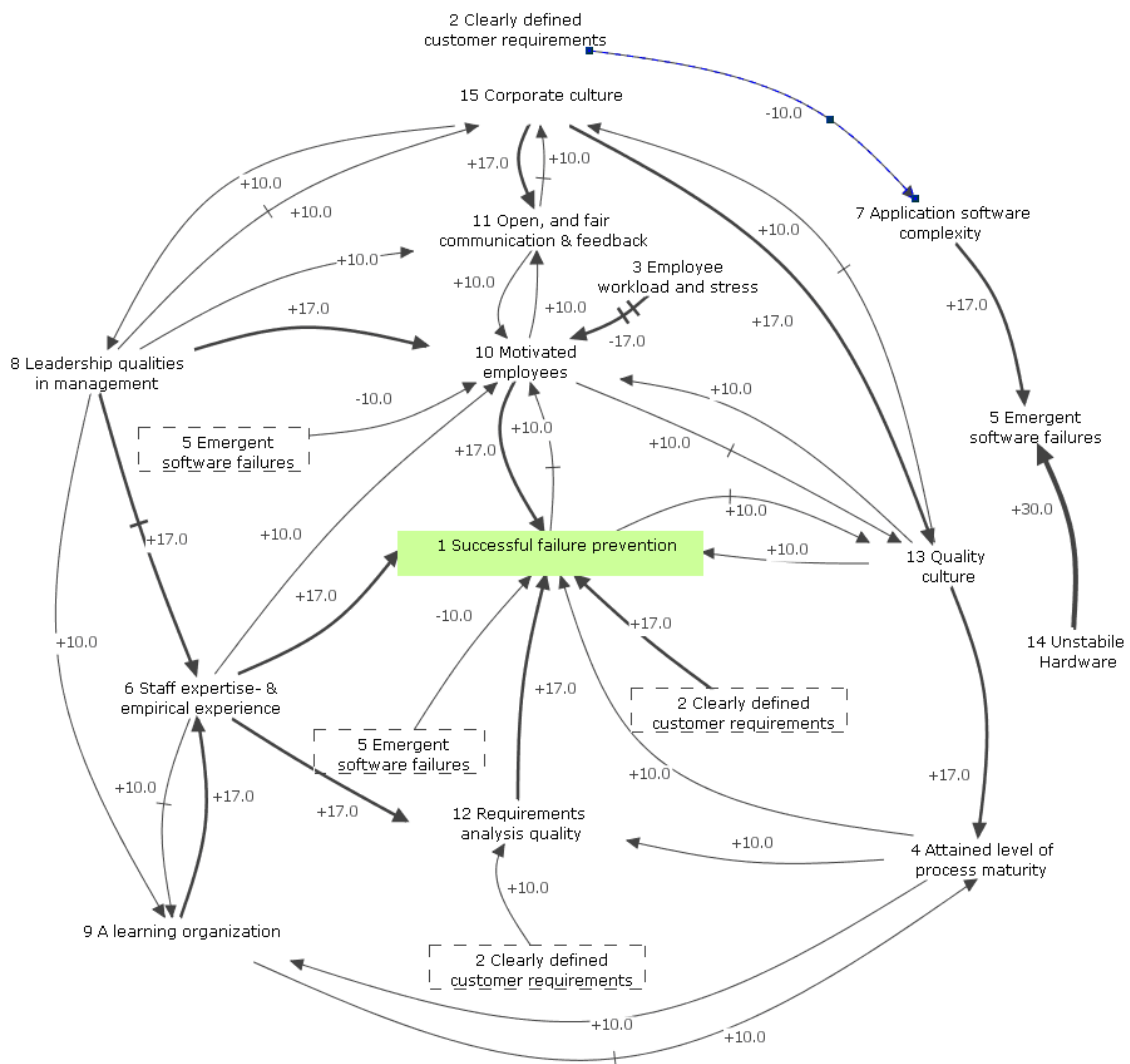
Visualization of Interdependencies, Mutual Effects and Effect Intensities of Determinants

By means of Consideo Modeler, the determinants are comprised into a generic model with a network matrix structure and analyzed.

Visualizations and Analyses

The following Fig. 5 shows the interdependencies, effect directions and effect intensities of applicable determinants. The target variable of "successful failure prevention" is shown in the middle. For each determinant, its interdependencies (arrows), effect intensities (numerical indications) and a plus or minus sign are indicated. A plus sign before the numerical intensity signifies in addition to the effect direction its promotive effect, a minus sign its inhibitive effect.

FIG. 5: THE DETERMINANTS IN A NETWORK OF INTERDEPENDENCIES
(Authors' own visualization using Consideo Modeler)



The following Fig. 6 shows the weighting matrix that provides percentage indications of the effects of the different determinants within the network (effect direction FROM/TO on the y- and x-axes respectively).

The visualization informs of the weighting of the different factors. For instance a learning organization (y-axis, row 10) participates with 17 % in the effect on professional expertise and empirical experience (x-axis,

column 7). The sum of values in each column of the weighting matrix must not exceed 100%. A sum lower than 100% indicates that there are additional determinants to those that are included in the systemic visualization.

FIG. 6: WEIGHTING MATRIX
(Authors' own visualization using Consideo Modeler)

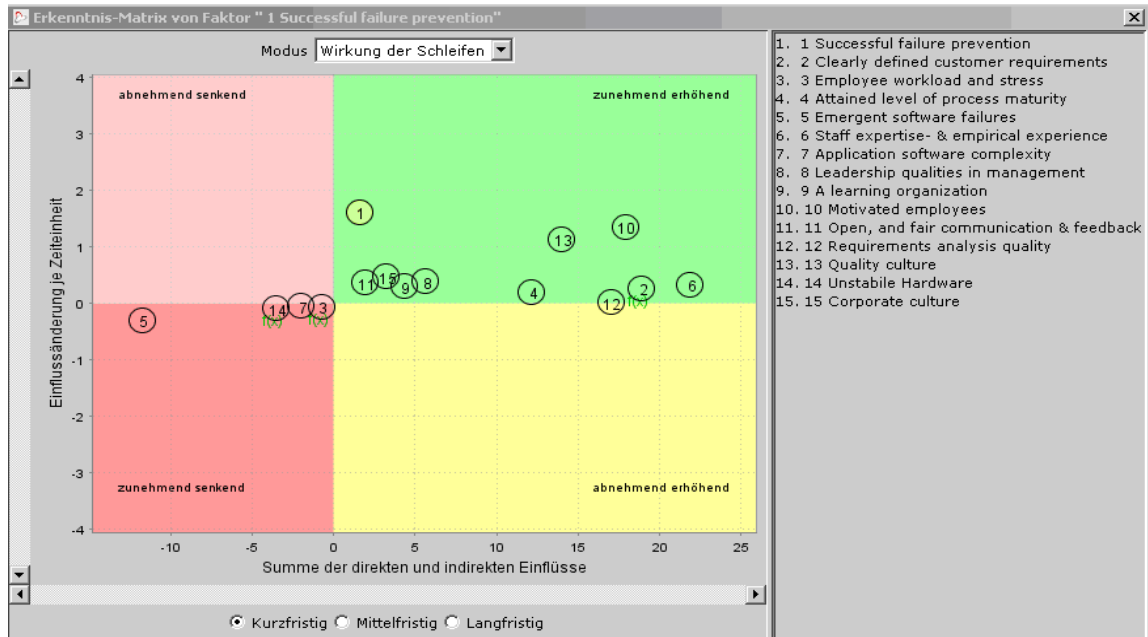
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1 Successful failure pr...					10	10									
2	2 Clearly defined cust...	17										10			10	
3	11 Open, and fair com...				10		10									
4	15 Corporate culture			17		17			10							
5	13 Quality culture	10			10		10									17
6	10 Motivated employees	17		10		10										
7	6 Staff expertise- & e...	17					10				10				17	
8	8 Leadership qualities ...			10	10		17	17			10					
9	3 Employee workload ...						17									
10	9 A learning organizati...							17								10
11	7 Application software ...													17		
12	14 Unstable Hardware													30		
13	5 Emergent software f...	10					10									
14	12 Requirements analy...	17														
15	4 Attained level of pro...	10									10				10	
	Summe	98	0	37	30	37	84	34	10	0	30	10	0	47	37	27

Explanation of Elements in the Result Matrix:

Based on the cause and effect relationships including their respective effect directions, intensities and temporal delays (and the resulting self-amplified and balancing feedback loops), the result matrix in Fig. 7 provides all the determinants that directly or indirectly affect the chosen factor, which is in this case the **target variable of "successful failure prevention"**. On the x-axis is the total effect intensity (sum of direct and indirect effect intensities of each determinant relative to a chosen factor (positive or negative). The y-axis shows changes in the effect intensity of the determinants on a timeline (increase or decrease). This gives rise to four different quadrants shown in Fig. 7 (the result matrix):

1. The upper right area (progressively promotive): determinants that in the short term have positive effect, with an outlook of even more pronounced positive impact in the mid to long term. The weight of the determinants grows over periods of time as they are largely involved in self-amplified feedback loops and/or trigger the loops. The determinants are the most effective levers for positive development in a chosen factor.
2. The lower right area (degressively promotive): determinants that in the short term have positive effect, with mid- to long-term outlook of less strong positive impact. The weight of the determinants declines over periods of time as they are largely involved in balancing feedback loops and/or trigger the loops.
3. The lower left area (progressively inhibitive): determinants that in the short term have negative effect, with an outlook of even more significant negative impact in the mid to long term. The weight of the determinants grows over periods of time as they are largely involved in self-amplified feedback loops and/or trigger the loops. The determinants are the most effective levers for negative development in a chosen factor.
4. The upper left area (degressively inhibitive): determinants that in the short term have negative effect, with an outlook of less pronounced negative impact in the mid to long term. The weight of the determinants declines over periods of time as they are largely involved in balancing feedback loops and/or trigger the loops.
5. The numerical codes and names of the determinants are provided on the right in the matrix.

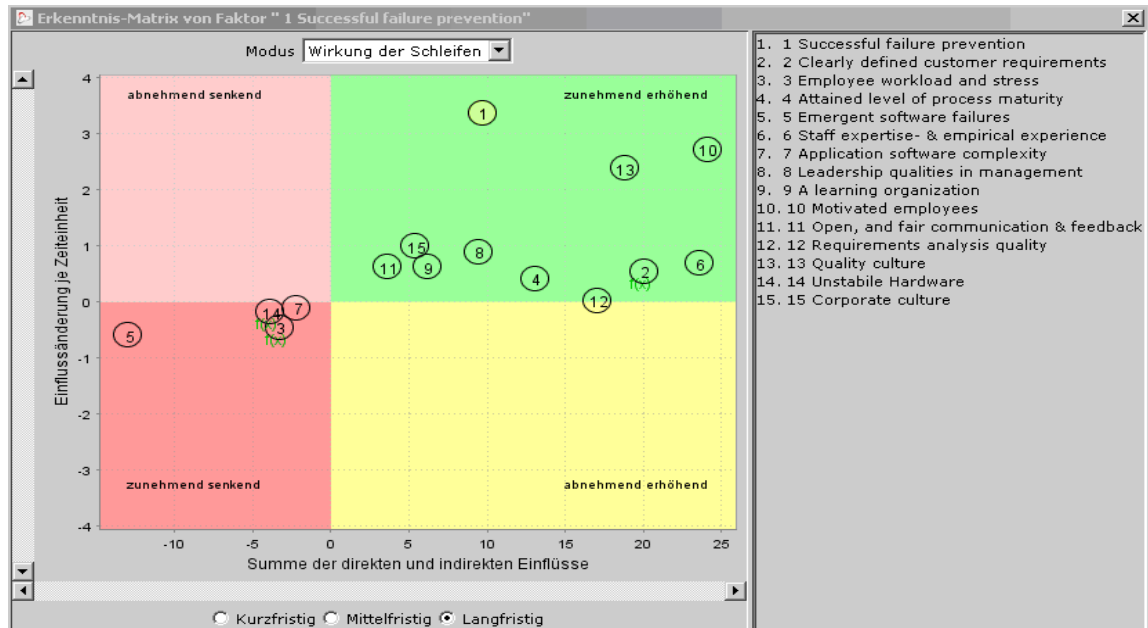
FIG. 7: RESULT MATRIX, short-term perspective
 (Authors' own visualization using Consideo Modeler)



Analysis of determinants in the result matrix

The analysis of the result matrix provides the gist of output of the present effort. The matrix entails a comparison of the effects of determinants on a freely choosable factor which is in this particular case the **target variable of "successful failure prevention"** assigned as a **number 1**. For each determinant included, its effect intensity is shown via the x- and y-axes relative to a chosen factor (here: the target variable) The result matrix in Fig. 7 shows the short-term effects and Fig. 8 the long-term effects respectively of the determinants on successful failure prevention.

FIG. 8: RESULT MATRIX, long-term perspective
 (Authors' own visualization using Consideo Modeler)



Discussion and Conclusion

Discussion

In this part, the **short-term effects** held in **Fig. 7** and the **long-term effects** held in **Fig. 8** are discussed as the applicable determinants including respective impacts and possible actions.

The determinants No. 10 (Motivated Employees) and No. 13 (Quality Culture) in the upper right quadrant in Fig. 7 have a strongly positive effect in the short term (on an ad hoc basis) which even grows further in intensity over the long term as seen in Fig. 8. The weight of determinants grows, hence they are identifiable as key levers in comprehensive failure prevention. This is evident also from the new position of the target variable identified as No. 1 in the upper right quadrant in the visualization.

The determinants No. 2 (Clearly Specified Customer Expectations), No. 4 (Level of Process Maturity) and No. 6 (Staff expertise and empirical experience) in Fig. 7 have a strong effect in the short term (as they score high on the x-axis) but a relatively moderate positive effect in future projection (as they show no increase on the y-axis, see Fig. 8). The remaining determinants Nos. 8 (Leadership qualities in management), 9 (A learning organization), 11 (Open and fair communication) and 15 (Corporate culture) in the quadrant, though having a positive effect, show minimum increase in the effect intensity in the future. This is evident from Figures 7 and 8. The determinant No. 12 (Requirements analysis quality) in Figures 7 and 8 has constant effect intensity both in the short and long term at identical x-axis values. Consequently, the variable exhibits no dynamics.

The determinants No. 3 (Employee workload and stress), No. 7 (Application software complexity) and No. 14 (Unstable Hardware) in the lower left quadrant in Fig. 7 already have a negative short-term effect on the target variable. Fig. 8 implies further moderate negative developments in the long term in both the x- and y-axis values in relation to the target variable. The determinant No. 5 (Emergent Software Failures) has a fairly strong negative effect in the short term given its distinct x-axis value that further grows in the long term with an even more pronounced y-axis value.

Conclusion

The model output and discussion based on a quality-oriented approach comprise the short- and long-term status and trends in applicable interdependencies and the significance of individual determinants. The results provide indications as to where actions/system interventions are needed. The most significant determinants with positive effect in failure prevention numbered 2 (Clearly defined customer requirements), 6 (Staff expertise-& empirical experience), 10 (Motivated employees) and 13 (Quality culture) need reinforcement.

The determinants numbered 8 (Leadership qualities), 9 (A learning organization), 11 (Open, and fair communication & feedback), 12 (Requirements analysis quality) and 15 (Corporate culture) positioned in the upper right quadrant of "progressively promotive" have a moderate effect intensity, hence necessitate reinforcement through adequate measures.

The determinants numbered 3 (Employee workload and stress), 5 (Emergent software failures), 7 (Application software complexity) and 14 (Unstable hardware) have an effect direction that runs contrary to failure prevention, hence need optimization through targeted system interventions. The actual causes are identifiable with emergent software failures, workload and stress at work and application software complexity. The causal background needs to be analyzed of the 3 determinants with negative effect and the causes avoided in the future.

The model can be further optimized in a two additional ways.

1. Expand the model with further determinants with subsequent new verification and optimization.
(this model expansion by the authors is currently under development)
2. Develop and analyze a highly comprehensive quantitative model

Generally, a note is due that any actions and model expansions made need to be verified for their interlinked effects and balanced accordingly as the determinants function in a matrix of mutual relationships and consequently also need an assessment in a relationship matrix.

As a further research task, the model expansion may be recommended to cover the entire software lifecycle.

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Value Creation for Software Engineering in Product Development

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Abstract

Research in software engineering typically ignores product development in industrial companies. Software development is becoming increasingly important for product development in the machinery industry. Traditionally, in machinery industry, the product's competitive edge is based on the characteristics of the physical product. Today, a product's competitive edge is mainly in the embedded software of the product. In general, the concurrent product development has been widely researched within the field of product development as well as the role of software development in the field of strategic management. However, in the specific context of the strategic role of software engineering process as a part of multi-disciplined product development, this topic has not yet been researched. The study seeks to fill this research gap. Its purpose is to shed light on how value creation can be improved by developing dynamic capability into the software engineering process for product development in machinery industries.

Introduction

The machinery industry employs 131 000 people in Finland and has a turnover of EUR 24 billion. There is demand for companies in this sector to know how to apply new technologies rapidly to customer-driven products and production processes. It is increasingly popular for companies to form co-operation networks that produce total solutions that are tailor-made to meet the customers' individual needs. This allows each company to focus on their core competence and this can create jobs in subcontractor companies. (Niemelä, 2010)

According to the Industry Report (Jääskeläinen 2009) of machinery industry, the future operation and development of products requires a combination of expertise, and development that typically take place in the networks, which can be international networks. The key challenge in the machinery and appliance industry in the future will be how to use a globally produced technological-scientific, commercial information and business knowledge in their businesses. Future competition will be based on who is best to utilize the information of different disciplines by combining them with each other into new innovative products and production methods. The focal success factors for the industry will be based on a combination of technology and business knowledge and skills.

Software products are increasingly becoming more important in the machinery industry. Traditionally, the product's competitive edge of mechanical engineering is based on the characteristics of the physical product. Today it is increasingly embedded in software-based products. Software production in machinery has a strategic role in the company's successful competitive advantage. It has shifted from a complementary role to the focus of the product development in machinery industry.

Empirical findings from our studies, based on cases from a multinational group of companies specializing in sheet metal working technology located geographically differently in different countries and in the software engineering process, also confirmed our findings. The case studies were taken with interviews from 40 software engineers. (Aho, 2011)

According to industry reports of mechanical industries (Jääskeläinen 2009) the following drivers of change are influencing the strategic position and value creation in the machinery industry. Firstly, customers are requiring detailed and comprehensive solutions. Secondly, the competitive position is changing in the business. The price of the product and the core competences of the companies are now the deciding factors for competition. Thirdly, technological development increases the role of embedded software, which means that the role of the software engineering process is becoming increasingly important in the product development process. Fourthly, knowledge

about competitors and technological development by companies are not systematically obtained. Currently the software engineering practices are non-systematic and unprofessional.

Based on the changing environment and the new role of software engineering process for machinery product development in the future, a new kind of software process model is needed, in which different perspectives of the development process are considered. There is also the need for continuous learning that allows us to anticipate and adapt to a changing environment. This means that the software engineer for the machinery product development not only requires technical knowledge, but also understands business skills in order to respond to changing requirements. In order to meet these needs, software engineers in the mechanical industry should:

- Better understand customers;
- Improve quality and integration of processes;
- Improve the profitability process;
- Continue to improve the development process.

This involves taking a new approach to develop products by focusing on providing value to the customers with quality development. It means understanding marketing and improving the software engineering process. In this study, dynamic capabilities are examined due to the strategic role of the software engineering process and the fact that the demands of environmental changes necessitate dynamic capabilities in order to build, integrate and configure resources.

It is our belief that value creation, based on dynamic capability in the software development process, is needed to develop better products. This paper begins with a brief review of the product development for mechanical engineering followed by the software engineering process for the machinery industry. This is followed by a brief review of dynamic capability. Subsequent sections discuss how value creation for dynamic capability is needed to help address the changing needs of the product development processes in machinery industry. The paper concludes with further suggestions for research.

The current ways of developing the products

The main purpose of the product development of a for-profit enterprise is to result in products that can be produced and sold profitably. Successful product development is typically evaluated by following the profit related dimension: Product quality, product cost, development time, and development cost and development capability. The assessment of successful product development consists also of safety standards, ecological matters and employment policy (Ulrich and Eppinger, 2004).

The traditional approach for the development of manufacturing systems considers the elements of the system, i.e., mechanical, electronic and software. They are developed independently and in the end integrated to form the final system. This kind of method is being criticized as unsuitable for the complexity and the dynamics of today's systems (Thramboulidis, 2005).

The empirical context of this study is the software engineering process as a part of a multi-disciplinary product development process in a machinery company. The multi-disciplinary product development includes mechanical, electrical, automation and production engineering processes. Typical products of the company are for working metal manufacturing systems and machinery, such as punching machines and laser cutters. The challenges of the software engineering are multi-dimensional. Firstly, the software engineering process is within a multi-disciplined product development. Secondly, it is increasingly important to understand customers' business in order to respond to the changing customer needs. The study aimed to deal with the mentioned problems as shown in FIG. 1. (Aho, 2011)

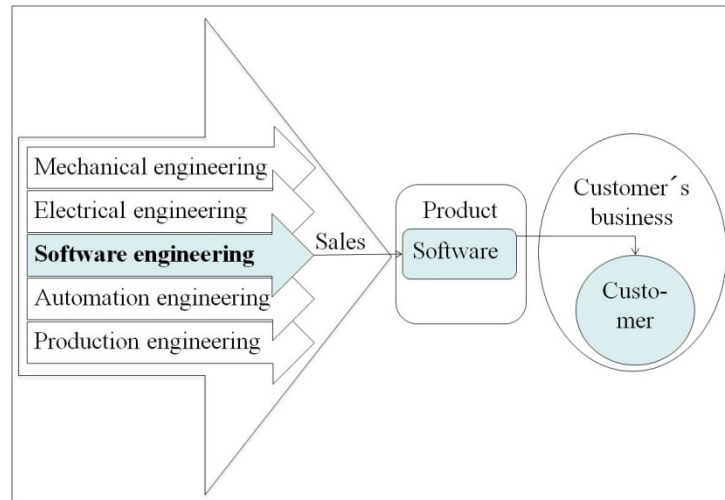


FIG. 1. THE CONTEXT OF THE STUDY

Concurrent engineering is a systematic approach to the integrated and concurrent development of a product and its related processes. In addition to this it emphasizes customer expectations and team values of cooperation, trust and sharing. This enables decision making with long periods of parallel working by all life-cycle perspectives (Thramboulidis, 2005). This model provides a high quality and well-integrated R & D project, but it does not take into account the significance of the multi-disciplinary nature of the development areas required. In addition, there is a risk that the various development areas are not equal, due to the organizational culture.

Changing business environments and the changing role of the software process require a different perspective on the product development process and software engineering process. The concurrent engineering approach provides several exploitable elements for the improvement of value creation logic, such as creating closer co-operation inside the multidisciplinary product development process. However this approach does not deal with the communication problems in current product development. Communication between mechanical and software engineering is often one sided.

Leonard-Barton (1992) studied the nature of core capabilities and core rigidities product development focusing on the predominant paradox between them. Core capabilities are generally defined as clusters of distinct technical or managerial systems and skills, which are deeply rooted in values and can be seen as core rigidities. According to Leonard-Barton (1992), the focal challenge for product development projects is to take advantage of core capabilities without destroying the innovations and the abilities for change.

Schimmoeller (2010) studied the success factors of new product development processes by reviewing previous literature and found that the use of cross-functional teams is a primary key success factor. However, there is limited research on the influence of cross-functional teams on product performance. Schimmoeller (2010, p. 31) argues that the speed of product development is in the field of product development research because it provides competitive advantage. Furthermore, according to him, costs of the development process are seen as a less significant factor. Another purpose of this study is to meet the challenges of multi-disciplined product development by developing a new software design model that takes into account the need for cross-functional communication.

The current approaches to designing software

The term software engineering methods refers to the structured approaches to software development that include system models, notations, rules, design, advice and process guidance (Sommerville 2000, p. 6). Their aim is to facilitate the production of high-quality software in a cost-effective way. Several standards, methods and models have been developed for quality assurance in software products, such as IEEE/EIA 12207 (IEEE Standards Association 2010; Singh 1998; Xu and Ramesh 2007), ISO 9000 (International Organization for Standardization 2010; Dobbins 1996), CMM/CMMI (Software engineering Institute 2010; Paulk 2001; Phillips 2009), SPICE (ISO)/IEC 15504 (Dorling 2006; International Electrotechnical Commission 2010) and RUP (Krebs 2007).

The Structured Analysis (DeMarco, 1978) and JSD-methods (Jackson System Development (Jackson, 1983) were the first developed methods in the 1970s. The main purpose of these methods was to identify the basic functional components of a system and these kind function-oriented methods are still widely used. Object-oriented methods (Booch, 1994) were developed in the 1980s and 1990s and they supplemented the function-oriented methods. Currently these different approaches can be seen integrated into a single unified approach built around the Unified Modeling Language (UML) (Fowler and Scott, 1997; Rumbaugh, Jacobson, Booch, 1999). According to Sommerville (2000, p. 11), there is no ideal method and different methods have different areas where they are applicable.

The traditional approach of software engineering considers software as an object to be engineered, which means that it is developed, built and deployed. These so called plan-driven methodologies are based on discipline and control and they require heavy processes to assure the quality of the software. Turner and Boehm (2003) have analyzed the properties of plan-driven and agile methods to find a balance between flexibility and discipline in software projects. According to these authors, the most important result of their study was the conclusion that the most critical success factors are much more related to people factors.

A typical software development process is incremental and therefore iterative process models have been developed, for instance agile software development methods (Agile Manifesto, 2010). According to the manifesto the following matters are valued:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan (Agile Manifesto 2010)

The software process models are abstract representations of the activities involved in producing software. Selecting the right development model can contribute to the development speed, improve quality, project monitoring and controlling, minimize duplication of work and improve the relationship with customers. (McConnell, 1996; Sommerville, 2000; Pressman 2000). Systematic development of software has been found to have a good impact on productivity and quality improvement. Recently, software engineering methods have emphasized the customer's role in the product development process and the customer orientation methods have become more frequent.

We concur with Boehm (2003:1) that current software engineering practice and research is done in a value-neutral setting. The role of software is increasingly related to system's cost, schedule and value. Also, according to Boehm (2003) and the Standish Group's CHAOS report (1995) most failures of software projects are due to value-oriented shortfalls such as user input, incomplete requirements, changing requirements, lack of resources, unrealistic expectations, unclear objectives, and unrealistic time frames. In order to develop useful software products value-based software engineering is needed. Boehm presents (2003:1) an agenda for a discipline of value-based software engineering. It includes value-based requirements engineering, architecting, design and development, verification

and validation, planning and control, risk management, quality management, and people management. Boehm (2003:1) introduces seven key elements for value-based software engineering as follows: benefits realization analysis; stakeholder value proposition elicitation and reconciliation; business case analysis; continuous risk and opportunity management; concurrent system and software engineering; value-based monitoring and control; and change as opportunity. This research aims to integrate value considerations into software engineering principles and practices.

According to recent research on process modeling all processes are situational. Considering the research in the area of agile software engineering and situational and flexible development practices, we can see that many of the agile methods have been developed based on practical experience and have been implemented and confirmed in industrial contexts (Hansson et al. 2006). Abrahamsson et al. (2003) argue that more empirical research is needed regarding the implications of different methods and practices for different sizes and types of companies. Xu and Ramesh (2003) presented a model for the utilization of knowledge in defining and tailoring a software process. Based on that model they have created a prototype tool for the understanding, re-use and maintenance of the process knowledge. However, the present study represents a fairly unique situation based on the fact that the software engineering process is a part of multi-disciplined product development and the environment is industrial.

Cao (2010) highlights the challenges of current software development projects. This is a need in order to improve the predictability of the process and have the flexibility to adapt to the changing environment. Cao's (2010) research contributes to the understanding of how to build dynamic capability into trustworthy software development. The author adopts dynamic capability as the ability to manage conflicting demands of trustworthiness and flexibility. In order to improve productivity and have the flexibility to cope with a changing environment, it is important that we take value creation into account in the software development process, using dynamic capability.

Dynamic capabilities

Despite the fact that the value creation logic of the product development and software development process has been improved by several different methods described above, the changing role and environment of the software engineering process requires a new perspective. Based on this, the value creation logic is examined through the perspective of dynamic capabilities.

According to the resource-based view of the value creation process, the role of resources is in a strategic position for creating competitive advantage (Barney 1986). Teece, Pisano and Shuen (1997) expanded the resource-based view to the rapidly changing environments. They argued that the authors of strategic management have concentrated on the analysis of firm-level strategies for sustaining and ensuring existing competitive advantage and neglected the factors of dynamic markets. Teece et al. (1997, p. 516) define dynamic capabilities as *"the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments"*.

The resource-based view concentrates on the development and protection of valuable resources, while dynamic refers to capacity to renew (Teece et al., 1997; Nelson and Winter, 1982). The concept of dynamic capabilities refers to the firm's willingness to re-develop the processes and routines in order to develop and renew the organizational capabilities (Teece et al., 1997; Wheeler, 2002). According to Teece et al., (1997) the firm's ability to renew and develop their organizational capabilities is significant for the firm in addition to their ability to exploit their existing resources and organizational capabilities. In dynamic markets this ability will become increasingly important and it is insufficient to have strong resources and organizational capabilities: continuous development and renewing its resources and organizational capabilities are required (Teece et al., 1997; Wheeler, 2002). Eisenhardt and Martin (2000) seem that dynamic capabilities are the organizational and strategic routines by which firms confront the changing environment.

The role of the software engineering process has changed from being supplementary in mechanical product development to become the focus of the process. This means that we must also change the approach that we use to

develop the product. The role of the software engineering process today is very much a multidisciplinary process within a changing environment. In order to cope with this, we need a new model to develop software in machinery industry. This means the use of dynamic capability in value creation with the different stakeholders of the value network in the product development process.

Improvement of the software development process alone is not enough. We must change the ways we develop the products. This proposed new model will need to take into account the following issues:

- Development of new capability to better understand the customers;
- Development of individual competences of the software engineers;
- Continuous improvement of quality and integration of processes;
- Development of dynamic capabilities in the software engineering process.

Conclusions

Traditional software development methods for the product development in current machinery industry are not adequate. To be competitive, it is important for companies to take into account the competitor position and new technological development. This means understanding the environmental and organizational requirements concerning the required resources and the value configuration. A new software development model is needed that is customer-oriented, multidisciplinary, comprehensive, market oriented, and innovate. We have developed a value creation model based on the integration of resources consist of process improvements, the reconfiguration of resources based on better customer understanding, improved profitability , improved development and learning skills. This model is currently under empirical validation.

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Clusters and networks as enablers of product and process innovation

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Abstract

One of the strategies adopted in the Philippines to facilitate a more consistent supply of good quality vegetables from smallholder farmers is the clustering approach, whereby a small group or cluster of smallholder farmers is organized to deliver a pre-determined amount of produce to a focal customer (CRS-Philippines, 2007). Developed from the CIAT Territorial Approach, the CRS Eight Step Clustering Approach for Agro-enterprise Development employs a participatory action learning process, where the cluster members proactively plan their production to meet the specific quality and delivery requirements of their focal customer. The clustering approach is a strategy which allows smallholder farmers to access higher value chains. Evidence is provided to demonstrate how several of the clusters facilitated have utilised the skills and knowledge acquired in servicing their focal customer to develop new products for new markets, to adopt alternative low cost systems of production to reduce their reliance on external inputs, to reduce postharvest losses and product deterioration through improved packaging, to improve access to low cost community-based loans and to take advantage of local and national government grants that provide production inputs and support the development of community-based infrastructure projects.

The marketing system for vegetables

Like most developing countries, agricultural produce in the Philippines is traditionally sold through the spot market where both the farmers and the traders attempt to maximize their revenue. In the vegetable industry, smallholder farmers trading independently are seldom able to influence the price, especially in times of surplus. As the traders are in a better position to determine the price, most vegetable farmers are price takers and have therefore little choice other than to let their produce go at the price given by the trader as they have already harvested and seldom have any opportunity to store it until prices improve. Consequently, the majority of fresh vegetables in the Philippines are traded through the traditional supply chain (Murray-Prior et al., 2004), where market intermediaries are the dominant players reaping most of the benefits from the value created across the chain (Digal et al., 2006).

Increasingly, food retailing and processing is becoming more internationalized, causing significant changes in the market that impact on smallholder farmers. However, smallholder farmers have difficulty supplying the more sophisticated demand of the modern chains. Smallholder farmers may be excluded from agribusiness development because they are not equipped to handle the demands of the increasingly sophisticated market. They need to organize to meet the growing demands of institutional and modern markets (Vorley et al., 2007).

In Mindanao, the Philippines, 80% of farmers earn PhP 3000 per month and have only 2 to 3 years education. The lack of capital and knowledge prohibit them from tapping into the demand for higher value products.

This paper discusses how the clustering strategy used in Mindanao, specifically the provinces of Bukidnon, South Cotabato, Compostella Valley and the vegetable production areas of Davao City; provide an enabling environment for smallholder farmers to serve higher value markets and to take concrete actions to improve their production and marketing system.

Clustering approach to agro-enterprise development

Developed from the CIAT Territorial Approach, the Catholic Relief Services in the Philippines have formulated an Eight Step Clustering Approach for Agro-enterprise Development for Small Farmers. A participatory action learning process is employed, whereby the cluster members proactively plan their production to meet the specific quality and delivery requirements of their focal customer. The first five steps are preparatory activities that emphasize the need for the farmers to learn new skills, access new information and adopt new innovative approaches to identify and to respond to market opportunities. The two subsequent steps require the cluster to undertake test marketing, and where it is successful, to scale-up their activities. The final step of cluster strengthening requires the cluster members to develop new skills, new values and to identify alternative methods for organising the cluster (CRS-Philippines, 2007).

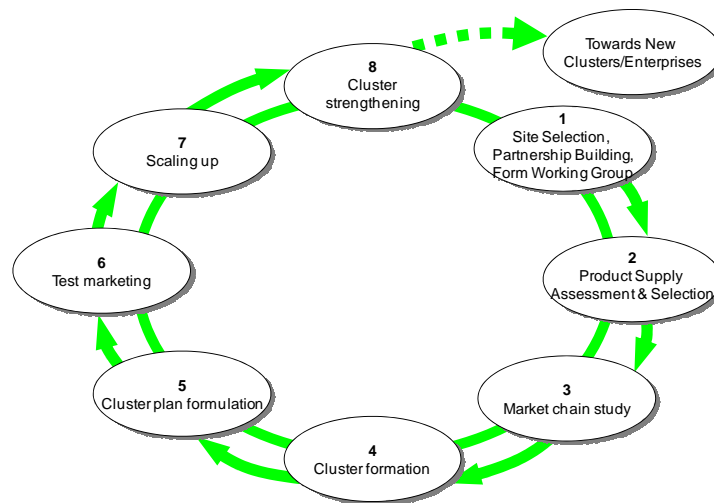


FIG. 1: THE CLUSTERING APPROACH TO AGROENTERPRISE DEVELOPMENT

In an action research project running from 2008 to 2012, involving the University of the Philippines Mindanao, UP Strategic Research Foundation, Philippines and Curtin University, Western Australia, the clustering approach briefly described above was used. Through a participatory learning process, vegetable farmers from Bukidnon, South Cotabato and Davao City were trained and facilitated using the eight steps. Thirty clusters were formed involving 293 farmers.

TABLE 1: NUMBER OF CLUSTERS

	Farmers	Clusters
Bukidnon	63	7
South Cotabato	135	9
Davao City	144	12
Campostella Valley	14	2
TOTAL	293	30

During the clustering process, the farmers underwent training on understanding their market which provided them the opportunity to visit buyers and interview retailers. They gained the firsthand experience of doing simple market research and mapping their chains. Based on the information they gathered and analysed, they decide as a group which markets they want to serve and which products to offer. They had training on record keeping, facilitation of meetings, production techniques and clusterenterprise plan formulation.

The clusterenterprise plan is a simple business plan which contains information about their desired market, planting calendar, commitment of each cluster member in terms of volume and type of vegetableto plant for the cluster market, the tasks and responsibilities of each member, the policies and procedures of the cluster and the working capital needs and sources. This type of planning opens the understanding of the farmers that they can plan what they plant and schedule the harvest such that they harvest regularly. They also get to supply additional markets while continuing to supply their traditional spot market buyers.

Data for this paper were gathered from farmers during their cluster meetings, interviews with key informants from trip reports of project personnel, and bi-monthly project reports per research area.

Emerging product and process innovations

The 8-step clustering approach to agro-enterprise development empowers cluster farmers to act as one. This new environment gives them access to higher value institutional markets which they are otherwise unable to supply as individuals and the enabling environment to venture into varied ways of improving themselves.

Develop new products for new markets

In order to lessen the farmers' risks, existing products are selected for the initial attempts for cluster marketing. This allows the cluster members to get their feet wet in working with each other and tests their commitment to the cluster enterprise plan without having to learn how to produce new types of vegetables.After the cluster has adjusted to working with each other, new products can be attempted.

In Bukidnon Province, where 7 clusters were facilitated, one cluster was committed to supply a food processor with sweet pepper. The food processor was a new market for this cluster, but they were familiar with the production of sweet pepper. When the demand of the food processor expanded, another cluster which did not previously plant sweet pepper started planting the crop in order to ensure a regular supply for the food processor. For this second cluster, this is a venture into a new product for a new market. In the same province, another cluster was formed composed of corn farmers, who began planting tropical vegetables like squash, eggplant, sweet pepper and bitter gourd, in response to the demands of a vegetable consolidator. For the third cluster, they went into planting several new products for a new market.

For the clusters in South Cotabato, 2 clusters were planting sweet pepper to supply a food processor. They had to shift to a different variety of sweet pepper because of the food processor's specifications. The new variety had a better qualityfruit anda longer shelf life. Before clusters were formed, farmers planted whatever seeds were available locally. Because of clustering and their knowledge of the market requirement, farmers shifted to *Cayenne Premium* variety. With Cayenne Premium, farmers can sell their mature green fruit to the local markets andtheir mature red fruit to the processor at a significantly higher price.

Most of the clusters discussed above were to supply a food processor in Davao City. However, the clusters experienced some problems with the payment arrangements of the accredited supplier of the food processor. This accredited supplier was to act as a conduit between the clusters and the food processor. Compounding this, the food processor stopped buying sweet pepper because its demand for sweet pepper was bundled with carrots, garlic and onions. Since the accredited supplier could not find enough suppliers for the other commodities, the food processor stopped buying sweet pepper. Farmers were then left with thousands of hills of sweet pepper and no institutional market. It was in this seemingly difficult problem that clustering proved to be an advantage. The cluster farmers put their heads together and sought for other markets for their sweet pepper. They found a wholesaler in the largest wet market in Davao City who was willing to buy the sweet pepper.

Adopt alternative low cost system of production to reduce reliance on external inputs

The clustering approach begins with the identification of partners which may be other NGOs or local government units. In all of the project areas, development oriented foundations trained cluster farmers to make concoctions derived from different fruits and plants and other local products as an alternative to conventional fertilizers. Some planted marigolds as an insect repellent for fruit fly, or used extracts of tubli (*Derris elliptica* Benth.), which is a poisonous vine, as an insecticide. These natural farming practices were introduced to them by their municipal agriculture offices and some non-government organization like the Landcare Foundation of the Philippines Inc (LFPI).

Some farmers also attended seminars about natural farming and shared it to their neighbouring farmers. As a result, farmers began using fermented fruit juice (FFJ), fermented plant juice (FPJ), indigenous micro-organisms (IMO), chicken dung and vermi-compost as part of their crop nutrient management protocols. According to the farmers, these products were as effective as conventional fertilizers, but the ingredients were found mostly in their immediate locality and more importantly, cost practically nothing. In contrast, a litre of liquid-based fertilizers cost PhP 35-80 a litre while PhP 1.63-6.25 per kg for solid-based fertilisers (Real et al., 2010).

In one instance, a vegetable marketing cluster in Maragusan, Campostella Valley discovered that the marketing skills they had learned were equally useful in enabling them to develop a market for agricultural inputs. As a large corporation, with a certified organic banana plantation required a regular supply of organic inputs. Rather than to grow vegetables, the group diverted their activities towards the production of FFJ and FPJ.

Improved postharvest practices

In almost all the clusters in the three areas of Bukidnon, South Cotabato and Davao, product handling has been improved. Previous harvesting and transportation practices exposed the vegetables to bruising and mishandling. Vegetables were normally packed into sacks and often dropped onto the ground, sat upon and/or stepped upon. Most of the clusters no longer use sacks, but now use plastic crates to minimize bruising. Buyers also prefer that the vegetables they buy be delivered in crates rather than sacks.

In the past, farmers would often sell their fresh vegetables without grading. While they managed to sell everything that was harvestable, the prices were correspondingly lower. Sorting (grading) is a new procedure for most cluster farmers. Some buyers want a specific quality grade and the farmers have learned to sort and classify their vegetables based on the customers' specifications. As a result, the farmers receive a different price for different product grade, providing perhaps for the first time, an incentive for producing better quality produce.

With the opening of new markets, there were also changes in terms of packaging, transportation, and sorting practices in Ned, South Cotabato. Before clustering, farmers packed their sweet pepper in sacks and sold them directly to the local market in Isulan. The products were transported (by skylab) to Isulan which is 70-90 km from their area. This resulted in much physical damage to the crops like bruises and cracks. Farmers estimated losses of 5 to 10 kg from transportation. With the requirements of the market to produce better quality sweet pepper, farmers utilized cartons to protect the fruit from bruising. Before the cluster was introduced, individual farmers were not able to sell their sweet pepper because of high cost of transportation. With clustering, even small volume can be included because products are now consolidated.

Improved access to low-cost community-based loans

When the farmers were not organized into clusters, many of them depended on traders to finance their production inputs. They had no option but to sell their produce to the trader who financed them, sometimes for lower prices. In the province of South Cotabato, the cluster members formed a partnership with ICTUS (Integrated Cooperative Toward Unified Services), a member-owned cooperative that provides saving and lending services, including input financing. The cluster obtained an input financing loan for its members. In order to get a loan, the cluster members had to first become a member of the cooperative bank and attend a pre-membership seminar. A membership fee and initial savings also had to be deposited totalling Php 1,700 per farmer. Of the 18 cluster members, four could afford this initial cost, and the remainder could find half the amount – with LFPI (Landcare Foundation of the Philippines) contributing some funds to meet the short fall that was repaid at a later date. A loan was released to the 18 members of the cluster for PHP10,000 each in the form of inputs. Members could get cash for a maximum of 25 per cent of this amount. The Ned clusters were able to pay their dues after earning income from sweet pepper farming. Some of the farmers were able to access 2nd loan from ICTUS.

Another cooperative bank provided production loans to some Bukidnon cluster farmers in order to start up the production of sweet pepper. A development foundation provided financial assistance to some bitter melon clusters, for the purchase of production inputs such as seeds, fertilizers and pesticides.

Improved access to local and national government grants

Individual farmers cannot access any assistance nor financing because the assistance cannot be monitored nor the results guaranteed. As members of clusters, however, they can get themselves registered as an association or a people's organization. As such, they have a chance to benefit from assistance. Bukidnon, clusters were provided 6 rainshelters by the Department of Agriculture, each one costing PHP150,000. The farmers provided labour as their counterpart.

Clusters in Davao City received assistance from the City Agriculturist Office of Davao in the form of production inputs like seeds and organic fertilizers. They were also given plastic crates and seedling trays.

For South Cotabato, one of the Municipal Agriculture Offices (MAO) provided material support like a shredding machine and seedlings for the cluster in their area. Most of the local government units assisted through technical support, training and assistance for monitoring the clusters. Some clusters were supported by other foundations through trainings and seedlings.

Conclusion

Clustering is a form of collaborative marketing group that has provided a way for smallholder farmers to access new and modern markets. It does not have the membership costs associated with being a cooperative nor the attached bureaucracy of a registered association. But it provides the smallholder farmers are ideal starting point to move toward working with other smallholder farmers to gain a competitive advantage. In the process of reaching the goal of better market access, smallholder farmers were able to learn new ways of producing vegetables with lower input costs, acquire skills in leadership and self-governance, conduct meetings, negotiate with buyers, make and implement their cluster rules. They have possible access to financing and development assistance and more importantly, they have a chance to be included in the development of modern chains.

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Sustainability of Microenterprises in Indian Food Industry: Interventions and Impacts

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1. Introduction

Indian agriculture and food sector have undergone significant changes in the last decade with the liberalisation of the economy and opening up of international markets. In India, like in most developing countries, agribusiness is the single largest economic sector, providing employment to more than 50% of the entire country's workforce. Yet agriculture contributes to only 18% of GDP and 10% of total exports. India is a major producer of many agricultural and allied products in the world. It produces 16% of world's milk, 28% of tea and one of the largest producers of grains, cotton, sugar, spices and fruits and vegetables. Despite this achievement, its current share of world's processed food trade is only 1.6% (Singh 2007) and losses in some sectors such as horticulture, are believed to be more than 30%.

Apart from liberalisation of the economy, other factors such as globalization, rapid urbanisation and rise in per-capita income have contributed to changes in Indian food sector. These changes have opened up significant opportunities in retailing, value added foods and processed food segments. Urbanization has increased the scope for food marketing and distribution through economies of scale, while reducing transaction costs and increasing the size of the market (Pingali, 2001). A number of corporate initiatives have begun investments in the food sector to meet the rising market demand, through forward integration and supply chain management. However, the outreach of such initiatives is limited, as they are influenced by factors of convenience and commerce, limiting them to only certain areas. Barring a few initiatives, the food sector in India remains an unorganised sector with many small producers and complex and inefficient supply chains, that are struggling to keep pace with the changing market requirements.

A large number of small producers dominate the food sector both, at the raw material production and processing stages, primarily due to restrictive government policies. The market orientation of these producers are limited as the supply chain in the food sector and the agricultural sector in general is fragmented and is characterised by many intermediaries, poor infrastructure and information flow. As a result, producers have limited access to information, technology and investments to develop their business activities to meet the demands of the market. These factors hinder the development of economies of scale, market orientation, the development of quality in products and therefore, the ability to compete in the international market.

In the case of perishable products, the absence of cold chains coupled with the lack of marketing infrastructure leads to low quality, high wastage and low price realisation. This poses challenges particularly to small producers in terms of high costs of production, high transaction costs and restricted market access. Low shelf life of food products requires advanced technical knowledge, proper technology and management skills to keep the quality of the produce even at the minimum required level. Quality improvement and standardization, in such situations, are an integral part of market access and trade as they can enhance marketability, competitiveness, market efficiency and creditability of goods transacted in the markets. The implementation of grades and standards helps in reducing uncertainty and transaction cost helping markets to develop, benefiting both consumers and producers. Grades and standards help in the generation of market information that aids primary producers adopt 'best practices', reduce wastage and increase price realisation by improving production processes to adhere to the quality requirements of the markets. Standards help in addressing the imbalances between expected marginal social benefit and marginal

social cost by reducing information asymmetries to both producers and consumers. Thus, standardisation helps to improve efficiency of production and product movement and enable economies of scale (Sykes 1995).

In the present Indian agribusiness scenario, interventions, external as well as internal, are needed to bring about change in the markets and supply chains, through development of quality and adherence to standards, enabling small producer to compete fairly in the markets.

This paper uses two initiatives in Indian agribusiness to examine how standards and good supply chain management can help bring about substantial change, increasing marketability and price realisation to the primary producer, through technological innovations and information dissemination. The first case is a study on Amul and Bangalore Dairy, a cooperative initiative, where the introduction of Bulk Milk Coolers (BMC) have helped improve the quality of milk by reducing spoilage and pathogen content of milk. The study looks at how BMCs introduced at village level cooperatives have helped bring down milk spoilage from 28.7 lakh kgs to 1.7 lakh kg over a period of 14 years. This has helped reduce cost of production and increased returns to the primary producers. It is an example of the development of a cold chain that has aided in the improvement of quality and reduction in wastage. The second case is a study on the street food vendors of Karimnagar, where standardizing of mobile food vendors (MFV), with the help of Dr. Reddy's Foundation (DRF) has helped improve the quality of food served on the streets and vendors get better remuneration for their service. This civil society initiative has helped increase gross income of the vendors by an average 41%, while reducing wastage by over 60%. The implementation of standards has also helped in improving hygiene and cleanliness of street food, thus improving its marketability.

2. Implementation of Standard and Quality Improvement in Dairy Products- a Case study of Amul and the Bangalore Dairy

India is one of the largest milk producers in the world and a majority of its primary producers are small and marginal farmers. As these primary producers have limited access to marketing and infrastructural resources, most states in India have cooperative unions for producers that help them market their produce. The birth of cooperative movements in India was in the dairy sector and in this respect the story of the Kaira District Milk Cooperative Union (known as Amul) is unique. This initiative began in 1947 in the village Anand in Gujarat, where milk producers with state support joined hands to have a stake in their produce and share the profits gained by selling their produce. The success of Amul as a cooperative movement led to the adoption of the Kaira model as a blueprint in all milk cooperatives in the country, under the three phases of "Operation Flood". Today almost all states in the India have their own dairy cooperatives supporting millions of small and marginal farmers.

Gujarat Cooperative Milk Marketing Federation (GCMMF) the state-level apex body of milk cooperatives under which the Kaira District Milk Cooperative Union now comes under, was founded in 1973 with the aim of providing remunerative returns to the farmers while providing economical and quality products to consumers nationwide. GCMMF markets its products under the brand of *Amul* and is India's largest food product marketing organization.

In Karnataka, Karnataka Cooperative Milk Producers' Federation Limited (KMF), the state-level cooperative was setup in 1974. It was India's first World Bank funded dairy development program. Modelled on the Anand pattern, the KMF today is the third largest milk cooperative in India and the largest in South India in terms of procurement and sale. The KMF markets its products under the brand name *Nandini* and unlike *Amul* its markets are limited to Karnataka.

During its initial years, the focus of these cooperatives was primarily on liquid milk. Overtime they progressively moved onto higher value milk based products. Quality and price competitiveness, the core philosophies for the cooperatives, have helped them remain competitive in the wake of emerging competition from multinational companies like Unilever, Nestle and Britannia. A key source of competitive advantage has been their ability to

implement best practices across all elements of the network: the federation, the unions, the village societies and the distribution channel.

Due to its high perishability, milk and milk products have one of the most stringent codes of standards. Conforming to standards depends much on how milk is handled throughout the supply chain. This in turn is linked to technology use and good supply chain management, particularly in the context of a cooperative setup, where producers are many. The espousal of standards, both regional and international has been integral to the growth of both the GCMMF and KMF. Quality certifications like ISO and HACCP has helped them build and maintain their reputation in the market.

Technological innovations at the grassroots through the adoption of Bulk Milk Coolers (BMC) at the village society level have helped improve the quality of milk in the cooperatives. In their efforts to diversify to higher value products, this innovation has helped in the reduction of sour milk content and spoilage during transportation and storage. This case primarily focuses on how BMCs have brought about change in the supply chain of milk by reducing cost of transportation, helping dairies increase production and quality of the products they produce and helping farmers get better returns for their produce. The study analyses the benefits this change has brought upon quality as well as costs of production of milk and milk products that has helped *Amul* and *Nandini* remain competitive in the market in the wake of emerging market competition and expansion.

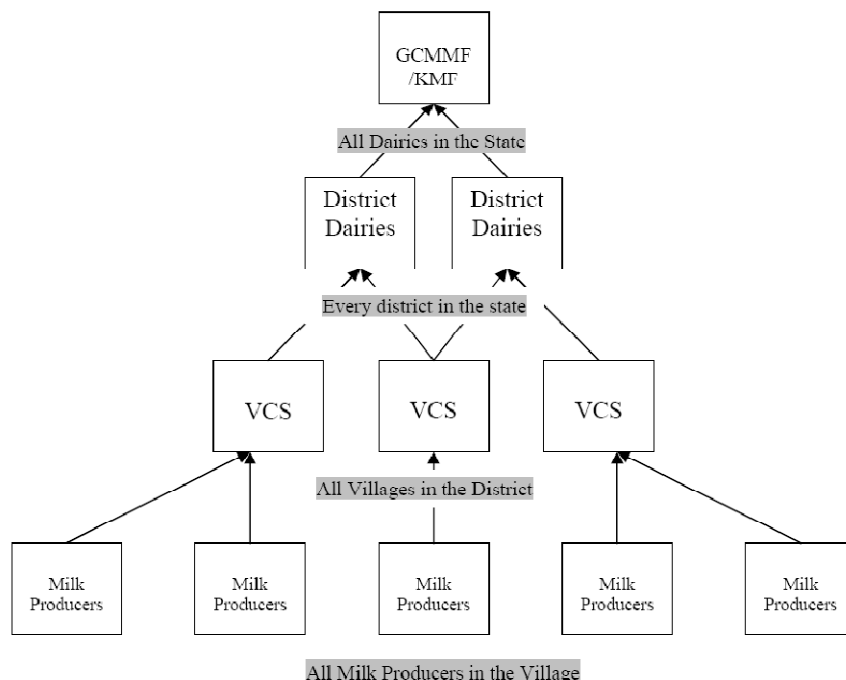
2.1 The Milk Cooperative Structure and Supply Chain

The structure of both the GCMMF and KMF (Figure 2.1) supply chain is based on the three tier model, which comprises of the milk producer and the village cooperative at the village level, the district dairy and the district unions at the district level and the state marketing federation representing all dairies at the state level.

The village cooperative societies (VCS) and the district cooperative societies (DCS, the KMF equivalent of the VCS) on an average have about 200 members each from whom milk is collected every day. Each member of the VCS has a commitment to supply a certain amount of milk to the society. Payments are made based on test results used to determine quality of supplied. The procured milk is then sent to the district dairy for processing. The role of the federation at the state level is to market the products under their respective brands and plan strategies and investments for the market as well as the cooperative.

Milk is collected from the farmers according to the infrastructure the village cooperatives have. Cooperatives without BMCs collect their milk in cans of 40 kilos each, before transporting it to chilling centers at the district level. From the chilling plants, the milk is sent to the processing and packaging centre. Because milk under normal conditions spoils faster, milk in non-BMC centers is collected twice a day. Villages with BMC facilities have their milk collected once a day as cold storage prevents spoilage. The milk collected from these centers is sent directly to the processing plants.

FIGURE 2.1: THE STRUCTURE OF THE COOPERATIVES



2.2 Implementation and Benefits of BMCs

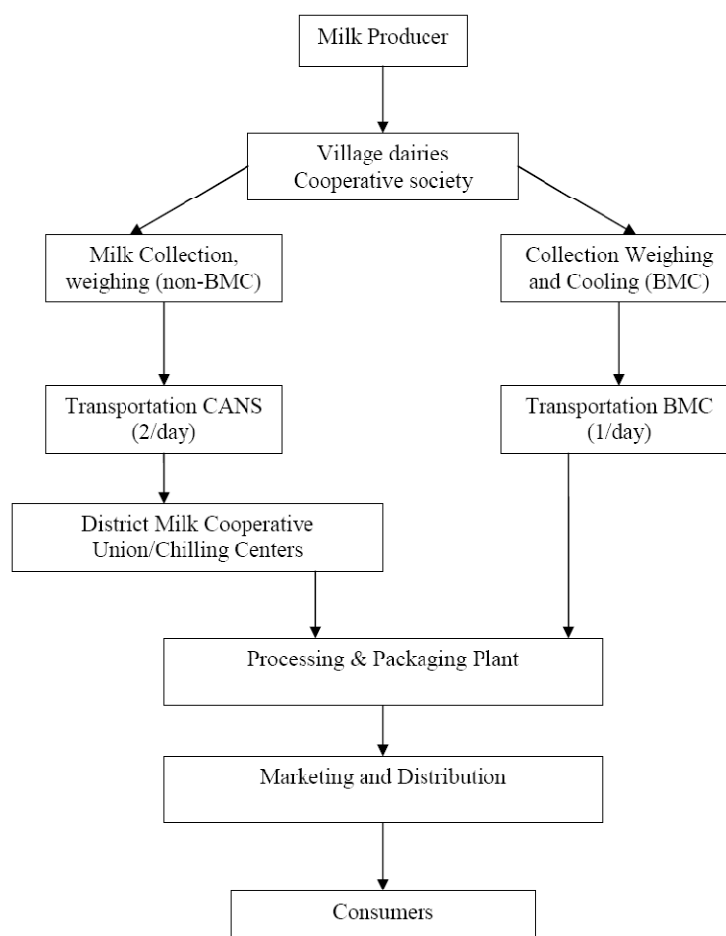
The supply chain in these cooperatives consists of two patterns of procurement, the cans and bulk milk coolers (BMC) procurement. Over the years, the number of VCS/DCSs having BMCs has increased drastically though cans are still used for transportation. Figure 2.2 shows the supply chain of these two methods of procurement from the village level to the final marketing stage at the state federation.

Bulk Milk Coolers at the village level were introduced in 1993 in Anand and 2003 in Bangalore Dairy for storage and preventing milk from turning into curd or getting sour. Table 2.1 show the composition and scale of operation of both *Amul* and Bangalore Dairy. In Anand, 16% of the VCSs have BMCs installed in them, and in DCSs under the Bangalore Dairy although there are only 85 BMCs, 172 DCSs are attached to them giving 15% of the total number of DCSs access to BMCs. Though *Amul* has a smaller number of VCS compared to the Bangalore Dairy, it has higher production per society. Therefore both *Amul* and Bangalore Dairy have similar production figures. The percentage of milk produced by BMCs to the total production per day is 11.1% and 16.5% for Bangalore Dairy and *Amul*, respectively.

TABLE 2.1: CAPACITY AND PRODUCTION FIGURES OF AMUL AND BANGALORE DAIRY

	Amul	Bangalore Dairy
<i>Total Number of VCS/DCS</i>	1018	1675
<i>Number of VCS/DCS with BMC</i>	168	85 plus 172 (total 257)
<i>Number of VCS/DCS without BMC</i>	850	1418
<i>Average production of VCS/DCS per day</i>	800.48	540
<i>Average Production of BMC VCS/DCS</i>	134,500	100,000
<i>Average Production of non-BMC VCS/DCS</i>	680,400	800,000
<i>Total Milk Production per Day</i>	814,893	900,000

FIGURE 2.2: MILK PROCUREMENT THROUGH CANS AND BMC



2.2.2 BMCs and Improvement in Quality

The introduction of BMCs has brought about considerable change in quality of milk collected and transported for processing by the village cooperatives. Changes can be observed in the reduction of sour milk content, flavour, bacterial count, fat percentage and solid non-fats (SNF) content. Table 2.2 compares various characteristics of BMC and non-BMC milk collected by the Bangalore Dairy. As the temperature of milk in BMCs is kept at 6-7 °, the milk stays fresh and acidity and alcohol free as fermentation levels are low. The Methylene Blue Reduction Test (MBRT), which reveals the level of bacteria in milk, has a timing of 180-240 minutes in BMC milk compared to 15-30 minutes in milk collected in cans showing reduced bacterial formations. The standard plate count (SPC) and the coliform count in BMC milk is also low as a result of cooling.

TABLE 2.2: COMPARISON OF QUALITY CHARACTERISTICS OF BMC AND CAN MILK

Parameters	Can Milk Quality	BMC Milk Quality
<i>Temp. of Milk</i>	25-32°C	6-7°C
<i>Flavour</i>	Slightly Acidic	Fresh
<i>Acidity</i>	0.16-0.18	0.15
<i>MBRT*</i>	15-30 mins	180-240 mins
Bacteriological Quality		
<i>SPC, cfu/ml⁺</i>	1-2 crores	10-20 lakhs
<i>Coliform</i>	2-10 lakhs	20-40 thousand
<i>Alcohol Test</i>	Positive	Negative

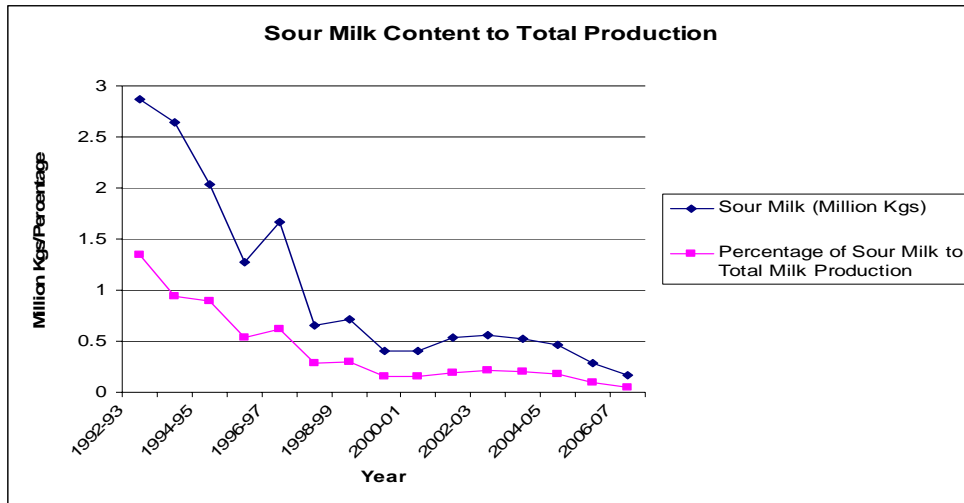
* = Methylene Blue Reduction Test

+ = Standard Plate Count, Colony Forming Unit/millilitre

While collection practices of BMCs have given the milk union the advantage of bacteria free, fresh and adulteration free milk, there are many processing advantages dairies able to reap as a result of this. For example, milk free of alcohol is suitable for the preparation of products that require sterilization. The processing of milk determines the quality and shelf life of milk only to a certain extent. The improvement of quality before the processing stages has helped improve the shelf life of milk in the market.

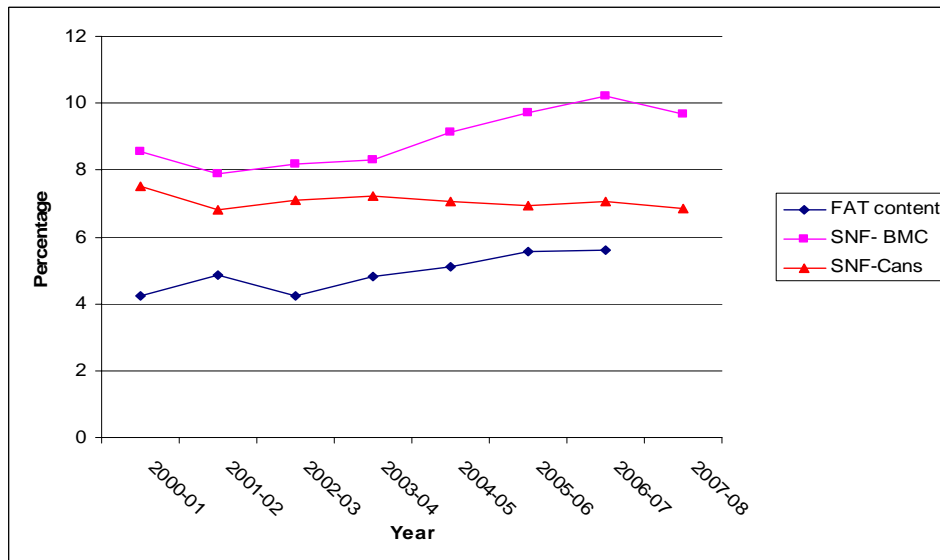
Figure 2.3, shows the volume and percentage of sour milk from 1992 to 2007 in *Amul*. The percentage of sour milk has dropped from 1.3 percent in 1992 to almost .05% in 15 years. Similarly, the volume of sour milk has dropped by almost 1.70 million kilos. A considerable improvement in fat content and SNF can be seen from milk collected from village cooperative with BMCs. The fat content in milk has risen by 1.35% and fat rate by 85.35 per kg (Figure 2.4).

FIGURE 2.3: VOLUME OF SOUR MILK AND PERCENTAGE OF SOUR MILK (1992-2007)



Source: GCMMF

FIGURE 2.4: CHANGES IN FAT AND SNF CONTENTS



2.2.3 Framework for Analysis

We assess the impact of introduction of BMCs on key stakeholders in the supply chain. The stakeholders we considered are: milk producers, village cooperative societies and district cooperative societies. In order to compute change in the profits (π) of milk producers (f), village cooperatives (vc) and district cooperatives (d) the following framework was used:

$$\pi_i = P_i Q_i - C_i$$

where $i = f$ (farmers) or vc (village cooperatives) or dc (district cooperatives), π_i is the profit, P is the price received and Q is the quantity sold and C is the cost. We examine the changes in the profit ($\Delta\pi$) for different stakeholders due to introduction of BMC.

Milk Producers

The benefits to milk producers arising out of introduction of BMC can be represented as follows:

$$\Delta\pi_f = \Delta P_f (Q_f + \Delta Q_f) + P_f \Delta Q_f - \Delta C_f$$

The equation captures the benefit both due to increase in the yield and price. The introduction of BMCs has brought considerable benefits to farmers supplying milk to the village cooperatives in terms of quality, yield and returns. The normal shelf life of milk that is not refrigerated is normally four and a half hours after milking. During this period farmers need to get their produce to the village cooperatives and they in turn have to send it to the chilling plant. Often this time constraint leads to reduction of SNF, fat content and also souring and curdling of milk affecting its quality.

Yield is another important aspect in milk production, which is determined by a number of factors ranging from health and breed of the livestock to feed. According to the International Livestock Research Institute, the timing between milking also has an effect on yield and quality. In the can system of procurement, there are normally two procurements a day from each village cooperative. The producer has to time the milking according to the collection timings, reducing the time between each milking. This drastically influences the fat and SNF content in milk as well as yield, which is reduced by almost a litre if the timing between milking is less than 12 hours¹. The premium price paid to farmers in Karnataka, for milk with 3.5% fat content and 8.5% SNF is 12.95 Rs. This premium increases by .05 Rs for every .01% of SNF and fat giving farmers better returns.

Village Cooperative Societies

The benefit to the village cooperative societies is represented in the equation below:

$$\Delta\pi_{vc} = \Delta P_{vc} (Q_{vc} + \Delta Q_{vc}) + P_{vc} \Delta Q_{vc} - \Delta C_{vc}$$

As there is no increase in quantity at the village cooperative level, the first part of the equation representing change in price because of increasing quantity is 0. The benefits at the VCS level are largely due to reduced spoilage and sourness of milk, and lower maintenance cost in the case of *Amul*. In village cooperatives under Bangalore diary, the maintenance cost is borne by the district cooperatives, therefore there is no cost incurred there. This is represented in the second part of the equation as change in quantity minus costs. The increased price due to better premiums for quality is considered in price.

District Cooperative Societies

The benefits to district cooperatives arising out of the introduction of BMC can be represented as follows:

$$\Delta\pi_{dc} = \Delta P_{dc} (Q_{dc} + \Delta Q_{dc}) + P_{dc} \Delta Q_{dc} - \Delta C_{dc}$$

The benefits gained at the district cooperative level represented in the equation above takes into account, the gains from reduced spoilage of milk, and decreased costs of transportation and chilling. The additional cost of maintenance of BMCs at the village cooperative levels in the case of Bangalore Dairy is also considered in the costs.

2.2.4 Cost Analysis

Though the initial implementing and maintenance costs of BMCs are high, the streamlining of the supply chain has helped cut costs at various stages while bringing benefits to the cooperatives as well as the primary producer.

Initial Costs and Maintenance

While the cost of BMCs varies with the size of the plant, there is a big difference in the price in GCMMF and Bangalore Dairy (Table 2.3). The difference however, is in the procurement patterns between the two unions. Though there is a central subsidy for BMCs in *Amul*, the VCSs bear the cost of the equipment as well as its maintenance costs. In DCSs of the Bangalore Dairy the district cooperative bears the cost of both purchasing the BMCs as well as its maintenance.

TABLE 2.3: COST OF BMCS IN GCMMF AND BANGALORE DAIRY

BMC Capacity	Price of BMC –GCMMF (Rs)	Price of BMC- Bangalore Dairy (Rs)
1000 kg	450000	600000
2000 kg	600000	800000
3000 kg	750000	1200000
5000kg	1000000	1500000

The other expense incurred with the implementation of BMCs is its running and maintenance. The rate of maintenance would vary depending on the power supply situation, the use of generators, oil and servicing of the machine. On an average, the BMC centre incurs a cost of Rs1.8 per litre of milk on maintenance in Bangalore Dairy and Rs 0.28 in Amul (Rs 0.14 fuel, Rs 0.14 maintenance). Though general maintenance of village cooperatives using cans is low there are other expenses incurred for purchasing and also maintenance and cleaning of cans. The average cost of a stainless steel can is Rs 3000 and its aluminium cap costs Rs 300. The average life span of a can is a year although rough and continuous handling sometimes reduces it to 7-8 months. With the help of BMCs this expense has been reduced along with expenses of cleaning and storage, which requires manpower and boilers for steam and hot water.

Transportation

The introduction of BMCs has made the transportation of milk easier while reducing transportation costs. The average transportation costs of *Amul* and Bangalore Dairy are given in table 2.4. A major cost reduction is achieved as a result of frequency of transport. The non BMCs use two types of trucks, the 6 ton truck that can carry 140 forty litre cans and a 3 ton truck with the capacity of 80 cans, twice a day. BMCs in its place use insulated tankers of 9000 litres to transport milk to processing units only once a day.

TABLE 2.4: THE COST PER LITRE MILK TRANSPORTATION IN BMC AND NON-BMC CENTRES

	Amul (Rs)	Bangalore Dairy (Rs)
<i>Non BMC</i>	.30	.32
<i>BMC</i>	.18	.26

The other advantage of using tankers for transportation is that there is a reduction in spoilage if the vehicle breaks down, absence of theft and loss from leakage, thus reducing the weight volume mismatch between the village cooperatives and the processing plants.

Processing Costs

A major reduction in the cost of processing is the chilling cost at the chilling plants, where can milk incurs a cost of Rs 0.32 per litre. Although BMC milk needs to be chilled before processing the temperature reduction is only 2-3 degrees compared to can milk, which requires a drop in temperature from 35 degrees to 3 degrees. The advantages of pre chilled milk is that at the pasteurization stages, milk is heated only to 72-75 degrees while can milk need 80-85 degrees of heat as a result of high bacterial count. The cost of processing is given in Appendix I. In practice however, after the chilling stage milk from cans as well as BMCs are mixed together taking away the advantages it has in terms of cost of processing. If a viable number of BMCs are established in village cooperative, processing can be separately done for BMC milk which will help reduce costs.

Reduced Damages and Bonus

There has been a substantial reduction of spoilage and curdling of milk with the introduction of BMCs. In *Amul*, spoilage of milk has been reduced by 3-4% per VCS, while the DCSs in the Bangalore Dairy have recorded a high rate of 10%. This translates to better bonuses to the farmers at the end of the year.

Bonuses are incentives given yearly to farmers for their produce according to the quality of the milk they produce. The introduction of BMC has helped farmers get a higher bonus premium for their produce as the quality of milk sent to the processing centres have improved. In the case of *Amul* farmers have got a .05 % incentive from the district cooperative societies for better quality milk with additional Rs 0.03 and Rs 0.02 per litre for hygiene standards and low bacterial content. In the Bangalore Dairy, the final profit to the district cooperative society is shared among producers at the end of the year. The imbursement structure of the profits is given in table 2.5.

TABLE 2.5: BONUS STRUCTURE OF THE BANGALORE DAIRY AT ALL LEVELS

Particulars	Percentage of Profit	Assessment = 100
<i>Reserve Fund</i>	25%	25
<i>Building Fund</i>	10%	10
<i>Share Dividend</i>	10%	10
<i>Education Fund</i>	2%	2
		47
<i>Balance</i>		53
<i>Bonus</i>	65%	34.45
<i>Charity Fund</i>	10%	5.3
<i>Cattle Development Fund</i>	10%	5.3
<i>Employee Bonus</i>	10%	5.3
<i>Propaganda Fund</i>	5%	2.65

Along with technological changes brought about to improve the quality of milk there have been initiatives to improve practices and production methods through information dissemination to farmers. Apart from technical assistance given to the VCSs, farmers are trained in the health and hygiene practices for animals and milk production. Information regarding the benefits and technicalities of technological innovation along with information regarding standards are given to farmers to improve practices.

The success story of *Amul* and Bangalore Dairy as a cooperative accomplishment has innovation, technological development and strategy as an integral part of it. In order to compete in the market with other established multi national brands quality standards have become a priority and

the GCMMF has adapted well to it. The GCMMF and KMF adheres to the certification of the International Standards Organization (ISO) and has also implemented Hazard Analysis and Critical Control Point (HACCP) certification and process and has since established a traceable system.

2.3 Economics of Quality in Bangalore Dairy and Amul

In order to determine the economic benefits brought about by the implementation of BMCs at all levels of the supply chain, a cost analysis was done on a per animal basis to determine the benefits to farmers, village cooperatives as well as the district cooperatives. Tables 2.6 and 2.7 shows the cost and benefits at different levels of the supply chain. Differences in costs between Amul and Bangalore Dairy chains can be observed at the village cooperative and district cooperative levels. The major differences in costs are with reference to rate of spoilage, maintenance and transportation costs, which are higher at the Bangalore Dairy. The maintenance cost in village cooperatives of the Bangalore Dairy is borne by the district cooperatives, which is an additional cost to their total operating costs. Milk yield changes that is possible due to proper intervals of milking in case of BMC has not been considered in the analysis.

TABLE 2.6: COST ANALYSIS (PER ANIMAL BASIS) OF THE BANGALORE DAIRY SUPPLY CHAIN (2009)

Particulars	BMC Milk		Non-BMC	
	Cost/litre	Per Animal	Cost/litre	Per animal
Milk Producers				
<i>Total Yield*(litres)</i>		10		10
<i>Price of Milk (Rs)</i>	12.95	129.5	12.95	129.5
<i>Additional price due to SNF/FAT increase+(Rs)</i>	1.5	15	0	129.5
<i>Loss due to Sourness</i>	0	0	3% or .3 litres loss (9.7 Litres remaining)	Rs 2.6 #
<i>Total Revenue (Rs)</i>		144.5		126.4
<i>Price Realized by Farmers (Rs)</i>	14.45	144.5	12.69	126.4
Village Cooperative Society				
<i>Loss due to sourness</i>	0	144.5	3.5% or .33 litres loss (9.37 Litres remaining)	Rs 3.07 #
<i>Maintenance Cost</i>	1.8 per litre (borne by District)		0.25 per litre (borne by district)	
<i>Final Selling price to District (.50 Rs + Premium Fat/SNF) (Rs)</i>	14.95	149.5	13.45	126.0265
<i>Margin to Society</i>	0.50	5.0	0.23	2.19
District Cooperative				
<i>Transportation</i>	0.26	2.6	0.32	3.20
<i>Loss due to sourness</i>	0	0	3.5% or .32 litres (Rs 4.30)	4.30
<i>Chilling</i>	0	0	0.32	3.20

<i>Processing</i>	1.49	14.9	1.49	14.9
<i>Carry over cost from DCS (maintenance)</i>	1.8	18.0	0.25	25
<i>Operating Expenses and loss</i>	3.55	35.5	2.81	28.1
<i>User Cost of capital per litre</i> [^]	0.38	3.8	-	-
<i>Total Expenses + loss</i>	3.93	39.3	2.81	25.92
<i>Revenue for Farmers and Society</i>	14.95	149.50	12.92	129.2
<i>Cost to DCS</i>	3.93	39.3	2.81	28.1
<i>Net benefit</i>	11.02	110.2	10.11	101.1

* Increase in yield at the farm level is also possible as a result of increased intervals between Milking.

+ A 1 and 2% increase is seen in fat and SNF, where milking intervals are longer.

Price of milk with sour milk @ 4 Rs per litre

^ User cost of capital is the opportunity cost and depreciation divided by the capacity utilization of the BMC in a Year (assuming utilization = 80%)

Table 2.7: Cost Analysis (Per Animal Basis) of the Amul Supply Chain (2009)

Particulars	BMC Milk		Non-BMC	
	Cost/per litre	Per animal	Cost/litre	Per animal
Milk Producers				
<i>Total Yield* (litres)</i>		10		10
<i>Price of Yield (Rs)</i>	12.95	129.5	12.95	129.5
<i>Additional Price due to SNF/FAT increase+(Rs)</i>	1.5	15	0	129.5
<i>Loss due to Sourness</i>	0	0	1% or .1 litres (9.9 litres remaining)	Rs0.89#
<i>Total Revenue (Rs)</i>		144.5		128.61
<i>Price realized by farmers (Rs)</i>	14.45	144.5	12.86	128.6
Village Cooperative Society				
<i>Loss due to Sourness</i>	0	0	1.5% or .14 litres (9.76 litres remaining)	Rs 1.21#
<i>Maintenance Cost(Rs)</i>	0.28	2.8	0.25	2.44
<i>Final Selling price to District (.50 Rs + Premium Fat/SNF) (Rs)</i>	14.95	149.5	13.45	131.27
<i>Margin to Society (Rs)</i>	0.15	1.5	0.14	1.43
District Cooperative				
<i>Transportation (Rs)</i>	.18	1.8	0.3	3.0
<i>Sourness</i>	0	0	1.5% or .14 litres (9.61)	Rs 1.88

			litres remaining)	
<i>Chilling(Rs)</i>	0	0	0.32	3.20
<i>Processing (Rs)</i>	1.49	14.9	1.49	14.9
<i>Operating Expenses (Rs)</i>	1.67	16.7	2.30	23.0
<i>User Cost of capital per litre ^ (Rs)</i>	.30	3.0	-	-
<i>Total Expenses + loss (Rs)</i>	2.01	20.1	2.78	27.88
<i>Revenue for Farmers and Society (Rs)</i>	14.60	146	12.86	128.6
<i>Cost to DCS (Rs)</i>	2.01	20.1	2.78	27.8
<i>Net benefit (Rs)</i>	12.59	125.9	10.08	100.80

* Increase in Yield at the farm level as a result of increased intervals between Milking.

+ a 1 and 2% increase is seen in fat and SNF, where milking intervals are longer.

Price of milk with sour milk @ 4 Rs per litre

^ User cost of capital is the opportunity cost and depreciation divided by the capacity utilization of the BMC in a Year (assuming utilization = 80%)

2.3.1 Assessment of Impact of BMC

The benefits and costs to farmers, village cooperatives and the district cooperatives in both Amul and Bangalore Dairy supply chain is given in Table 2.8. The net benefit is obtained for the whole supply chain. BMC benefit is substantial for producers both in the Amul and Bangalore Dairy chain. As far as the village cooperatives are concerned the benefit is marginal in the case of Amul as the cost of maintenance of BMC is borne by them. However, the District Cooperatives in Amul chain are able to reduced cost substantially. Overall we There is positive net benefit in both the chains and is particularly significant (10%) in the case of Amul chain.

TABLE 2.8: BENEFITS/COSTS (RS PER LITRE) TO VARIOUS STAKEHOLDERS IN THE SUPPLY CHAIN

	With BMC	Non-BMC	Difference
<i>Price realization for Milk Producers</i>			
Amul	14.45	12.86	1.59
Bangalore Dairy	14.45	12.69	1.76
<i>Benefit to Village Cooperatives</i>			
Amul	0.15	0.14	0.01
Bangalore Dairy	0.50	0.23	0.27
<i>Cost to District cooperatives</i>			
Amul	2.01	2.78	-0.77
Bangalore Dairy	3.93	2.81	1.12
<i>Net Benefit</i>			

Amul	12.59	10.08	2.51
Bangalore Dairy	11.02	10.11	0.91

*Assuming market Price $P_d = 16$ Rs

In the case of Bangalore Dairy the maintenance costs is high due to irregular power supply and therefore BMC requires the use of generators. In comparison, Amul shows a profit at all stages of the value chain. The analysis does not consider the other tangible and intangible benefits at the processing stage. BMC milk with high fat and SNF contents is used to make high value dairy products, which brings higher return to the Dairy. As the proportion of BMC milk compared to can procured milk is low, separate processing is not viable, so in most dairies, once milk is cooled both the BMC and can milk is mixed before processing. BMC milk at the processing stages has the advantage of requiring lower heat for pasteurization as well as cooling for further storage. This could help in reducing fuel and electricity costs during processing. But unless more BMCs are installed for supplying for separate processing this will not be profitable.

3. Standards and Improvement in Food Quality – A Case on Mobile Street Food Vendors in Karimnagar, Andhra Pradesh

Street food plays an important role in urban life in India, as it provides livelihood support to a number people in the lower income group as well as inexpensive and nutritious food to consumers from different socio-economic strata. Middle-income urban groups also often consume street food, as the prices are low (Bhowmik, 2005). However, many urban consumers do not use street food due to poor hygiene and quality of food sold by the vendors.

Food vending is not a licensed or regulated practice in India. In the absence of such mechanisms in the market, there is information asymmetry and uncertainty about the quality of food and goods sold by the vendors. Street food is often characterized by poor hygiene and low quality. For consumers there is a high level of uncertainty about street food due to the lack of information regarding its quality. Limited access to clean water and poor hygienic practices make consumers prone to water borne diseases like cholera, dysentery and diarrhoea, limiting the outreach of street vendors to only certain income groups. Among poor income groups, the average expenditure on food may go up to 70 per cent (Malik, 2006). A study conducted on street food in Kolkata by the FAO, reports that street food is the cheapest and most nutritious food that can be obtained outside home. A typical meal of 500 grams at the cost of 0.25 dollars can provide up to 1000 calories with 20-30 grams of protein, 12-15 grams of fat and 174-183 grams of carbohydrates (FAO, 2002). In India, for the lower and lower middle income groups, the pushcarts are an alternative to restaurants. For the migrant population in many towns and cities, street food is the major source for nutrition (Bhowmik, 2005).

3.2 Standards in Street Food and the ‘Aarogya’ Project

The concerns of street food quality are common to most developing countries, where the problem of hygiene and quality make people prone to diseases and epidemics. For more than a decade now the Codex Alimentarius Commission (CAC), FAO/WHO has helped create regional guidelines for street food standards in countries in Africa, Asia and South America. The FAO has been giving technical assistance to many countries to formulate their standards in street food that in the past been have caused many epidemic outbreaks. (FAO 2002).

In Karimnagar, 80% of street food vendors prepared food items at home and transported for sale. Improper handling of food items during storage and transportation made food prone to contamination. For vendors who prepared their food on site, there were dangers of health risks as the necessary infrastructure was not in place for the preparation of contamination free food. Infrastructural and sanitary facilities, clean water supply, waste handling requirements, and general hygiene established by the health system for preparing and handling food were absent.

Dr. Reddy’s Foundation (DRF) is a not-for-profit establishment set up in 1996 aims at creating opportunities and equality in education and livelihood. The ‘Livelihood Advancement Business School’ (LABS), a flagship program of DRF, promotes programs targeted at youth and women in the age group of 18 -30 years from economically weaker sections of society to enable them to access opportunities for sustainable livelihoods. One of the major programs of LABS is the Aarogya – safe food, safe water project aimed at upgrading the socially underprivileged Mobile Food Vendors (MFVs) sector.

The Aarogya program collaborated with the Municipal Corporation of Karimnagar and Nizam Institute of Medical Sciences, Hyderabad. As a part of the project, various community agencies, civic authorities, citizen groups, industry representatives and academic institutions got involved and were sensitised in this matter. According to the Social Audit Report, this pilot project was executed in a way that it could be easily replicated through sustainable model with minimal inputs at the end of the assignment period. The pilot project involved identifying, training and implementing street food standards to 75 Mobile Food Vendors (MFV) in the town. Specific training modules on personal hygienic, maintenance, health and hygiene, customer relations, cleanliness and the impact of standards on business and community were delivered to the participants. (Social Audit Report, *AAROGYA, 2007*). Training was conducted for the vendors and they were provided with scientifically built carts and access to clean water. Health camps and medical checkups were also conducted for vendors, to educate them on safe practices and ensure good health.

3.3 The Impact and Assessment of Standardization under the *Aarogya* Project

In order to assess the impact of standardization on MFV in Karimnagar, this explorative study examined how standards has helped improve hygiene and food preparation methods, change in perception of quality and hygiene, the extent of price realization and increase in scope of opportunities for micro-enterprises. As per our findings, the results showed that only 60% of MFVs are practicing what they learned in their training, while the remaining have retained their earlier practices or have given priority to convenience when it came to the guidelines that were to be put in practice. Some vendors who did not go for training learnt and adopted some of the practices from the neighbouring MFVs.

The noticeable changes made by MFV’s after the training programme is given in table 3.1 below.

TABLE 3.1: CHANGES BROUGHT ABOUT BY THE PROGRAMME

Before	Now
<ul style="list-style-type: none"> MFV’s had no licensing and no security in business 	Fully certified by Karimnagar Municipal Corporation (KMC)
<ul style="list-style-type: none"> No infrastructure – carts were old and inconvenient. 	Scientifically designed carts provided
<ul style="list-style-type: none"> Lack of clean water for consumption and food preparation 	Water is now provided by the KMC
<ul style="list-style-type: none"> Lack of awareness on food hygiene standards 	After training 60% of MFVs are following hygienic practices
<ul style="list-style-type: none"> Lack of brand identity 	‘AAROGYA’ is used as a certified brand.
<ul style="list-style-type: none"> Lack of financial assistance 	Credit provided by Union, UTI, PNB, SBI and ANDHRA banks.

<ul style="list-style-type: none"> • Poor food-handling practices and poor sanitation condition at the site 	Now only 40% of MFVs facing these problems
<ul style="list-style-type: none"> • No regulation to control and monitor street food vendors 	No regulation still.
<ul style="list-style-type: none"> • Lack of support from government 	Now 77 percent MFVs water facilities and certification
<ul style="list-style-type: none"> • Poor levels of awareness of food vendors/consumer 	Largely the programme has brought about awareness to both consumers and vendors.

3.3.1 Implementation and improvement in hygiene and food quality

Improvement in hygiene and food quality can be seen from the change in methods and infrastructure used in preparing street food, access to clean water and in basic sanitary practices. The water used by food vendors need to be clean for cooking, drinking, dishwashing, etc., as water can be the source of many water borne diseases like typhoid, cholera and dysentery. Before standardisation of water use, MFVs used mostly tap water for cooking. Now, the KMC has facilitated the access of the municipal water supply to the street vendors through tankers. According to the KMC, 77% MFVs now have access to the municipal water (Figure 1).

The survey on customers shows that 80% of them do not drink water from the MFVs. This was due to uncertainties about clean water. Before the Aarogya program, most of the MFVs only strained the water using a cloth. Seven percent of the vendors used water without straining it. After the Aarogya program, most of the vendors have access to clean water from the municipality and most of them boil water before use (Figure 2)

The training has also helped in the improvement of sanitary and cleanliness practices among the vendors. Washing of hands is important in preventing contamination of food during its preparation and serving stages. Figure 3 shows the change in habits before and after training and standardization. Though a larger proportion of vendors have changed their practices, 53% of vendors still wash their hands using only water. However, 37% of vendors now use soap or washing powder to wash their hands.

Figure 1: Source of Water Before and After *Aarogya*

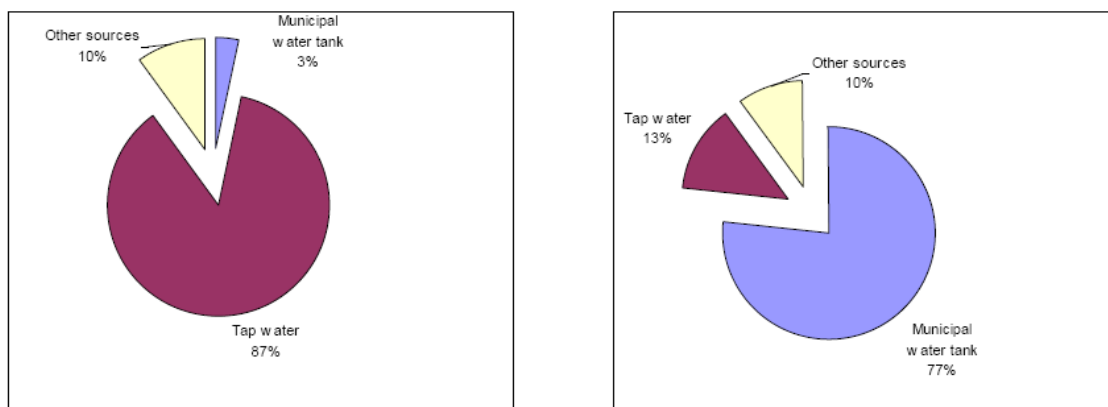


Figure 2: Washing of Hands Before and After *Aarogya*

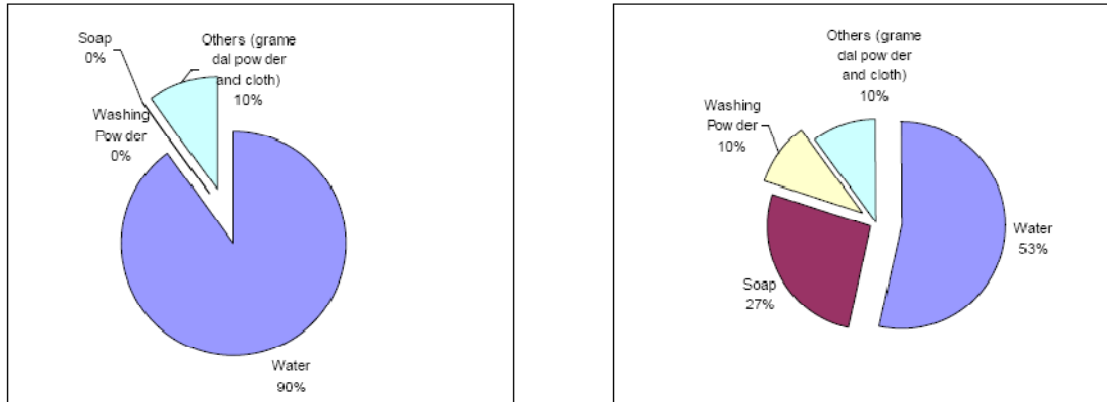
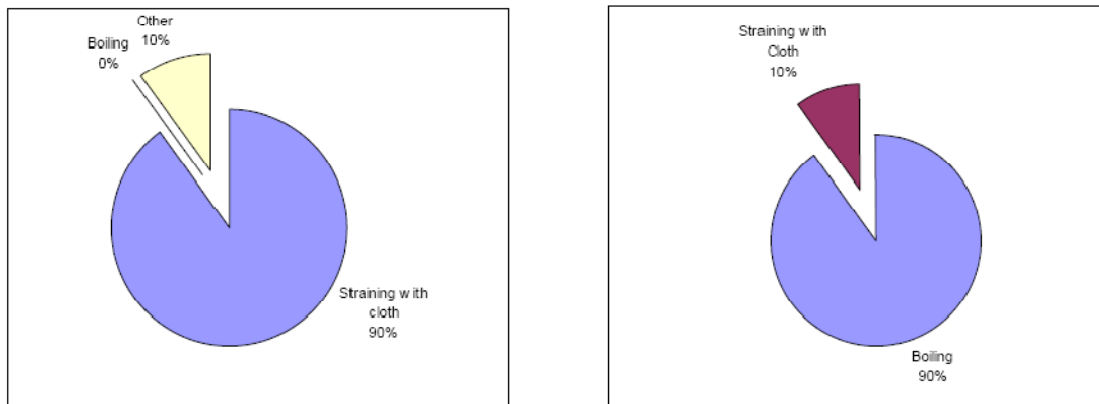


Figure 3: Purifying Water Before and After *Aarogya*



3.4 The Economic Impact of Standardisation on Mobile Food Vendors

The benefits of adhering to standards in street food can be seen in the improvement of food quality and cleanliness as well as in the economic benefits to the food vendors. There have been substantial changes in earnings, cost of production as well as food wastage after the implementation of standards under Aarogya. The break up of the changes in costs, earnings, food wastage and income of vendors under the Aarogya programme are shown in figures 4 to 8.

Figure 4 compares the average cost of raw materials purchased by vendors for their business per day before and after the implementation of Aarogya. The paired t-test done on the survey data shows significant difference in costs before and after (Table 2) implementing the project. The mean difference in the cost of raw materials has gone up 33.1% as a result of implementing standards, due to increased business.

Better preparation methods and cleanliness of vending carts has helped bring down the rate of spoilage and wastage of food (Figure 5). The paired t test done on the extent of wastage (Table 3.2), shows the difference in the wastage before and after is significant and the mean percentage decrease in wastage is 59.7%.

According to the vendors, after training and implementation of standards, their gross earnings per day have increased substantially (Figure 6). Table 3.2 shows the results of the paired t-test before and after the implementation of Aarogya. The mean percentage increase in gross earnings shows an increase of 41.6%.

Figures 7 compare the total expenditure of vendors before and after the implementation of standards under Aarogya. In terms of total expenditure, there has not been a substantial increase though the number of vendors spending less than 200 rupees per day has decreased to 3% from 17%. There is an average increase of expenditure by 13.5%.

Figure eight show the increase in the per day gross earnings of vendors who participated in the training programme. A majority of them (54%) say their earnings have increased Rupees 200 or less, while 33% and 13% of vendors say that their earnings have gone up by Rs 200-500 and above Rs 500, respectively. The vendors were also asked about the increase in the number of customers after they had implemented standards. The figure shows 38% of them said that there was an increase of about 20 customers while 31% said there was an increase of about 30 customers. Four percent of them said that there been increase by more than 30 customers after the implementation of standards.

Table 3.2: Paired T-Test Results to Determine Changes before and After Aarogya

Paired Difference					t	df	Sig.(2-tailed)
Before & After	Mean	Std. Error Mean	95% Confidence Interval of the difference				
			Lower	Upper			
Cost of Materials	108.33	12.47	82.81	133.84	8.68	29	.000
Wastage	-29.66	4.56	-38.99	-20.33	-6.50	29	.000
Gross Earnings	325	46.22	230.46	419.53	7.031	29	.000
Total Expenditure	58.66	14.52	28.95	88.37	4.03	29	.000

Figure 4: Cost of Raw Materials Before and After *Aarogya* (In Rupees)

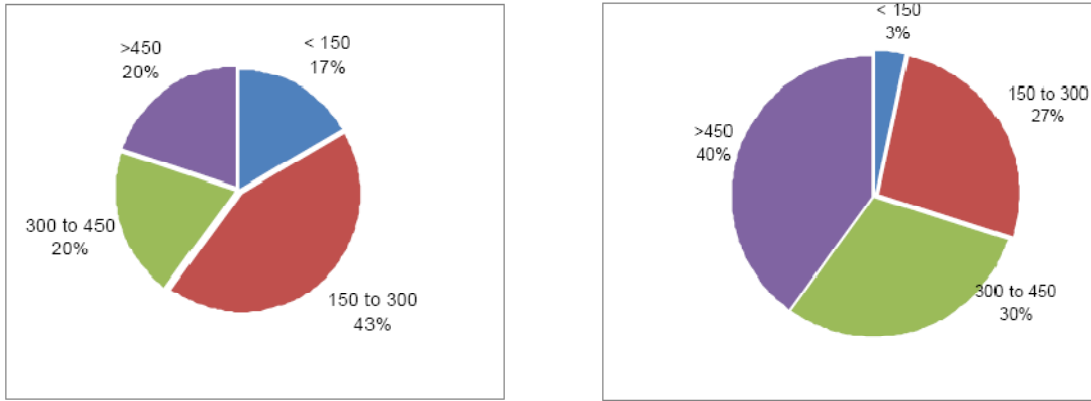


Figure 5: Wastage Before and After *Aarogya* (In Rupees)

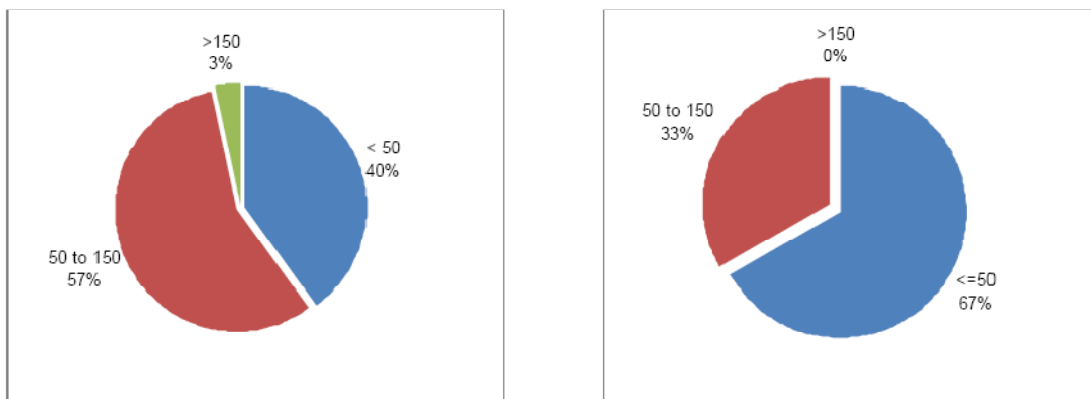


Figure 6: Gross Earnings Before and After *Aarogya* (In Rupees)

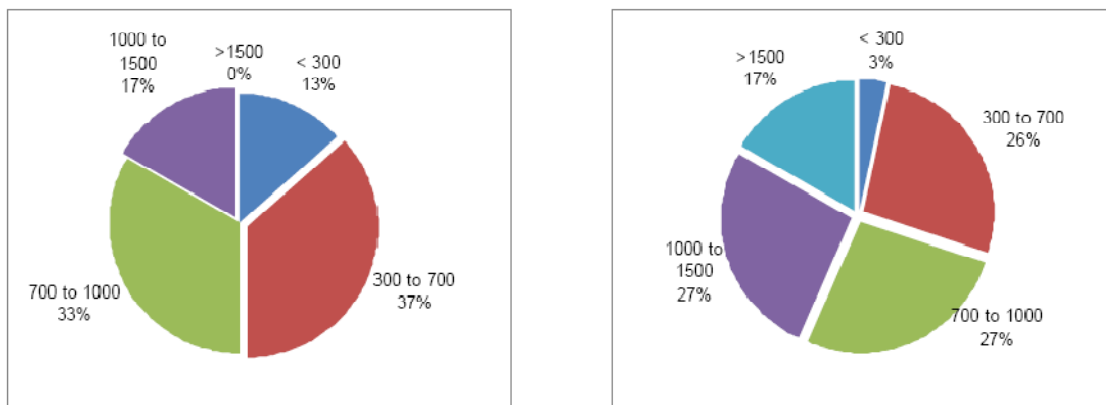


Figure 7: Total Expenditure Before and After *Aarogya* (In Rupees)

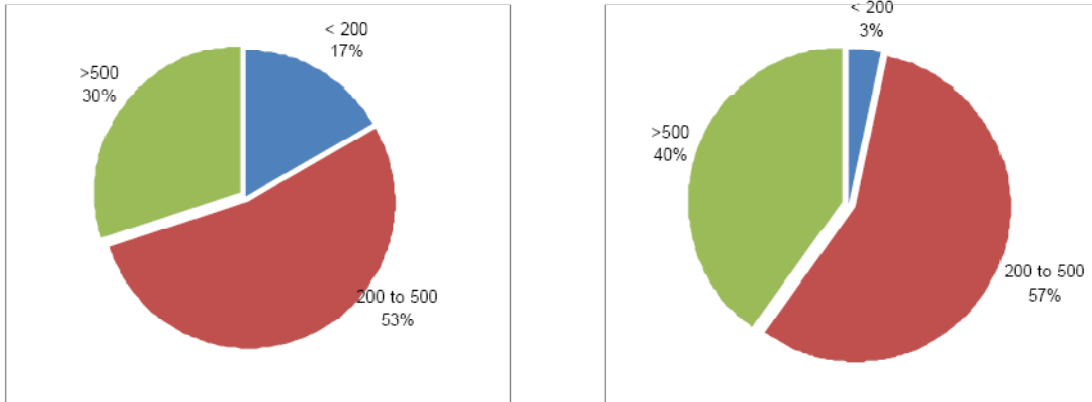
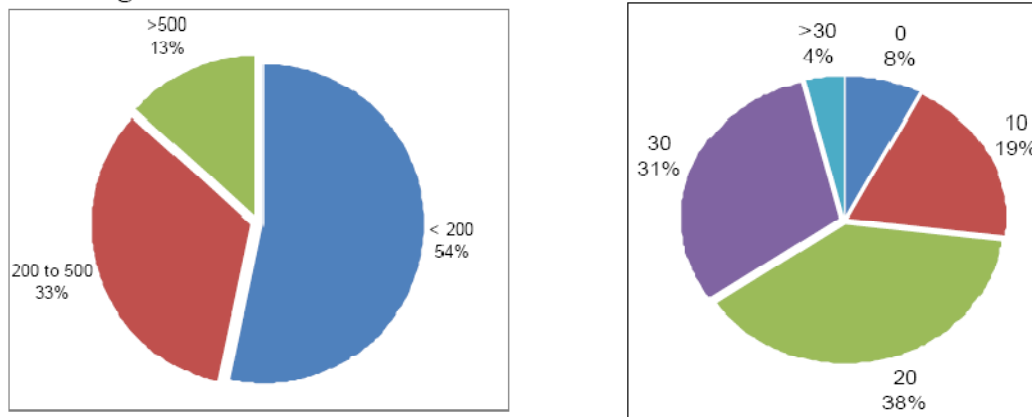


Figure 8: Increase in Gross Income and Number of Customers



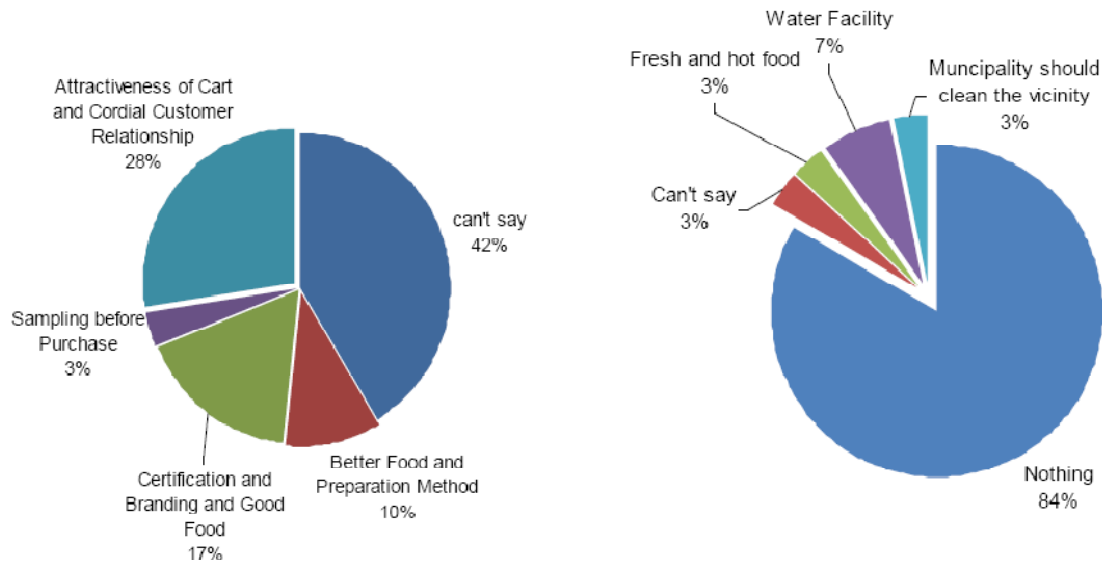
No significant difference in prices among items of food was observed in different areas during the study. The prices charged by vendors were competitive and some vendors used selling strategies like variations in quantity served to increase their sales. None of the vendors have increased their prices after the implementation of standards and any increase in price was because of genuine increased costs in operation or raw material. During 2007, prices among some vendors rose only by Rs.1/item.

3.5 Consumer perceptions on quality and hygienic conditions

In order to determine and understand the changes that were brought about as a result of implementing standards from a customer's point-of-view, they were asked about the changes they noticed after standardisation. Twenty eight percent of the customers said that they visited the MFVs due to the attractiveness of the carts and changes they noticed in the behaviour of the vendors. Ten percent said that the branding and certification of the MFV had made a difference in their decision. Better food preparation and marketing techniques like sampling comparatively made only a small difference to the respondents of the survey. When asked about suggestions for further improvement,

84% of the customers said that they had no suggestions (Figure 9). Only 7% of the customers said that they need water facilities for washing and drinking.

Figure 9: Customers reasons for Increased Sales and Further Suggestions



Street food vending is an important service as well as an opportunity many low income people in the changing urban scenario. To the lower and lower middle income groups, it provides cheap and accessible food and to the urban poor it provides an economic opportunity. However, the regulation and standardization of street food is also important, as the risks involved with regard to public health and safety are high. The success of street food standardization in various developing countries of Africa, South America and Asia under various initiatives shows that a successful implementation of street food standards increases business through an increased customer base while lowering instances of disease and epidemic outbreaks.

Despite its initial success, there are a number of challenges at hand for both the DRF as well as the street food vendors. Aspects like waste management, cleanliness of the vicinity, follow up and adherences to standards are the challenges that still need to be addressed at different levels. Poor monitoring and coordination of street food as well as the voluntary nature of standardization may still pose the challenge of health risks.

Conclusions

The standardization program piloted in Karimnagar and introduction of BMCs in Amul and Bangalore Dairy are examples of the importance of standards and certification, technological innovation and good supply chain management to ensure quality and marketability of food products. The study highlights how changes in technology and practices enable micro enterprises to effectively compete in the food value chain and thus help improve their sustainability.

In the case of Amul and Bangalore Dairy, the establishment of a cold chain with the help of BMCs has helped all stakeholders in the supply chain by increasing yield and quality of milk, reducing milk spoilage, and lowering cost of production. This has had a major impact on costs and marketability of milk and milk products later stages of the

value chain benefiting both the cooperative as a whole as well as the primary producers. In the case of the food vendors in Karimnagar, the improvement in hygiene and food preparation practices have helped in making street food safer while increasing marketability and sales. This has helped increase access to street food, broadening customer bases of the vendors as quality assurance has led to reduced uncertainty. Standards in street food and technological innovation through the BMCs have helped reduce wastage adding to the benefits of the producers.

Standards and good supply chain management can help increase market access, information flow and supply and demand orientation of the producers helping them adopt good practices at all levels. In order to bring about inclusive economic growth and aid primary producer's and micro enterprises to access markets, emphasis need to be given for implementation of standards and infrastructural development.

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APPENDIX I

Processing Cost of Milk

Activities	Cost Rupees/litre
<i>Consumption of Furnace oil</i>	0.17
<i>Electricity</i>	0.2
<i>Water</i>	0.09
<i>Packaging</i>	0.65
<i>Conversion (Fat Extraction, Skimming)</i>	0.02
<i>Store Consumables (Refrigeration etc)</i>	0.06
<i>Miscellaneous</i>	0.3
<i>Total</i>	1.49

ⁱ The fat content in milk in morning and evening milking, as a result of shorter milking interval between the morning and evening milking and the evening and morning milking.

Innovation in Mexico's electricity industry

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Abstract

The article examines the importance of innovation in the Commission Federal of Electricity (CFE), and discusses the type of innovations that are developed in electricity industry. According to the Oslo manual, there are four types of innovation: product, process, marketing and organization; but design innovation also plays an important role in the success of some enterprises.

This is based on an empirical investigation of key executives in at the Commission Federal Electricity (CFE). Based on executive perception, the study presents the perceived importance of innovation in management activities, as an important source of competitive advantage.

The paper compares theoretical perspective on innovation with existing practices in leading Electricity Company in Mexico.

Keywords: Innovation, Competitive Advantages, Electricity Industry

1. Introduction

Today the companies have challenges due to technological advances, the evolution of the expectations of the clients and the short product life cycle. The innovation plays a fundamental role to face those challenges and to promote a competitive advantage that would improve and to maintain the sustained business performance (Becheikh, Landry, & Amara, 2006).

In this article the authors emphasize the importance of the innovation in the competitiveness of the organizations, and highlight this activity is not something accidental or fortuitous but the actions related to the innovation have become a culture in the organization.

This empirical research was conducted by the Institute of Economic and Business Research (ININNE) at the Universidad Michoacana de San Nicolás de Hidalgo. The study focused on CFE, which was created under the CFE, to organize and direct the national development of power generation systems, transmission and distribution of electricity. The electricity industry in Mexico is in charge of the Federal Electricity Commission (CFE). The CFE is an organization with a strong vertical integration, which is also the only company in Mexico responsible for the provision of public electricity service throughout the national territory (Balart & Rojas, 1999). Due to the strategic importance of CFE, the key executives in the CFE of the central western Mexico carried out this study to measure perception of innovation (s).

This study used the classification of 1974 when CFE was divided throughout Mexico into thirteen Divisions, which currently manage, distribute and sell the electricity generated in its area of jurisdiction (González Pérez, 1996).

2. Literature review

In recent years, the world has witnessed the power of innovation and its various constituents in revolutionizing the business and economic landscape. With the advancement of the knowledge economy, the world is also seeing how innovation empowers individuals, communities and countries with profound impact on business.

,politics, and society. What is equally evident is the increasing role that innovation plays in accelerating economic growth and promoting development(Dutta, 2010).

Innovation is an important factor of economic development and increased productivity and therefore of the competitiveness of the regions and the nations (OCDE, 2009).

Today, many highly competitive companies in the world are turning their attention towards innovation, continue to invest on innovation in order to improve performance Vast majority of senior managers emphasize that innovation is one of their top priorities and a key driver of growth (Emerald, 2008).

Peter Drucker suggested in 1965thatone day knowledge would replace the machinery, capital, materials and labor will become the most important factor in production (Drucker P. , 1965), More over Nonaka and Takeuchi, (1995)indicate that knowledge and innovation have been the main factor of success in Japan on business and has provided some competitive advantages. On the other hand, it is unquestionable that innovation can be applied to products, services and procedures. This can be a continuous evolution(Verzyer, 1998).

The National Innovation Initiative(NII) defines innovation as the intersection of invention and insight, leading to the creation of social and economic value(Competitiveness, 2005).Drucker emphasized the importance of innovation as it is crucial for survival (Drucker P. , 1999)Oslo manual defined innovation as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.(OSLO, 2006). It highlighted four types of innovations: product innovations, process innovations, marketing innovations and organizational innovations.

Undoubtedly, the link between innovation and economic change is of central interest. Through innovation, new knowledge is created and diffused; expanding the economy is potential to develop new products and more productive methods of operation. Such improvements depend not only on technological knowledge, but also on other forms of knowledge that are used to develop product, process, marketing and organizational innovations. Specific types of innovation can differ greatly in their impact on firm performance and on economic change. For this reason, it is important to be able to identify the implementation and impacts of different types of innovation.

Nevertheless, in agreement with the investigation developed by the Council of Design of the United Kingdom shows that design plays a fundamental role in the success of some company leaders, in which the key element is the innovation(Emerald G. , 2008). The design is increasing its position as a key factor in the innovation process, and investment in design is one of the greatest assets for businesses and nations. In other words, the design must be understood as a strategic resource used to heighten the competitiveness of the companies (Power, 2004). The phenomenal market success of products such as Apple's iPod and products made by companies like Sony, LG and Samsung are widely attributed to the ability of companies to use the design effectively throughout their business strategies(Nussbaum, B., 2005).

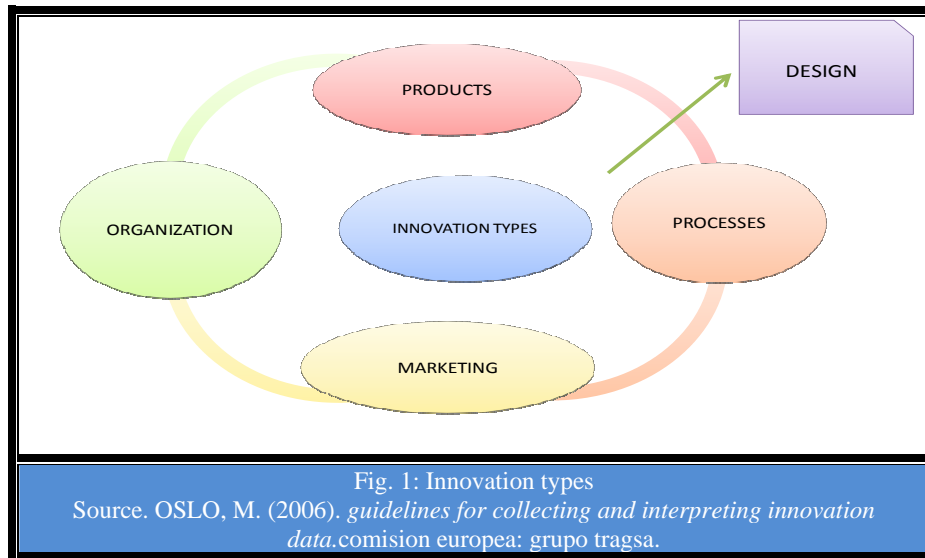
The traditional industries, such as, furniture, textiles and dress making, also sustain their businesses by re-invent themselves through effective use of the design(Lorenzen, 1998); (Rantisi, 2002); (Leslie & Reimer, 2003).

Other studies emphasize that, "the Innovation is intrinsically a dynamic phenomenon and needs to be examined of that way. To observe the innovation requires an understanding of the processes through which this happens" (Malerba & Brusoni, 2007). Furthermore, the accelerating pace of change and increasing complexity and uncertainty, the ability of firms to adapt in their external environment, characterizes this and to remain competitive is closely related to their capacity to innovate and continuously upgrade and renew their knowledge bases, products and structures (Johannessen, Olaisen, & Olsen, 1999).

Is evident, the existing studies on the phenomenon of innovation highlight four different perspectives. First individual innovation, second, the company or an organization, as a source of innovation third, the emergent scholastic networks in innovation work insist on the importance of external relations, especially with other companies. Finally innovation systems, nowadays so popular that emphasizes the complex network interactions and the institutional environment to facilitate relations of economic agents. The formation of innovation networks reflects the fact that companies do not innovate in isolation from the surrounding environment. Therefore, as mentioned above innovation processes depend on a variety of factors. Some of the important ones are the size of the firm its structure, technology-intensity of the company, etc.

Pavitt (2005) argues that at the level of the firm, innovation processes needs to be divided, into three overlapping sub-processes. 1.- Cognitive, how firms generate and maintain the know-how to conduct theirtasks;2.- organizational, how firms operate internally or in collaboration with other firms and organizations; and3.- economic, how firms establish internal incentives to ensure innovation proceeds quickly

and in the desired direction. In addition, innovation is vital for the long-term growth and performance of organizations. Top executives in business organizations are aware of that. In a recent survey (78 percent), approximately of the 540 CEOs interviewed said that “stimulating innovation, creativity, and enabling entrepreneurship” is a top priority of their organizations. Motivating innovation remains, however, a challenge for most organizations (Manso, 2007). So all the concepts mentioned previously force us to ask, what are the sources of innovative ideas used in the processes of innovation in the CFE? ¿What are the types of innovations more frequently generated in the CFE. In order to answer these questions this research provides empirical evidence from different sources of innovation and the generation of some type of innovation in the CFE, which are show in figure 1.



3. Methodology

This empirical investigation was in the Federal Commission of Electricity (CFE) with the objective of finding out the relationship between the variables that create different types of innovation and sources of innovation. The author chose this company because of its reputation as a world-class company. The results presented in this paper are based on responses to a questionnaire survey of heads of departments and managers in the CFE, in the last quarter of 2010. The questionnaires contained 40 questions and 116 responses were obtained. The first part contained general questions, the second part included questions on five types of innovation, and the last part contained questions that are intended to identify the main sources of innovation. The research methodology used a descriptive -correlational-causal design, because it describes the object of study; and second it determines the correlation and causality that have the independent variables relating to five (5) different types of innovation. The questionnaire obtained executive perceptions using Likert scale type of questions. That is to say, it presented each statement and asked the respondents choose any one of the five points in the scale. Each point has a numeric value. Thus, the subject obtained a score over the final affirmation and its total score obtained by summing the scores in relation to all affirmations (Hernandez Sampieri & Fernandez, 2010).

Based on the responses, the author classified the responses as high or low and obtained final weight in response alternatives to establish the values of this scale and range positions. Based, on the second considerations, the allocation of scores on the scale of measurement was composed of the following values determined. 1, 2, 3, 4, 5, for each item, corresponding to these numbers the following concepts: 1) Very low level of innovation, 2) Low level of innovation, 3) regular level of innovation, 4) High level of innovation and 5) Very high level of innovation. As the scale of Likert is additive, the scores are obtained by adding the values understood in each question in the questionnaire, remembering that the number of categories of answer is the same for all the questions. In a Likert scale, the maximum score equals to the number

of items multiplied by the highest score for each alternative response. While the minimum score is the result of the number of items multiplied by the lowest score of the answer choices (Navarro Chavez & Pedraza Rendon, 2004). For the global and detailed analysis of this research, a general scale is required to measure the level of innovation in the CFE in the Division Center the West of Mexico. This scale considers the entire questionnaire for its measurement. The scale is conformed to a maximum of 200 points (40 questions multiplied by 5, which it is the maximum value in each) and a minimum of 40 points (40 multiplied by 1 that are the smaller score for each question). Then the level is between the values of 200 to 40 points. The intermediate level is obtained to perform a subtraction between the maximum and minimum value and the result is divided between the categories used in our case is five. This will be presented to give the overall results below:
 Maximum value 200 (-) 40 minimum = 160 divided by 5 = 32 points in each ranges.

No.	Table 1: Reliability of Independent variables	Alfa de Cronbach
1	Products and Services	.914
2	Process	.891
3	Marketing	.750
4	Organization	.909
5	Design	.832
No.	Dependent variable	Alfa de Cronbach
1	Innovation and Reliability of the measuring instrument	0.959

4. Findings

In this section, the results obtained from the empirical investigation were analyzed and the quantitative character of the independent and dependant variables were examined to analyze the propensity that the CFE maintains to carry out innovation activities. An important aspect of this research is the measurement of the reliability of the measuring instrument. A questionnaire is reliable, when it measures with the same precision, gives the same results, in successive applications realized in similar situations (Santillana, 1998). The number of questions contained in the measuring instrument applied is 40 and its Alpha of Cronbach is 0.959, from equal way we proceeded to measure the reliability of each one of the variables (to see table N° 1).

In the measuring instrument used in this study, addressed questions considered at the beginning to know the present situation of the activities of innovation in the CFE, which turned out to be very beneficial since very interesting information of the consulted sources obtained as described below. The staff surveyed considered that this company is a world class for the following reasons, it is profitable (45%), good quality service (30%), a competitive company (20%) and has a care full approach to the environment (5%).

The 60% of respondents considered that the current level of innovation in the CFE is low; however, 70% of respondents felt that the budget for innovation in CFE is high; on the other hand, 85% of respondents said sometimes the CFE established agreements with universities to conduct research on innovation. In relation to the level of support, the CFE provides for innovations in the internal activities 60% of respondents said that support is high, 70% of respondents considered that the level of importance of innovation in the CFE is high. However, the level of innovative ideas proposed by the workers is low according to respondents, and finally 60% stated that the ideas of workers, its implementation is low.

Pearson Correlation

The correlation coefficient of Pearson product-moment (r), is applied to two variables at least, this is a parametric correlation coefficient that accurately indicates when two things are correlated, to what extent a change corresponds to a variation in another. Their values vary from +1.00, which means perfect positive

correlation, through zero meaning complete independence or a correlation to -1.00, which is a perfect negative correlation. A perfect correlation of +1.00 indicates that when a variable moves in one direction, the other moves in the same direction and with the same intensity.

Figure 2 shows the correlations and the coefficient of determination of the different variables that explain innovation in the CFE. The correlation coefficient (R) is a measure of the degree of association between two variables. Therefore, the first variable products and services have a high correlation of 0.826 with the dependent variable, the process variable the correlation is very significant and which is 0.924, the marketing variable has a high correlation of 0.809, the correlation of the variable of organization is high 0.881 and finally the design variable has a correlation of 0.643. On the other hand the coefficient of determination is the proportion of the dependent variable explained by the independent variable and is therefore between 0 and 1, that is to say as R² approaches 1, the regression equation is more reliable.

It is evident and highlights the impact of the product innovations and services, processes and designs show with the dependant variable innovation in the CFE, whereas marketing research and organization are those of smaller impact. Therefore, with the results it is evident that there are different skills in CFE workers and that simultaneously has relationship with the generation of different types of innovation (product and services, processes, marketing, organization and design). It is unquestionable also, that exists a positive relation between innovation and the performance of the company as they demonstrate in different studies (Crépon, Duguet, & Mairesse, 1998). Based on the foregoing, it is important to note that respondents have formal education 75% have a bachelor's degree and 25% with master's degree, of such form that often the acquired sophisticated abilities through the professional education are more important successfully to manage the innovating activities in the company (Gray, 2006).

Innovation is a constant process of search and exploration that gives rise to new products, processes, marketing, organization and design innovations. Nevertheless, the majority of the investigators have focused in the technological and technical innovations that correspond to innovations of products and processes (Lundvall, 1992). Similarly, innovation is the result to an interactive process of generation, dissemination and use of knowledge (Bottazzi & Peri, 2003). The figure N° 3 shows the technological and non technological innovation types, therefore, in this way and after analyzing the results obtained in this investigation, it is possible to have a clear idea of the types of innovations realized in the CFE.

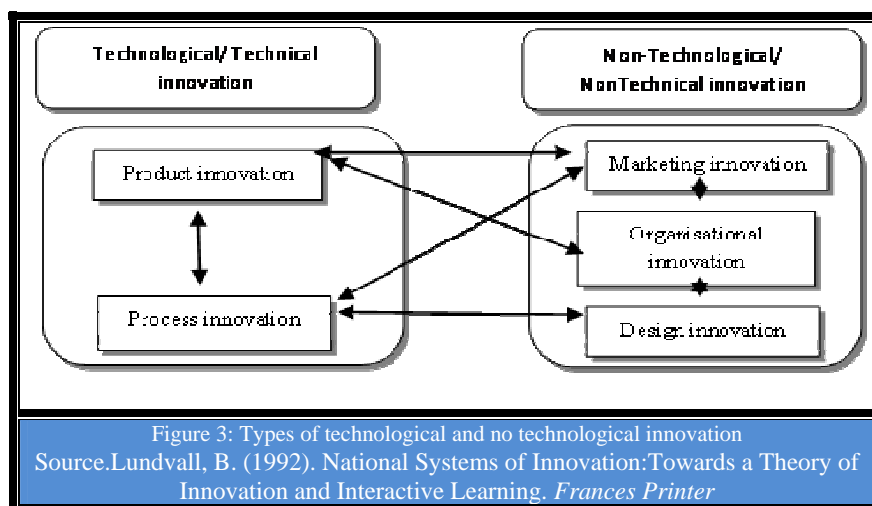
There are reasons that lead companies to make innovations can be quite varied, among the most prominent are the following: obtaining higher added value, product differentiation, enhance the efficiency of the business, obtaining financing, achieve quality standards. Therefore, this variety of motivations can push to the companies throughout the way of the innovation. The mentioned motivations above are proactive and reactive; the companies that are more successful in the innovation of processes usually are motivated generally by proactive factors.

Independent Variables	Correlation of Pearson	Coefficient of determination R^2	Dependent variable
Products and Services	0.896	0.802	Innovation
Process	0.924	0.853	
Marketing	0.809	0.654	
Organización	0.921	0.848	
Design	0.643	0.413	

Figure 2: Index of correlation of Pearson and the coefficient of determination of study variables
Source: Authors based on field research

The technological strategy adopted by a firm depends on the reasons that motivate the firm to innovate. Empirical works have shown that, at the industry level, a greater range of innovation objectives is associated with greater rates of innovation, while at a firm level innovation objectives affect the ability affirms to innovate successfully (Cohen & Malerba, 2001).

The results were obtained by applying a measuring instrument to the middle and senior managers in the CFE, in central western Mexico. This questionnaire has the intention, to know the main type's innovation in this company, for such effect proposed the model of variables as it shows the figure N° 1, in addition, the findings by each one of the variables are detailed.



The responses relating to the variable product and service innovation investment in research and development of new products and services during the past year indicate, a low level of generation of innovations. In addition, incentives for workers to submit proposals for innovation are often low. In addition, the degree of implementation of the innovative ideas proposed by the workers is high and frequent, the main benefits that the CFE obtained with the application of innovations in products and services has increased its competitiveness, the image improved and increased business efficiency and finally contributed to the environment.

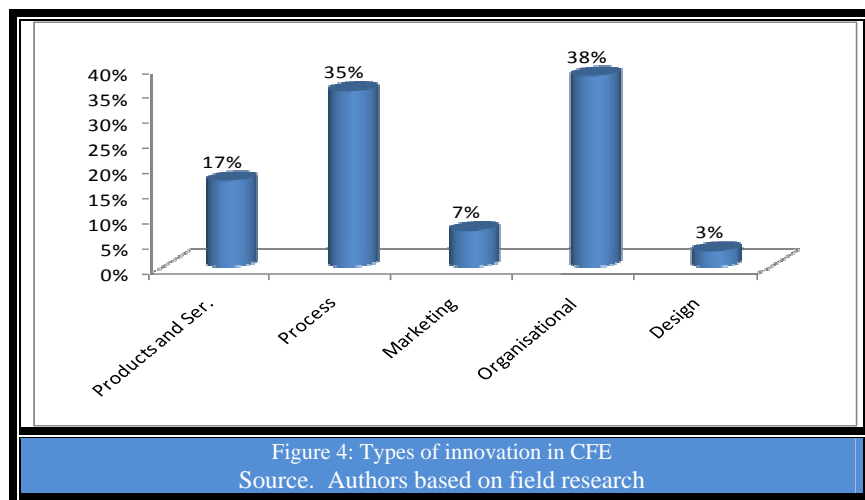
As for as the process variables are concerned, the current efficiency level of the processes by which CFE operates are high and the investment made to innovate is high and frequent. In addition, the data shows that the workers consider the CFE, as a highly competitive the international level and finally the innovations of the processes developed in the CFE are very frequent.

The marketing variable has a limited budget to innovate, although marketing is of great importance to improve the image of the CFE; result suggest that the innovation in the methods of commercialization and promotion are little and the profit objectives established through the marketing research is low.

The results show that the current organizational model in the CFE has a high efficiency; also very often CFE offer programs of innovation incentives to employees to increase the innovations of this type and therefore the level of proposed innovations made by the workers is high. The CFE has a high level of exigency with their suppliers; frequently it provides quality certificates to them. The company also has a high level of collaboration with the universities to promote innovation.

The results relating to design variable indicate a low level of innovation in this variable. Finally, with respect to competitiveness of the service, the respondents consider It high.

The general results of this study show a support to the internal strategy of innovation of the company, however, this organization maintains an intense network of external collaboration with different partners within the electrical industry, which could be a subject of another study. Moreover, this organization maintains a constant relation with the universities in which the collaboration is based on the type of innovation that seeks to introduce. Similarly, it is interesting too be serve that the company recognizes innovations of the five types (see Figure N4).



The organization is the main type of innovation that is carried out in this company, is a non-technological innovation (see Figure N 3) It represented 38% of the total of innovations generated in the CFE. On the other hand, product and services innovations is the third type is most frequently noted in the company as

they represent the 17%, marketing innovation has 7% of participation; and finally, the design innovations have 3% being this type with smaller frequency in the total innovations generated in the CFE in central western Mexico.

Similarly, the information collected in this study identified the sources of innovation in the CFE, therefore, it is inferred that there is a direct relation between the internal source of intelligence and the generated type of innovation. The main sources of innovation are the department of production and Research and Development(R &D) because they generate a high level of information; another important source, are the employees of the company and the general direction of the company is considered an efficient source of information.

With respect to the overall performance on innovation in the CFE and according to the compiled information, this company has a regular level of innovation as shown in Table No. 2. Therefore, the general level of innovation shown by the CFE is not enough for a company that is considered world class as the company advertises, remember that a company of this type has a high level of innovation and aimed primarily at products, services and processes, this is obviously only one element of many of world-class company has.

Table 2:final resultsof the innovation level				
Very low level of innovation	Low level of innovation	Regulate innovation level	High level of innovation	Very high level of innovation
72	104	136	168	200

40

72

104

136

168

200



5. Conclusions

Today innovation is one of the main competitive advantages of enterprises. Therefore, it is important that the CFE has to redirect their efforts towards innovation, as part of its work culture. This study has noted existence of a wide area of opportunity for research on innovation in the company.

It is evident that the amount and type of innovations generated in the CFE are not sufficient to be considered to a world-class company; in addition, it is necessary to remember that this company is a monopoly in the generation, distribution and commercialization of the electricity in Mexico.

The innovations generated in the CFE are, non-technological, the main type corresponds to organizational innovations, and second in importance are the processes, and this last one is of technical character.

Over the past years, technological innovation has become increasingly critical for firms as they struggle to achieve and maintain competitive advantage, and consequently technological innovation management has become one of the most attractive and promising areas of study in the field of managements.

The main sources of innovation are in the production area, the employees and the direction and therefore it is important to extend these sources in other areas of the company.

For innovation, a firm must have the right organizational conditions, such as sufficient qualified personnel, sufficient knowledge, and a flexible organization structure, but it must also have the right mix of financial resources. Without these right conditions, innovation hardly can take place.

Since CFE is a monopoly in the generation, distribution and commercialization of electrical energy in Mexico, it is evident that the lack of competition might have a correlation with the innovating attitude of this organization.

Finally, it is appropriate to extend this research to find a relationship between the sources ofthe innovations generated in CFE and external innovation.

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Competitiveness Measure to Promote the Competitive Advantage in a Cluster.

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Abstract

Inside a territorial unit that delimits geographically an Industrial District, the companies coexist and support a relationship of cooperation and competence. Nevertheless, it is possible to question the competitiveness of the cluster or industrial district with regard to other territorial units inside the same industry or sector. The aim of the research is to propose a way of measuring the competitiveness derived from the potentials of the industrial district, as foundation to generate the competitive advantage of the companies that form the cluster.

Though it is necessary to identify a cluster inside a territorial unit, this aspect is not sufficient to establish the competitiveness against other clusters of the same industry or sector. To establish these differences must help to promote the skills and strengths to drive develop strategies. For such purpose, the relevant literature was checked as fundamentals to measure the competitiveness. The aim of the metrics is to propose strategies that improve competitiveness of the industrial district.

Finally we conclude: which aspects must be considered to establish the measurement of the competitiveness in a cluster or industrial district.

What does mean competitiveness?¹

It has written a vast literature in the last thirty years with regard to the competitiveness. Bibliography that it is from diverse approaches of study. Some of them take a special theoretical aspect and others from a particular political point of view. It is a word used often, and in some times abuses term in texts of contemporary economy. This topic was declared by Paul Krugman in a essay where he discusses that: "the Competitiveness is a dangerous obsession" (Krugman, 1994).

A strong trend exists among politicians and journalists to use the word competitiveness as fashionable expression. Without bearing in mind his context and they use the term of a vague way to define some problem. This imprecision in the employment of the word ends to express different enough contexts.

On the other hand, the majority of the economists argue a discussion on the competitiveness in terms of increase in the standards of living. Whereas in some popular debates they argue that the competitiveness can measure up to indicators that have or not some relation with the standards of living or the economic well-being of a country (Bougrine, 2001).

This way the discussion does not achieve another thing that confusion in the knowledge of the topic and an unnecessary complexity. Krugman in his book *Pop Internationalism* (1997), expresses:

"The matters on competitiveness are, as an empirical, almost completely groundless matter [...] the obsession with the competitiveness not only is incorrect but dangerous. [...] thinking about terms of competitiveness one leads a wrong economic policy on a wide range of matters"

When the concept competitiveness has been defined in an erroneous way, obviously the translation of a measure it will be wrong. Hereby, to base the prescription of an economic policy with a theoretical questionable base will give like proved a quantitative debatable evaluation.

It is known, thanks to the literature on industrial organization, that this skill it is affected to a great extent for factors like costs, prices, quality and product differentiation, among others. In this respect, the competitiveness is equivalent to the (international) competence among transnational corporations. Nevertheless, the concept also is used widely to refer to the performance.

To answer the question of this paragraph we approach to a holistic definition of competitiveness that can be summarized like:

"The competitiveness is relative and not absolute. It depends on the shareholders and the value of the client, financial strength that determines the aptitude to act and react inside the competitive environment and the potential of the people and technology in the establishment of the necessary strategic changes. The competitiveness only can be supported by a balance adapted among factors that can be of opposite nature. " (Feurer R. and K. Chaharbaghi, 1994)

The present research has as principal aim to establish a base line to measure the cluster or industrial district competitiveness. It tried to do not give Importance to the industries, not in the individual thing to the companies nor institutions. This paper does not seek to follow any debate, which they coincide principally with the competence more than the competitiveness or along the lines developed by the evolution of the economy. It begins for defining the competitiveness, to continue with the levels and his measures of evaluation, finally to propose variables to measure the competitiveness in a cluster that they measure the performance of strategies applied to the industrial district.

Levels of competitiveness

In the specialized literature on topics of competitiveness, several levels are discussed: the competitiveness of a country, the competitiveness of an industry and the competitiveness of a company. Let's see below these levels and his measures of evaluation.

Macro Level: the competitiveness of a country.

Several factors combine to change the perception of competitiveness. On one hand economic theories, due to the importance of several issues that includes sustainable development and a more interdisciplinary approach. On the other hand, the concept increases its use in the speech to talk about some economic facts, no matter how vague the term is used as a slogan or dissertation.

Frequently to assess the economic performance of a nation can be confusing and misleading if it starts up from the definition of competitiveness. The U.S. government may be established, among other qualitative factors, environmental conditions, industrial relations, human resource development, and etcetera. In addition to quantitative factors such as the costs of labor and other input prices, increased productivity, among others (Cellini and Soci, 2002)

Qualitative and quantitative factors mentioned above, can assess competitiveness in a given and defined context. But even though the information is useful, it not provides a historical explanation and performance events in the country. However international organizations such as OECD and the World Economic Forum among others, are trying to point out and compare the countries macro-economic development. In other words, measure their competitive position by:

- Performance in trade agreements such as Trade Balance, Import and Export Index.
- Price and profit index as consumer prices, producer prices, GDP, or the average export price.
- Relative Unit Labor Costs.
- The ability of a country to trade in world markets.

The OECD uses quantitative indexes in its various publications, including The Economic Outlook and Main Economic Indicators. These reports are based mainly on cost and price differentials. Although recent OECD studies uses imports and exports as a measure of competitiveness, it is not possible to infer the economic performance through the balance of trade (Bougrine, 2001).

Each index proposed may be arguable and debatable because the bases do not apply to all countries in the same way, due to economic conditions. There are variables that influence the index performance in a positive or negative way, as a result giving erroneous results.

Meso Level: competitiveness in a sector or industry

At this point we analyze the intermediate indexes between the competitiveness of a firm and macro level. We will refer to the industry or sector in which we are interested to evaluate. As the sources of competitive advantage, in most literature is based on the endowment of natural resources and labor, the poles of industrial development in the economies of agglomeration become relevant to study this level.

Porter (1991) adopts a measure the relevant competitive advantage (RCA) calculated on the basis of an industry or product type:

$$RCA_{ij} = (X_{ij}X_i)/(X_j/X) \quad (1)$$

Where: “ X_{ij} ” represents exports of the industry “ i ”, located in the country “ j ”; “ X_i ” represents world exports of the same product; “ X_j ” is total exports of country “ j ” and “ X ” are the total world exports. If the RCA is greater than one, then the industry “ i ” located in the country or regio) “ j ” has a comparative advantage internationally. Porter added that industries to be competitive must also have a positive trade balance, unless your RCA is greater than two (Porter, 1991).

On the other side Steinle (1992), proposes to measure competitiveness through thirteen variables, including: Total employment, product differentiation, income growth and value-added, adequate commercial network, and so on. As we can deduce, it is not easy to obtain these indicators clearly, especially if each industry or sector has unique aspects in each region and country. It is not possible to generalize their application.

Since an industrial district evolves and changes over the time, modifying the elements of assessment, there is another proposal that addresses these sociological elements (Becattini, 1991). The proposal weighted accumulation of human capital as a determinant to measure competitiveness. The proposal highlights the formal education level and firm size. As a summary, the variables that may impact the region competitiveness, defined by the various proposals are:

- Social policies to promote access and mobility of materials, such as transport and communications, in general the infrastructure.
- Demographic and social conditions that influence the labor market.
- Environmental conditions.
- The enterprise network relationship from an industry or sector, this includes the link with other levels such as local, regional and international levels.
- Research and development efforts.

In essence the various proposals and studies on this level of competitiveness highlighted social cohesion as a fundamental element to the competitive position of regions.

Micro level: the competitiveness of a company.

A basic way to measure competitiveness is by assessing the economic unit called the firm. Initially, two aspects are considered in determining that an economic unit or firm is competitive: the profitability and productivity. In other words, if an economic unit does not meet the market shares and production costs, among others, the firm will not be efficient and will be less competitive.

But the competitiveness of the economic unit is irrelevant without the relative comparison with other companies. Therefore, comparing the results of competitors and companies in the sector or industry at the regional, national and international measurement makes sense. However, the competitiveness measured and compared between competing firms can not be a parameter to assess in the short term. Results on competitiveness in a short period of time, can respond to the outcome of a particular strategy that alters its measurement. (Bougrine, 2001).

Therefore, the measurement of competitiveness in the economic unit or between firms in a sector is not absolute but relative parameter. We should consider factors affecting profitability in a long period of time. On the other hand, we should keep in mind that the market structure as a condition that can change the evaluation and measurement of competitiveness. (Cellini and Soci, 2002).

How can we measure something that has no clear definition?

In many different ways you can measure competitiveness, according to the definition applied. There is a proliferation of empirical literature based on the indicators likely or unlikely to support such as productivity, the terms of business income, real, unit labor costs relating, among others. The range of results and different proposals arise after reviewing the publications of some authors.

The economic unit is not an isolated entity, responds to the conditions of an environment through the implementation of strategies. The firms often are associated in a particular industry sector or which show a dichotomous condition. On the one hand the confrontation and antagonism, while on the other hand, the cooperation and unity.

In essential issue of competitiveness is complex. Propose a single model which includes measurement and discard factors to evaluate the performance of a company seems arbitrary. Often the methods proposed meet the needs to justify policies. Therefore, the application of a general and absolute method to measure the competitiveness is not viable. Each industry or sector has particular influence factors and weighted. Without considering all factors affecting an industry or sector will generate biased results.

Then, when we propose a method of measuring competitiveness is to identify how particular factors influence the performance of an industry or sector. The relationship of these factors in economic units should be considered through a long period of time. The proposals will change over time because the results are unique, special and limited periods.

Proposal applied to the garment industry in the metropolitan area of Guadalajara.

There are quantitative factors to measure the competitiveness that are considered essential. Most of the theories proposed by several authors agree on factors to identify the measurement of competitiveness. However, few authors evaluate qualitative factors such as:

- Ability to technological innovation.
- Infrastructure of roads road.
- Foreign network of suppliers, competitors and distributors.
- Political system, legal framework.
- Information systems and communication.

Among others, these factors can be difficult to measure but are a strong influence on the outcome of the competitiveness. The variables considered may change or be modified by various factors that affect a particular industry or sector.

The firms forming a cluster or industrial district in the apparel sector in the metropolitan area of Guadalajara, coexist in a competitive relationship and cooperation. Conditions in the garment sector aimed at specific variables that may not be considered in other sectors or industries. The first step is to identify a cluster geographically within a territorial unit (Fregoso, G. and Radillo, R., 2009).

But identifying a geographic region is not sufficient to establish the competitiveness against other clusters of the same industry or sector. To determine the degree of collaboration or competition with employers in the cluster was evaluated as an initial stage the following factors:

- Innovation Capacity
- Foreign Network
- Information System

The results suggest inferences to search for factors of competitiveness in clusters or industrial districts in the garment industry.

For this research we made a survey of employers affiliated to the chamber of the garment industry within the industrial district and belonged to a production group. Total affiliates are 263, but only 104 employers were surveyed because have belonged to a production group. The employers surveyed representing 39.5% of the total membership of the chamber. The results showed that:

- 53% of respondents did not allow entry to the premises of any unionized company.
- 48% of respondents lack confidence in the group.
- 84% of respondents do not seek help from guild members or to solve their problems or to be more productive.
- 50% of respondents do not share information with members.
- 82% of respondents do not share equipment or machinery with the members.
- 88% of respondents do not share designs, models or molds.

From the results we can infer that the distrust between the union members is the main factor for not being competitive in the cluster. The development of the apparel industrial district will not be whit a miscommunication and mistrust.

Conclusion

The development of this work led to achieve the aim: to establish a baseline on the issue of competitiveness as the basis of the proposal for its measurement in a cluster or industrial district. We conducted a review of the literature on competitiveness and sustain the proposed measurement factors to assess a cluster. There was also the basis for further research in other industrial sectors.

This work provides several contributions to the literature on competitiveness. First, it establishes a framework on competitiveness. It also provides a basis for questioning the measurement of competitiveness for different international organizations.

At last, with the factors proposed to measure competitiveness in the cluster, we do not seek an explanation of the results in the apparel sector. Therefore we assume the various limitations of the study to measure the factors and infer the results.

Finally, the review of literature on competitiveness and provide the basis for questioning the measurement of competitiveness through factors considered absolute, leads us to set questions for future research. Similarly, we suggest take further study and implementation of various factors on competitiveness.

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End Notes

- [1] Competitiveness is a concept not clearly defined; rather it is a confusing term. Today the term competitiveness is frequently repeated in speeches and contemporary items. When used in relation to a nation, industry or company, the argument must be specific.
- Competitiveness is a word introduced in the eighties and in a dictionary of Spanish Economy (Tamames, 1988) is defined as the ability to compete, especially in foreign markets. According to this definition, the term refers to the ability of companies to gain access to foreign markets and maintain or increase market share.
- In the dictionary of the Spanish Royal Academy, established that the competitiveness comes from the Latin term *Competere*, which means "strive together", and more formerly "agree" from *cum* and *Petere*, "try."
- Over time the original meaning of cooperation was finally replaced by the current opposite connotation: The ability of two or more companies to contend with each other. Aspiring, some and other the attainment of a goal.
- The Webster dictionary refers to or relating to a situation where individuals or groups try to win or contend or be more successful one than others, arising out of or involves competition.

On Biotech Start-ups' R&D Continuity in Financial Crisis: Application of Sequential Compound Chooser Options

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Abstract:

As the research background, there is a high possibility of difficulty of research and development (R&D) continuity for biopharmaceutical start-ups due to the long valley of deficit since the financial crisis in 2008. The research question is; how is it possible to promote the continuity of R&D of biotech start-ups between the passive attitudes of venture capital and the continual progress of life science. As the research approach, the effectiveness of real options is promising for applying to overcome the valley of deficit. We will examine specifically Dixit model on the business entrance and exit. The research objective is to examine the flexibility value of compound chooser option for switching chance between two types of projects, that both have independently each negative NPV, one is the base case and the other is inserting the indication expansion. We could find the possibility of positive NPV by just only selection chance between alternatives.

Introduction

As the research background, it is high possible that the continuation of the research and development (R&D) at biopharmaceutical start-ups become difficult since the financial crisis in 2008, because of the long valley of deficit for such start-up financing. Then the research question is; how should it be to facilitate the continual maintaining of R&D projects in biotech start-ups at the trade-off situation between the investment reluctance of venture capital (VC) from financial crisis and the innovative progress at basic research of life science as aptamer, siRNA, iPS cells, and personal medicine? As the research framework, the effectiveness of real options approach is partially approved to overcome the valley of deficit (Smith, 2004). Then we will focus on the Dixit model on business entry and exit. This model has an analogy between the deferring characteristic of investment decision making related to sunk cost under uncertainty and the hysteresis as a physical concept. The research objective is to examine the economic value of the deferring of investment decision making for overcoming the valley of deficit with the compound chooser option by inserting the indication expansion stage before the stages of the new drug application and market introduction, in addition to the stage of market introduction by using the sequential compound option, based on the assumed cash flow of drug development process.

1. Status quo of biotech financing

1-1. The condition of IPO of Biotech Start-ups in Japan

The Japan Biotechnology Council was established by 20 companies of main biotech start-ups and venture capital firms on July 1st in 2009, in addition to existing Japan Bio-industry Association, for the proposal drawing to government to support biotech start-ups, because there are so far very fewer social systems to support the roles of biotech start-ups on commercializing the basic research findings at life science than that of the USA. There are 26 public biotech start-ups in Japan as of September 1st in 2010. There were recent IPOs by 4 companies in 2008, by 4 companies of JCL Bioassay, Tella, CanBas, and D.Western Therapeutics Institute in 2009, and by Cell Seed as a regenerative medicine company at JASDAQ, new market on March 16th, 2010. Thus, there is a tendency of IPO number of biotech start-ups along with improving the eco-system supporting the growth and survival of biotech start-ups.

But there are some cases that VC firms are making biotech start-ups which are poor in R&D money to buy back stocks by the reason of expiration of funds, in the severe condition of IPO markets because of financial crisis. On the other hand, Takara Bio and R-Tech Ueno are making the positive ordinary profits from contact manufacturing for other companies. OncoTherapy Science is also making the positive ordinary profits from March 2009 by multiple out-license agreements as each anti-cancer peptide vaccine agreement with Otsuka Pharmaceutical in January 2008, and with Shionogi in February 2009, and pharmaceutical agreement for central nervous system with Otsuka in June 2010. This company has started the phase I/II clinical trial for angiogenesis

factor inhibitor, OTS102 based on an anti-cancer drug target VEGFR (vascular endothelial factor receptor) 2 for the milestone improvement.

Thus the number of public companies is only about one twentieth in about 500 domestic biotech start-ups, less if comparing with one fifth in the USA, where there are about 300 public in 1500 biotech start-ups, But there are some companies that can make sure enough R&D money by strategic partnerships as license agreements.

1-2. The Situation of Biotech Finance in the USA

At the end of 2008, US biotech industry made the positive net income \$3.7billion (B) for the first time in history since 1976 with the cash and equivalents \$75.6B, the sales/revenue \$99.5B and the R&D cost \$23.7B in terms of statics of public biotech companies (Burrill, 2009). Afterwards in the end of 2009, it was still at the exit or matured stage across breakeven point with the increased positive net income \$4.3B, the cash and equivalents \$747 B, the sales/revenue \$91.6B, and the R&D cost \$19.3B (Burrill, 2010).

In the end of 2009, the industry market capitalization is \$346B, with the decrease of \$58B from previous year. But there are each increase of total capital raised \$8.8 B to \$18.9 B, and total partnership capital \$16.9B to \$63.9B. For instance, total raised change from IPO (Initial Public Offering) is \$0.5B increase to \$1.1 B, from follow-on is \$4B increase to \$5.7B, from PIPE(Private Investment in Public Equity) \$0.6B increase to \$1.6B, from debt is \$3.5B increase to \$6.3B, and from VC is \$0.3B decrease to \$4.2B.

Within 2009, there were at least 10 cases of partnerships in \$B level, as the \$1.9B cooperative research on drug discovery between PTC Therapeutics and Roche, the \$1.5B license on pain-killer between Nektar Therapeutics and AstraZeneca, and the \$1B license agreement on obesity drug between Amylin Pharmaceuticals and Takeda Pharmaceutical. Thus there are the increase trends in risk averting type of financing.

As the ecosystem for biotech start-ups in 2009, there were mega mergers and acquisitions as Genentech acquired by Roche with additional \$46.8B payment, Wyth bought by Pfizer with \$68B, and Schering-Plough merged by Merck with \$41B. Behind such movement, big pharmaceuticals firms are worried about patent cliff of blockbuster drugs as Lipitor and Singular in their pipelines. Then they are getting biotech R&D ability and biotech drugs on the market as Avastin, Enbrel, and Remicade from such M&A. It seems their change from chemical to biotech companies.

Additionally, the stock prices of such big pharmaceuticals firms as Pfizer and Merck had significantly declined during December 2007 and early 2009 as main "Lehman Shock" period. Otherwise, the stock prices of Gilead Sciences and Celgene were relatively stable during financial crisis. This means the sustaining of robustness to financial crisis and fluctuation of capital market based on the expectation for innovative technology. And before the acquisition, the whole company value of Genentech was estimated at \$100B, bigger than that of Pfizer which had not acquired Wyth yet. Furthermore recently the stock prices of Human Genome Sciences, Dendreon and Targacept have jumped up reflecting the smooth progress of their pipelines.

Thus ability of technology development can show the robustness to financial crisis. Big pharmaceuticals firms are exposed to the pressure of transformation from chemical to biotech firms from regulation reinforcement, patent cliff of their blockbuster drugs, price discount demand, and introduction of generic drugs. Big biotech firms are relatively robust and considering the financial crisis rather the chance. And biotech start-ups have technology development capability but lack the financial robustness. Hereafter the partnership and M&A between biotech start-ups and big pharmaceuticals or big biotech firms are forecasted for considerable increase. For example, there can recently be found the large scale of such partnerships even in phase I testing or preclinical stage from past in phase II testing stage.

2. Representative Theory on Decision Deferring Function of Real Options

On the relationship between the uncertainty and the decision deferring of the business start and exit, a theory building was tried to modify Marshal's threshold criterion with sunk cost and analogy of hysteresis.

Assuming μ business growth rate, ρ CAPM (Capital Asset Pricing Model), $\rho > \mu$ the relationship of both, σ volatility, c variable cost of operation, e sunk cost of the entry time, and x sunk cost of the exit time, each trigger criterion of Marshal's investment and abandonment is

$$C_I = c + \rho e$$

$$C_A = c - \rho x$$

These mean that each optimal behavior is the entry if a price is bigger than the Marshal's investment criterion C_I , and the abandonment if a price is bigger than the Marshal's abandonment criterion C_A . Within both criterions like hysteresis curve, the optimal behavior is to continue the business even in deficit when the path is $C_I \rightarrow C_A$, but not to enter the business even in positive profits. Thus each path shows the inertia of sustenance influenced by sunk cost (Figure1).

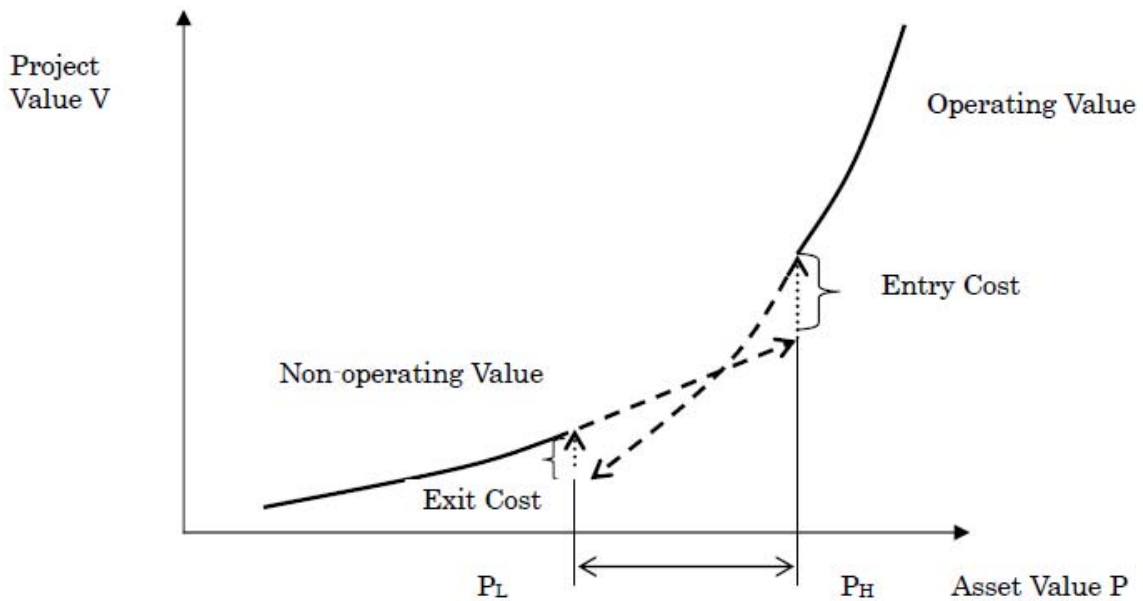


FIGURE-1 INVESTMENT DECISION DEFERRING AND HYSTERESIS

However if price behavior can be assumed as random walk based on geometric Brownian motion for Dixit's model on business entry and exit under uncertainty, each trigger price for entry P_H and for exit P_L respectively is:

$$P_H = \frac{\rho - \mu}{\rho} \frac{\beta}{\beta - 1} C_I$$

$$P_L = \frac{\rho - \mu}{\rho} \frac{\alpha}{\alpha + 1} C_A$$

where,

$$\beta = \frac{(1-a) + [(1-a)^2 + 4b]^{1/2}}{2}$$

$$-\alpha = \frac{(1-a) - [(1-a)^2 + 4b]^{1/2}}{2}$$

$$a = \frac{2\mu}{\sigma^2}$$

$$b = \frac{2\rho}{\sigma^2}$$

where if $\sigma \rightarrow 0$, then from $P_H \rightarrow C_I$ and $P_L \rightarrow C_A$, both prices approach to Marshall's criteria (Dixit, 1989). And for $\sigma > 0$, $e > 0$, $x > 0$, along with range expansion between P_H / C_I and P_L / C_A , the interval of maintenance of the status quo becomes large. That is, when the trigger price of entry P_H becomes larger than C_I or the exit price P_L becomes less than C_A , each interval that a firm endures the business operation in deficit or that a firm is reluctant to enter to the business expands. And along with the increase of μ , both P_H / C_I and P_L / C_A decline, then it is possible for the firms enduring even in deficit to increase. Thus this explanation seems to match with the present situation of US biotech industry which in total 1500 biotech start-ups, majority is in deficit except a few dozens.

Next, if introducing a neutral alternative as operation suspending in Dixit & Pyndyck model, similarly as restarting cost as the sunk cost of operation suspending expands, following tendency is expected that the suspended operation is hard to start or inversely restarted operation is difficult to stop (Dixit & Pindyck, 1994). These decisions and decision reservations of business entry or abandonment, and continuity of R&D as learning option are considered as applicable to the decision making in drug development process at biotech start-ups.

3. Application of Compound Chooser Option to Drug Development: Numerical Calculation

Here we apply compound chooser option to a drug development project at drug discovery biotech start-ups, based on an assumed case data (Copeland & Antikarov, 2001).

3-1. Assumptions of the Case

Firstly as 2 drug development projects, we separate a case of inserting immediately new drug application after clinical test stage and the other case of continuing further the indication expansion after the clinical test stage without immediate new drug application. As both cases are subject to the same patent effective expiration limit, if doing the indication expansion, the equivalent period is assumed to shorten after the product on the market. And the both projects assume the risk adjusted net present value (raNPV) are negative without options (Figure-2).

rt	Project with Indication Expansion						Base Case								
	0-05 Time Point	Stage	CR(Out)	POS	Prob.	PV of CR(Out)	raNPV of CR(Out)	Sum of raNPV of CR(Out)	CR(Out)	POS	Prob.	PV of CR(Out)	raNPV of CR(Out)	Sum of raNPV of CR(Out)	
0	Drug Discovery							19,402,000.02	Drug Discovery					23,027,702.8	
1	Pre-Clinical Test	3.8	0.4	0.4	0.4	3,619,047,619			Pre-Clinical Test	3.8	0.4	0.4	3,619,047,619		
2	Pre-Clinical Test	3.8	1	0.4	0.4	3,446,712,018	2,826,320,855	Sum of PV of CR(Out)	Pre-Clinical Test	3.8	1	0.4	3,446,712,018	2,826,320,855	Sum of PV of CR(Out)
3	Phase I	6	0.65	0.26	0.26	5,183,025,91	3,184,604,159	161,619,644	Phase I	6	0.65	0.26	5,183,025,91	3,184,604,159	
4	Phase I	12	0.4	0.104	0.104	9,872,429,688	3,278,447,008		Phase II	12	1	0.104	9,872,429,688	3,278,447,008	
5	Phase II	12	0.4	0.104	0.104	9,872,429,688	3,278,447,008		Phase III	15	0.55	0.0872	11,193,23,095		
6	Phase II	15	0.55	0.087	0.087	11,193,23,095			Phase III	15	1	0.0872	10,860,2,995		
7	Phase III	15	1	0.087	0.087	10,860,2,995			Phase III	15	1	0.0872	10,860,2,995		
8	Phase III	15	1	0.087	0.087	10,152,50,43	3,633,891,419		Phase III	15	1	0.0872	10,152,50,43	3,633,891,419	
9	Indication Expansion	4	0.5	0.029	0.029	2,578,42,685	1,890,889,869		NDA/BLA	10	0.8	0.04576	6,446,889,162		
10	NDA/BLA	10	0.7	0.02	0.02	61,291,25,295			NDA/BLA	10	1	0.04576	61,291,25,295	3,433,07,288	
11	NDA/BLA	10	1	0.02	0.02	5,846,79,891	1,563,44,606		Market Introduction	150	0.95	0.043472	87,707,893,395	7,121,438,844	
12	Market Introduction	150	0.95	0.093	0.093	83,52,561,273	3,073,842,109								
13								200	22,421,331					350	
14								400	37,885,516					650	
15								750	58,41,492,44					900	
16								900	59,81,493,44					1000	
17								1000	54,08,789,29					1000	
18								1000	45,07,324,41					1000	
19								1000	37,561,03,66					1000	
20								1000	31,300,864					1000	
21								1000	26,084,533					1000	
22								0	0					0	

FIGURE-2 ASSUMPTIONS OF BOTH PROJECTS

	Stage	Drug Disc	Pre-Clin	Pre-Clin(2)	Ph I	Ph II	Ph II (2)	Ph III	Ph III (2)	Ph III (3)
	Time Point	0	1	2	3	4	5	6	7	8
		IE/NDA								
PV(Ina)	18.5941	13.3956	67.5402	134.6135	408.4314	1996.4029	3878.9599	13650.2610	26364.7421	50864.5425
PV(Iie)	3.8095		15.5075	32.2473	101.5094	511.0082	1013.9240	3613.9657	7028.1704	13609.4602
				6.5909	22.0903	117.9985	246.7502	916.7823	1831.6034	3597.4201
					3.6995	21.5540	49.3151	200.4759	435.0628	906.7551
						2.5214	6.4322	29.5949	74.1676	183.6579
							0.3498	1.7675	4.9129	13.6557
								0	0	0
									0	0
										0
		Ph III								
PV(Ip3)	40.8487	11.1689	59.9062	125.4390	393.6110	1957.4993	3838.1112			
			10.7485	24.9350	86.6890	472.1046	973.0753			
				2.9995	12.1045	79.0949	205.9015			
					0.4383	3.0460	8.4664			
						0	0			
		Ph II								
PV(Ip2)	22.3129	8.3471	49.0815	111.6262	371.2981					
			5.4162	15.0545	64.3761					
				0	0					
		Ph I								
PV(Ip1)	5.7143	7.0766	43.6393	105.9119						
			3.3603	9.3402						
				0						
		Pre-Clin								
PV(Ipc)	7.0658	0.0109								
		Option Selection Policy								
		Continue		Continue	Continue		Continue			Market Introduction
				Continue	Continue		Continue			Market Introduction
				Stop	Stop		Continue			Market Introduction
					Stop		Continue			Market Introduction
							Stop			Market Introduction
										Indication Expansion
										Stop
										Stop
										Stop

FIGURE-5 COMPOUND CHOOSER OPTION

3-3. Characteristics of the Results

The project without the indication expansion is a sequential compound option, and considered as the sequence of binomial decision making on entry or exit at each stage including respective clinical trials. On the other hand, the indication expansion is an alternative of searching and decision deferring stage, keeping away from immediate conclusion, after clinical tests. This relationship can be identified by the long effective area of selection deferring of the indication expansion in parallel with upside utilizing function and downside hedge function for enlargement of value up rate of the indication expansion, from mapping on option selection between the level of binomial value change and project selection shift stage for each binomial value level (Table-1).

TABLE-1 SELECTIVE MAP ON BOTH TYPES OF PROJECTS

		Option Selection Shift Stage with Indication Expansion Up Ratio						
		1	2	3	4	5	6	7
Binomial Value Change Level at Time Point 8	a	M	I	I	I	I	I	I
	b	M	M	I	I	I	I	I
	c	M	M	M	I	I	I	I
	d	M	M	M	M	I	I	I
	e	M	M	M	M	M	I	I
	f	I	I	I	I	I	I	I
	g	S	S	S	S	S	S	I
	h	S	S	S	S	S	S	S
	i	S	S	S	S	S	S	S

M:Market Introduction, I:Indication Expansion, S:Stop

Even for the project without the indication expansion, there is an opportunity of increasing the business value by itself (Figure-6). However, it is possible to decide whether which strategy must be selected between the market introduction and the indication expansion, if we could make index from value up ration of the indication expansion for variable level of the business value (Figure-7~9).

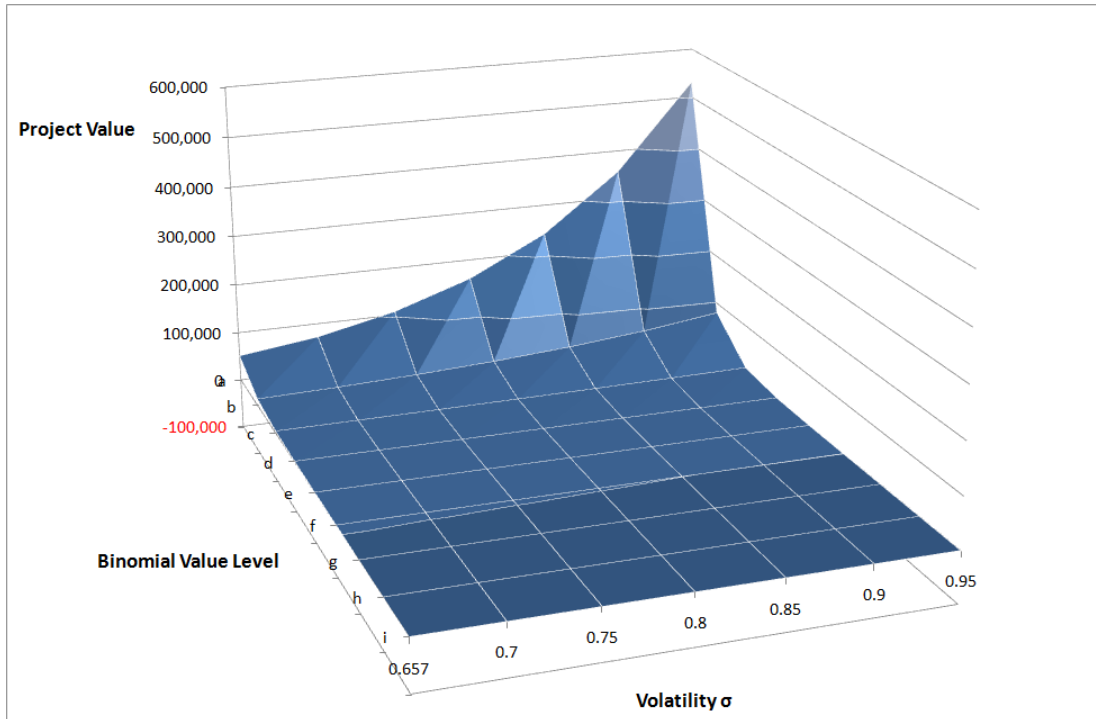


FIGURE-6 PROJECT VALUE WITH VOLATILITY BY MARKET INTRODUCTION

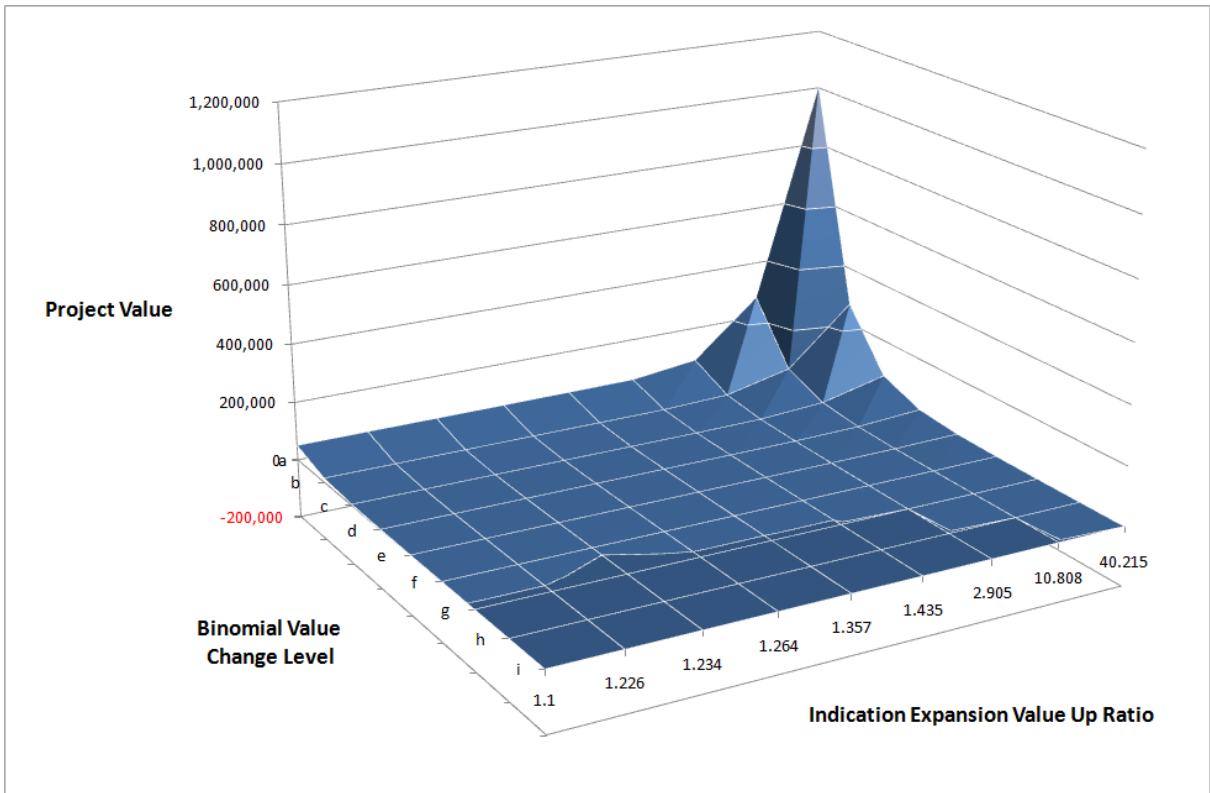


FIGURE-7 PROJECT VALUE WITH INDICATION EXPANSION VALUE UP RATIO

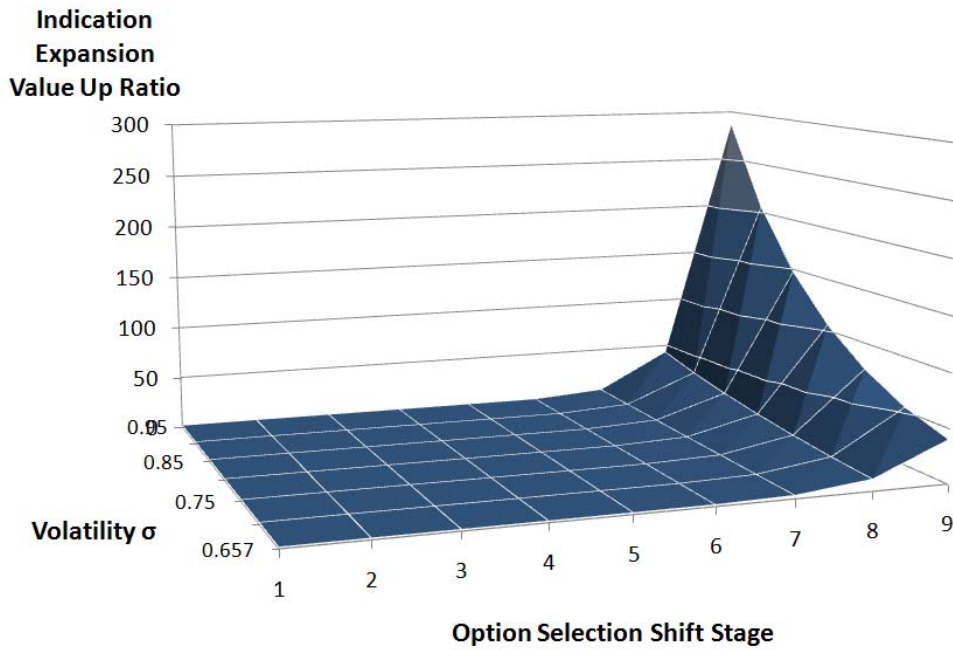


FIGURE-8 VOLATILITY AND INDICATION EXPANSION VALUE UP RATIO

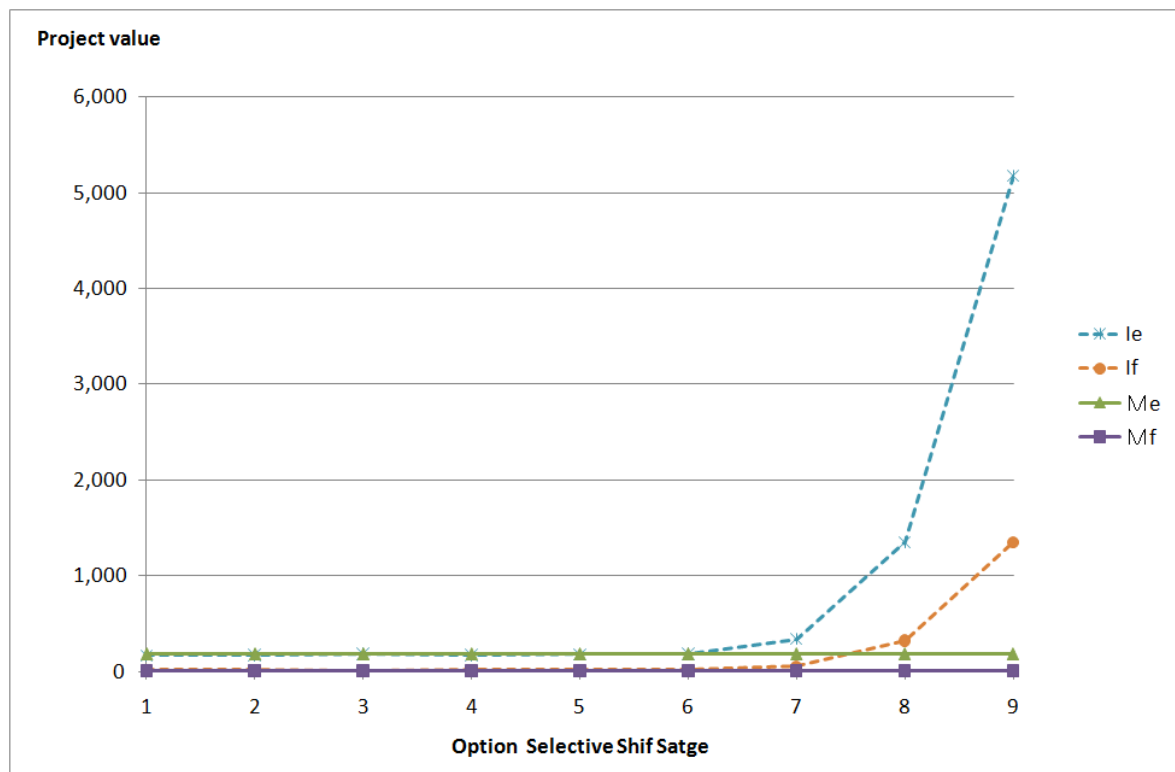


FIGURE-9 MARKET INTRODUCTION AND INDICAITON EXPANSION

The compound chooser option can be consisted of the combination of the market introduction project having the long period of the product on the market if succeeded in launching the drug on the market, with the indication expansion project possessing functions of both the utilization of upside opportunity and the hedge against downside risk in addition to the function of learning option with decision deferring. Thus the compound chooser option can be considered as one of tools to cope with the irreversibility with the sunk cost under uncertainty.

Conclusion

Here we examined the characteristics of decision deferring option, the effectiveness of decision deferring option with the indication expansion, and condition of utilization among flexibility functions of real options including compound chooser potion. In the past, decision deferring has been discussed mainly from only the sunk cost perspective. But if making indicators for project selection from option flexibility related to value up ratio of the indication expansion on both upside and downside, it is understandable to enlarge its application. And basically R&D itself can be considered as decision deferring stage of business entry and exit as assort of learning option.

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Importance and Characteristics of SME and FDI in Selected CEE Countries

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Abstract

SME and FDI contribute to the development of a national economy: it's an input of capital to the domestic economy, bringing also managerial and technical know-how to foster a economy, which doesn't develop so much through scientific programming and modelling. If people from abroad bring into a given country expertise of know how and locals show the will of copy and set competition with them, this fact might be a powerful measure, in order to enhance the domestic economy.

Based of this being the paper analyses situation in selected countries of CEE: firstly to find out the reality and secondly, how much it weighs in the development of local economies: Slovenia, Slovakia, Poland, Russia and etc. The study method based on data analyses of business creation and development, SMEs and FDIs, studying time series of data, comparing domestic to foreign business and sectional studies across the countries considered.

Some recent economic environment aspects in the EURO area

The 2008/09 crisis left a strong impact on the world economy, including the nations of the EURO area. There are several expert attempts to formulate explanatory models of the phenomenon, proposing also solutions. Important to that regard is an article published by the Nobel laureate (Krugman, 2011). It starts by saying that the localization of the crisis in Greece could be considered as a reminder of classical tragedies.

However, the described financial phenomena don't have much to do with the classical world as they are typically modern. It is difficult to press them into traditional explanatory models, which we can see from the fact that their behaviour is surprisingly different from expert predictions, so that their outcomes are difficult to be forecasted. In Figure 1 the public debt to GDP ratio of several countries is shown.

RANK	COUNTRY	Public Debt as Percentage of GDP
2	JAPAN	196.40
5	GREECE	144.00
8	ITALY	118.10
9	BELGIUM	102.50
11	IRELAND	98.50
15	PORTUGAL	83.20
27	SPAIN	63.40
66	SLOVAKIA	41.00
82	SLOVENIA	35.50

FIG.1: PUBLIC DEBT TO GDP RATIO FOR SELECTED COUNTRIES (CIA, 2010)

Let's carry out some considerations regarding this aspect. Looking at the indicator in Fig.1, one would expect the spread of tragedy (crisis) from Greece to Italy, Belgium, Ireland, Portugal and Spain, if taking into consideration only the countries from the EURO area. Some experts and many financial speculators have been expecting the above kind of sequence. As a matter of fact, only Ireland has been hit after Greece up to now, whereas the other countries of the area have been spared.

The problem is that such synthetic indicators, constituted by a lone figure-indicator, are not able to express all the wealth of the real phenomenon (Lokar and Bajzikova, 2010). Also the Greek crisis was like an alarm signal for the EURO governance and after it broke out, measures were taken to reduce the financial danger and its extension to the EURO area. We can list the following ones:

1. Creation of an EU-wide fund, to keep the money in reserve for the rescue of distressed countries, deterring also speculation.
2. The intervention of the European Central Bank (ECB), which started to buy bonds of the countries in distress. As we already showed, until now, only Greece and Ireland had the need of this kind of help.
3. Moreover recently, the European Financial Stability Facility (EFSF) was created, bearing the task of issuing EURO bonds, backed by the states of the EURO area. The institution obtained immediately an AAA rating and the first bond issue was sold instantly. For instance, only Japan, bought 25 percent of it (International Herald Tribune, 2011).
4. In our opinion though, there is another relevant aspect to be taken into consideration: the public debt of each country is a peculiar phenomenon typical for the country, connected to its economic history, culture and behavioral characteristics.

For instance, Italy has a very high public debt, almost 20% bigger than its yearly product (GDP), high on a world-wide ranking of countries with the highest debt (Fig.1). On the basis of this sole figure and following Krugman's line of thinking, one would aspect that the country is on the brink of tragedy.

But in Italy things are different than one would judge on the basis of mere numbers. Namely, the Italian debt is owned traditionally by the citizens of the country itself in the form of family savings.

It has been an Italian tradition to save private money by buying state bonds, which appear also on the passive part of the balance sheets of smaller and bigger banks of the country. Citizens are investing their money preferably in the state, which is considered a more secure move than stock-exchange investments, even though the returns are lower. The average Italian citizen is rather risk-adverse. It may be a negative characteristic for business, but it is a positive one for the state as it is not difficult to collect the money needed for its spending. And to be sure, there is a substantial difference in state owing money to its own citizens, rather than to foreign states or speculators. The state may expect better treatment from its citizens, as they are bound together with the state by strong trust and interests. Therefore, the almost 120% DEBT/GDP ratio of Italy may be something basically different, compared to lower ratios in other countries. This aspect doesn't appear by the mere index figure observation.

Similar considerations of local particularity could become apparent also for indexes of other countries, which may also carry peculiarities that are not immediately apparent to an observer without a deeper knowledge of the local situation.

For instance, Spain has a much lower debt/GDP ratio than Italy, but observers stress out a big mortgage bubble in that country, which doesn't appear in the overall state debt/GDP ratio. This could be considered a negative aspect of the Spanish debt. On the other hand, this debt seems to be mostly present on the balance sheets of local banks, the so called "cajas", which may in fact have a positive aspect in the Spanish situation. The state could be of less concern about smaller local banks, supposing, that it is not its business to take care of them, turning it to local elements and administrators, considering also possible break-downs and rescue efforts. But, of course, it is a matter of quantity: if most Spanish "cajas" would go bankrupt for such a reason, it would also become a state concern. If only some of them show up the distress, the situation could appear easier to tackle with.

In fact it is a matter of quantity. But the impression is that such quantitative measures, are the most difficult to get out precisely. Does the local government have the needed knowledge? Such an assumption often appears to be not true.

For similar reasons we think that Krugman's proposals to the EU of how to tackle and solve the EURO crisis, must be taken into consideration with some caution, more in the sense of an useful contribution to a wider debate, but still away from the solution of the problem.

Cases of the EU situation in comparison to the US

In the described article, Krugman supposes that a crisis, similar to the European one, is much easier to solve in the US, which has not only one currency, the dollar, but also one central federal administration, a guarantee for coordinated measures. In Europe there is no such prerequisite of the same relevance in order to unify different points of view and different local situations.

Another important aspect which he points out is given by the homogeneity of the cultural environment in the US, permitting better mobility of the work-force from one part of the country to another and thus contributing to the solution of the problem. In the US people can move more easily from an area with job-offer scarcity, to another one in a better economic conjuncture, where there are more jobs offered. From economic textbooks it is well known that the least mobile of the three classical production factors is "earth", a little more mobile is "work-force" or people involved in economic activities, and the most mobile one is capital, which finds ways to go everywhere, searching for advantage.

In order to get mobile, people must overcome geographical and cultural barriers, which are curbing their movement. Within the US, Krugman maintains, such barriers are almost non-existent: there are no borders, the same cultural and language environments exist everywhere, similar rules and laws are enforced in the states of the federation, one federal government reigns on the top of the system.

But also in Europe there is less and less difficulty to move people from one area to another, which facilitates personal and business mobility.

Business and Personal cases of Mobility in Europe

Let's explain the issue using some real cases. One year ago in Udine, a small city in the North-east of Italy the local newspaper – *Messaggero Veneto* published the number of immigrants present in the city. The immigrants comprised about ten percent of the total population, which is a pretty high figure. Immigrants were also ranked by countries of provenience: the most numerous was the group originating from ex-Yugoslavia and the second one was the group from Nigeria. People from other EU countries may even not have been taken into consideration as, on the basis of the Schengen agreement, they were treated as domestic citizens.

Also in Slovenia, another EURO country, one can see a lot of immigrants from ex-Yugoslavia: in the past, they have been part of one unified state and they are therefore encountering low cultural and language barriers, moving into the country, which eases the integration in the cultural and language environment of the Slovenian state.

For instance, a symbolic aspect of this reality is well shown by the fact that the mayors of Ljubljana, the capital of Slovenia and Koper, the main sea port, are both of Serbian descent. Serbia and Slovenia have been both part of ex-Yugoslavia. Notwithstanding their descent and possible prejudices, at local elections they got the confidence of the local population, which is a sign of integration ease and low cultural mobility obstacles.

Not only personal, but also business mobility can be shown in most European environments, as can be demonstrated on the following cases: in order to extend the Slovenian highway system, a double two kilometres long tunnel has to be built close to the city of Koper, the main sea port of the country. The public bid for the work, was won by the Slovenian company CPM, based in Maribor, another Slovenian city. CPM started the work in association with an Austrian company, ALPINE BAU from Salzburg. Some months after the works had started; CPM went bankrupt, as the company was not able to pay suppliers and outsourcers. The local newspaper published,

as a matter of fact, that one of the unpaid outsourcers was a SLOVAK company. As a consequence of the bankruptcy of CPM the original operations of the company would be conducted by the following three partners: the Austrian company ALPINE BAU, the Slovak company plus another Slovenian company. These are examples showing that the EU situation is substantially not different from the one in the US. When money is involved, people and managers do everything in their power to reach the goal, trying to overcome obstacles and hurdles.

Of course, in order to fully confirm Krugman's idea that the US is better from the point of view of job mobility, one would have to quantify more precisely the above phenomena, either in the US or in EUROPE, in order to be able to carry out more careful comparisons.

In a recent article on the subject (Silverberg, 2011) argues that the solution of the EURO crisis is rather simple. The countries in distress should not raise their wages, leaving them unchanged for a while, in order to differentiate themselves from the faster developing countries of the Union. These countries as a consequence and sign of their success can afford to raise their wages. To show the truth of this assert, Germany the economically most successful EU state, is already doing it. Big German companies like VOLKSWAGEN have a kind of business organization with worker representations in the management boards. The representatives are monitoring the situation all the time: as soon as it appears sound enough, they ask for wage increases (They already did it: some days ago, the worker board members of VW asked for a six percent wage increase and the Italian company FIAT promised recently to their Italian workers that they will increase the wage at the German level). If the wages of the distressed countries are not increasing meanwhile, a differential in wages and economic level builds up, and worker mobility starts to rise in order to reinstate the over-all factor equilibrium.

Of course, as we already stressed it out, in economics all these phenomena are much easier to tell than to quantify.

Quantifications of business and factor mobility

In order to try to do that, we will exhibit some graphs and tables. Fig. 2 presents the unemployment figure of four countries (Lokar, Bajzikova and Mason, 2010): Poland, Russia, Slovakia and Slovenia. It permits either a cross-country comparison or a time comparison, as the time series involved are covering the period 2002-2011.

As the exhibit shows, unemployment was around 20 percent at the beginning of the period in Poland and Slovakia, whereas it was much lower in the same period in Slovenia and Russia: around 10 percent (As far as Russian data are concerned, it must be warned that methodologies of unemployment detection may differ from country to country, so that it is not sure that they are fully comparable. In the period 2006-2008 it decreased to 10 percent in all countries taken into consideration, due to several Foreign Direct Investments (FDI), i.e., mobility of foreign companies to the countries considered. In this regard, the companies SAMSUNG, VOLKSWAGEN and PEUGEOT in Slovakia may be quoted, RENAULT in Slovenia, FIAT in Poland and others.

The years 2008-2009 were critical, as we know, and we can see that unemployment rose again in the observed countries, even if not to the same level, like at the beginning of the period.

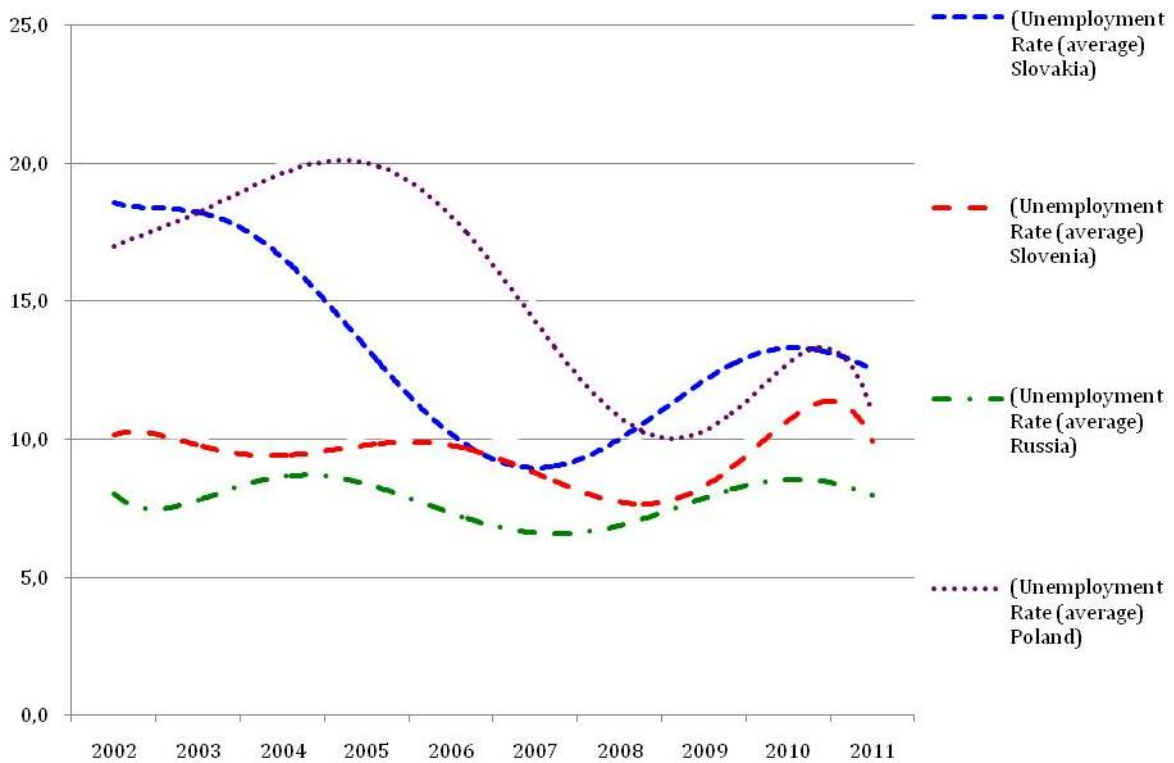


FIG.2: UNEMPLOYMENT RATE OF FOUR CONTRIES IN % (LOKAR, BAJZIKOVA AND MASON, 2010).

In 2011 reduction of unemployment can be seen, as a consequence of the end of the crisis. Fig. 3 shows the data of Inward FDI, as a percentage of GDP for the four countries. We can observe two phenomena: large oscillations in data, which is understandable as FDI may change a lot from one year to another on the basis of decisions of foreign business to enter in one country or another. The other phenomenon is a positive trend for all the countries, of which the champion looks like to be Slovakia, following Poland, then Russia and Slovenia. However, it is important to show that inward mobility of foreign companies is growing for all the described countries.

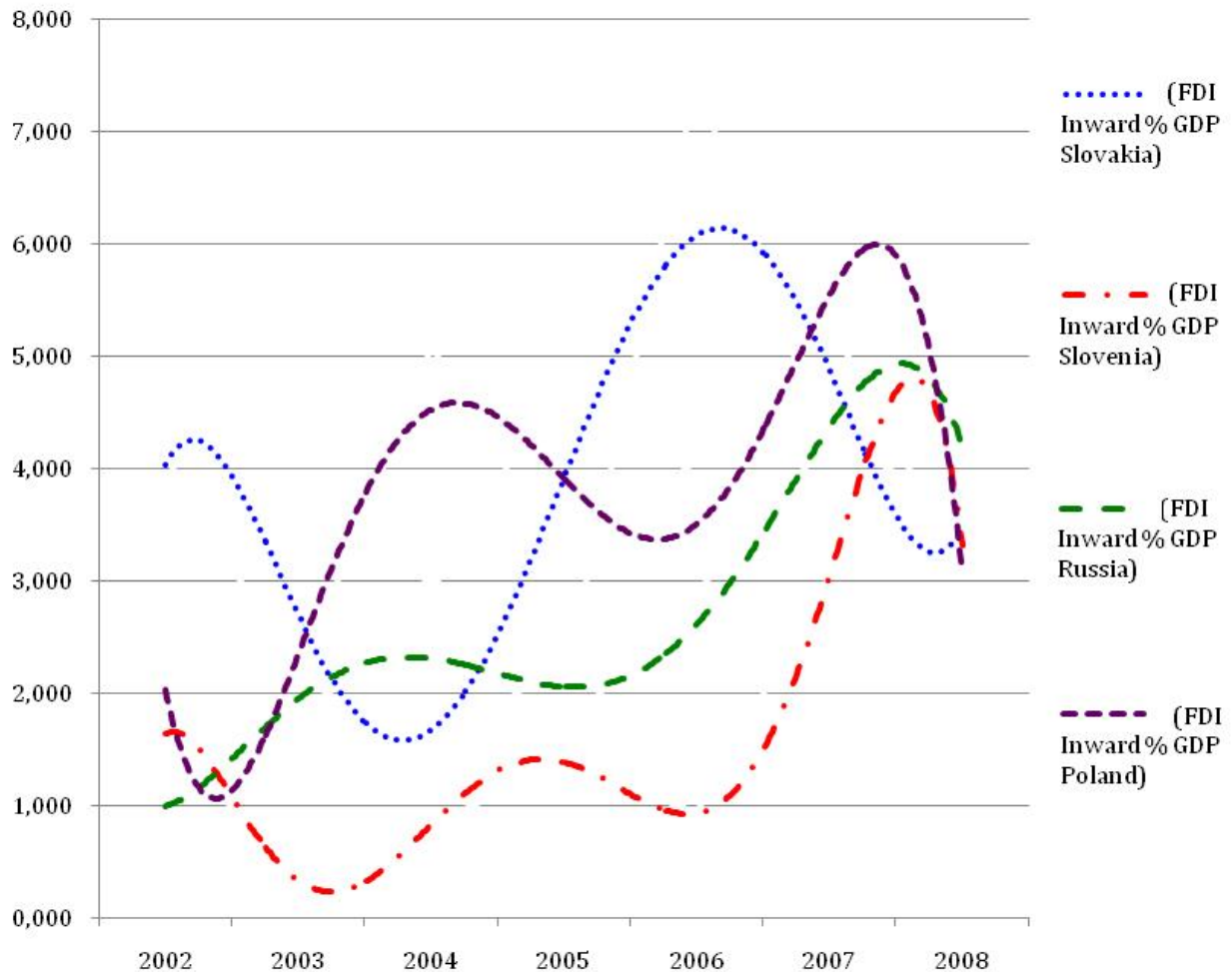


FIG.3: FDI AS % OF GDP FOR THE FOUR COUNTRIES (LOKAR, BAJZIKOVA AND MASON, 2010).

In order to get some more quantifying of the described business phenomena, the data in Fig.4 are shown, regarding business in Slovenia. As far as enterprises are concerned, we can see that large enterprises, with more than 250 employees are only 0.25 percent of the total, but they are employing 33.21 percent of the work-force and creating 34.90 percent of the revenue. Medium-sized companies are 1.45 percent of the total, with 24.59 percent of employed persons and 24.32 of revenue. Small companies represent 5.02 percent of total with only 17, 49 of employment and 21.49 percent of revenue, micro companies are 66.16 percent of the total with 8.38 percent of employment and 5.10 percent of revenue.

Advancing a judgement of this situation, we may say that the legacy of the previous, so called socialist system is still present, when business was induced and maintained by the state. It was typical for that system, to get the economy of a given country characterized by few large companies, as middle and small companies, the so called SMEs, were curbed. In the socialist period individual entrepreneurship was considered something negative. In the transition to the market system small and medium companies started to be fostered by means of individual company foundations, and this was done often even by restructuring the former big companies. The main problem now is to understand how successful the new-founded companies have been, as in the market system economic success of a given country depends mostly on the foundation and successful running of small and medium companies (SMEs).

This is still the main problem in a country like Slovenia: are the new individual initiatives showing signs of success, to overcome the importance of big companies in the economy? The overall success of transition depends for the most part on this aspect. In order to get an answer to this question we computed the data of the last row of Fig. 4. They show the relative productivity figure per employed person, in the Slovenian companies of different sizes:

$$P = \frac{\left(\frac{\text{REVENUE}}{\text{TOTAL REVENUE}} \right) * 100}{\left(\frac{\text{EMPLOYEES}}{\text{TOTAL EMPLOYEES}} \right) * 100}$$

We can see that it is highest for small companies of the class 10-49 employees, for which we can suppose that they are newly founded private companies, as the former socialist companies have been mostly bigger in size. The second rank position is given by large companies, which are probably former companies founded in the socialist period, or some FDI companies. Middle-sized companies are placed at the third place whereas the small and very small companies exhibit the lowest productivity levels.

Total	micro		small	medium-sized	large
	0-1	2-9	10-49	50-249	250 +
A: Percentage on Total enterprises	66.16	27.11	5.02	1.45	0.25
B: Percentage on Total employed persons	8.38	16.33	17.49	24.59	33.21
C: Percentage on Total revenue	5.10	14.20	21.48	24.32	34.90
D: Personal productivity: C/B	0.61	0.87	1.23	0.99	1.05

FIG.4: SLOVENIA: ENTERPRISES BY ORGANIZATIONAL FORM AND SIZE CLASS BY NUMBER OF PERSONS EMPLOYED IN 2008 (Statistical Yearbook, 2010).

Conclusions

In the first part of the paper some statements were taken into consideration, regarding the crisis of the EURO area economic environment, as well as the measures realized to save and enforce the EURO system. It is also shown, how the most popular indicators used at present do not fully exhibit the information needed to explain the economic situation of single countries as well as the area as a whole. Therefore these indicators cannot create sufficient basis to take the decisions needed to tackle with the situation. One of the main problems indicated by some authors, is the assumption that inside the EURO block, work-force and business mobility is low if compared to the American one. In the US there exists a homogeneous cultural and economic environment, which makes it possible to move labour as well as business from areas in distress to areas where demand of factors exceeds offer and thus recreates the equilibrium after the global crisis hit individual areas and states. In order to confirm this hypothesis, business and personal mobility cases are presented. The cases show that also in the EURO area the mobility of labour and business is present, moving factors and business from critical points to those where demand exceeds offer. It is also shown that in countries, which have been part of the former socialist system, there is a productivity shift from the traditional large enterprises, founded and run in the Socialist era, to the new ones, privately and individually founded and managed. This is another kind of mobility, typical for the countries of the EURO area, which have been part of former socialist economic system. It is another sign that the development of the EURO area system is functioning in a sound manner.

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The Problem of Sustaining the Growth of Small and Medium Enterprises in a Typical Sub-Saharan African Context

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Abstract

This paper focused on factors that impede the sustainability of small and medium enterprises (SME) and by extension entrepreneurship development in a typical sub-Saharan Africa context in South-East Nigeria. The study was necessitated by available statistics showing that over 70% of small and medium enterprises in the study area (the industrial layout of South-East of Nigeria where this level of business is predominant) die within five years of establishment. The study used the analytical survey method in carrying out the investigation. By applying chi-square (X²) inferential statistics to a sample of respondents collected from the study area, it was found that poor infrastructural facilities (especially electricity, water and roads), lack of access to formal sources of credit, high incidence and prevalence of violent crime leading to high operational costs are the major impediments to sustaining the growth and survival of small and medium enterprises. It was specifically found that due to high cost of production especially the high cost of self-generated electricity, small and medium enterprises collapse at an alarming rate in Nigeria. The study recommends that the government should urgently address the issue of poor infrastructural facilities especially electricity supply as well as establish an SME stimulus package to rejuvenate SME development and sustainability. This has become critical in view of the potentials of the SME sector in entrepreneurship development, poverty reduction, employment generation and wealth creation.

Introduction

Since Nigeria's independence in 1960 all her National Development Plans (1962 – 1985; 1986-1990; 1991-2000; 2001- 2010) had laid emphasis on strategies of government-led industrialization through the encouragement of local manufacturing industries (Ile 2001). This was in recognition of the leading role the sector was expected to play in industrialization strategy of the government as well as the overall development of the economy. The South-East part of Nigeria which is the area for this study is a major commercial and industrial nerve center in Nigeria. The population density of the area is among the highest in the country according to Ukwu (1977). South-easterners are highly motivated and commercially mobile people. They have a very strong mercantilists spirit, which makes them venture-some and daring in business risk taking. They create the environment for buying and selling anywhere. According to Ile, (2001), these traits account for the spirit of entrepreneurship that is a common feature of Nigerian South-easterners. According to the Anambra State Handbook (2002) one of the special characteristics of Nigerian South-Easterners is the immense resourcefulness of its people who carry on a most animated business relationship with people everywhere in Nigeria.

Thus, highly resourceful and industrious people of the South-east of Nigeria have done remarkable entrepreneurship with great energy and determination. As Onyemelukwe (1983) puts it, though the rich human resources of the area are not in question, perhaps nowhere is the tenacity of the people more evident than in the vigorous struggle for personal achievements. Indeed the Igbo philosophy of individualism has over the years encouraged the preponderance of small-scale business enterprises in South-east of Nigeria according to Akpala (1984).

The importance of this small business sector to the South-east of Nigeria and indeed Nigerian economy in general cannot be overemphasized. Indeed in terms of contribution to Gross Domestic Product (GDP) and employment generation, the small business sector appears to be more important than the large- scale business sector. The experience from India, China, South Korea and Singapore, perhaps, account for the belief in business and government circles that the "surest route to industrialization is through small industries" (Okoye, 1985). To this end, the government of Nigeria and those of the South-east states have over the years designed several schemes to assist private entrepreneurs.

Indeed Nigeria's fourth National Development Plan (1981-1985) stressed the importance of rapid economic growth especially in the non-oil sector and greater local participation in ownership and management of productive

enterprises. This notwithstanding, Jegede (1990) wrote that many government policies and strategies remain unimplemented due to economic crisis, which have beset the Nigerian economy since the late 1970s. Eze (1984) captured this trend of thinking when he opined that bad economic management on the part of past leaders has boomeranged on everybody. The oil boom of 70s that dictated the entire frivolous and wasteful attitude of the government including the relegation of the agricultural sector and private initiative, has now given way to hunger, squalor, spiraling inflation, disease and mass unemployment.

Indeed available evidence shows that a number of factors militate against the development and sustainability of this important sector of the Nigerian economy. It has long been the concern of researchers to properly isolate the factors that cause failure of small business concerns in Nigeria and this effort focusing on the South-east of Nigeria is one of them.

Statement of the Problem

Small and medium enterprises all over the world have been recognized for the contributions they make to the growth and development of the countries respective economies. This class of enterprises account for over 95% of enterprises and over 60% of available employment in OECD countries according to Ile, N. (2002). In Nigeria, these enterprises constitute the majority of companies in the private sector and account for about 55% of total employment and about 50% of industrial output (Ebong, 2007). However, over years the fortunes of these enterprises have dwindled around Nigeria especially in the South-east and as some writers put it, this may in no distant future lead to total extinction of this class of businesses given the prevailing unfavourable conditions existing in the sector Ikeme (2007); (Mohammed (2006); Afolabi and Gibbs (1986); Kilby (1988). Available statistics show that over 70% of small and medium enterprises in the study area (the South-East of Nigeria where this level of business is predominant) die within five years of establishment (Idemobi 2006). The problem of this study therefore is to locate what could be responsible for this high rate of failure and what can be done to ameliorate the situation.

Brief Literature Review

Poor infrastructural facilities had always been the bane of many businesses in Nigeria especially in the South-east. Iwayemi (1988) emphasized the importance of energy to the sector in the socio-economic development of Nigeria and concluded that strong demand and increased supply would stimulate increased income and higher living standards. Okafor (2008) used descriptive analysis to corroborate the views of these authors by arguing that poor and inefficient electricity supply has adverse implications for industrial development in Nigeria.

Oke (2006) attributed the non-competitiveness of Nigeria's export goods to poor infrastructure especially electricity supply, which drives the running cost of firms. Archibong (1997) argued that the positive side of governments structural adjustment programmes could not be fully established due basically to numerous bottlenecks, rigidities and poor infrastructure especially electricity supply. This had always undermined the effectiveness of fiscal and other incentives designed to stimulate the growth and diversification of the economy.

Objectives of the Study

The present developmental situation in Nigeria in general and the South-east in particular today is sure to improve significantly if the problems that militate against the growth of small and medium enterprises could clearly be identified and remedies provided by government to sustain their growth and contributions to economic growth.

The broad objective of the study therefore is to critically examine the problems which could lead to non-sustainability of small and medium scale industries in the South-east of Nigeria. But more specifically, the study intends to:

- (i) Examine the effect of poor state of infrastructure on the development and sustainability of the sector;
- (ii) Examine the effect of insecurity as manifested in economic kidnapping and other forms of violent crimes on the sector; and

- (iii) Examine the effect of lack or poor access to finance especially from formal sources on the sector.

Research questions

The study was guided by the following germane research questions:

- (1) To what extent can poor state of infrastructural facilities impede the development and sustainability of small and medium scale enterprises in Nigeria?
- (2) Does insecurity pose any serious challenge to the development and growth of small and medium scale enterprises in Nigeria?
- (3) To what extent can lack or poor access to finance especially fro formal sources, constitute hindrance to the sustainability of the small and medium scale enterprises in Nigeria?

Research Hypothesis

The following null hypothesis was formulated to guide the study:

1. Poor state of infrastructure will not impede the development and sustainability of small and medium scale enterprises in Nigeria.
2. Insecurity does not pose any serious challenges to the development and growth of small and medium scale enterprises in Nigeria.
3. Lack of access to finance especially from formal sources does not constitute hindrance to the sustainability of the small and medium scale enterprises in Nigeria.

Methodology

The method used in the study was a descriptive survey design, carried out in seven major industrial cities in the South-east of Nigeria. The choice of the study area was informed more than anything else by the fact that there are sufficient numbers of the size of the industry under study in the area.

Population of the Study

The population of this study consists of all the small and medium scale enterprises located in seven major industrial cities of Onitsha, Awka, Aba, Nnewi, Umuahia, Enugu, and Abakaliki in the South-east of Nigeria. According to Umolu (2007) the size of businesses that fall into this category are those that employ between thirty (30) and one hundred and one (101) employees. Statistics provided by the National Bureau of Statistics (2008 Survey) show that the population of this level of industries still operating in the area is three hundred and eighty (380).

The Sample and Sampling Technique

A sample of 120 of the specified category of industries was collected for the study through a purposive method. According to Kilby (1971), purposive type of non-probability sampling is suitable for obtaining ideas, good insights into a situation as well as experienced and critical appraisals of issues. Furthermore, the choice of purposive sampling design was informed by the fact that the researcher wanted to include only those who can answer critical questions concerning the study in the sample.

Procedure for Data Collection and Analysis

A pre-coded questionnaire was designed to elicit information from the respondents. A relatively comprehensive instrument whose converge was carefully defined by the scope of the investigation was designed and issued to

companies' chief executives only or their approved representatives. However, method of data collection was not limited to the use of instruments only. Interview method was also used to collect data from the respondents. As a face to face interview procedure, all the 120 instruments were retrieved and edited for analysis. In other words, non-response rate was zero.

The data generated from the study were analyzed using simple summary statistics of percentages especially in answering the research questions while chi-square (χ^2) test of independence was used to verify the null hypotheses at 0.05 level of significance.

Table 1: Respondents Opinion on the State of Infrastructure and Sustainability of Small-Scale Industries in Nigeria

S/N	Questions	Respondents opinion on state of infrastructure and business sustainability			
		Yes	No	Don't know	Total
1.	Is it true that the condition of road network in and around your location is seriously impeding your movement and that of your goods and services?	80	33	7	120
2.	Do you think the present state of electricity supply can make you stop production if it persists?	94	23	3	120
3.	Is it true that more than 30% of your over head is spent on alternative power supply?	83	31	6	120
4.	Have you ever stopped work due to non-supply of electricity to your factory?	79	38	3	120
5.	Is water supply any problem to you in doing your business?	81	34	5	120
6.	Can you afford private arrangement like, sinking of borehole to service your business?	69	44	7	120
7.	Would you say that cost of doing business in your area is fairly reasonable?	59	48	13	120
8.	Do you think this situation could improve to get better than the present in the near future?	68	41	11	120
	Total	613	292	55	960

$$\chi^2_{calculated} = 34.276$$

$$\chi^2_{tabulated} = 23.685$$

Table 1 above is the presentation of the respondent's opinion on poor state of infrastructural facilities and the sustainability of small and medium scale enterprises in Nigeria. With a sample of 120 representatives of such category of businesses under study, as specified in the scope of this study, questions which ranged from availability to functionality of infrastructural facilities were asked and the responses as could be seen from the above table were quite revealing.

Hypothesis One:

H₀: Poor state of infrastructural facilities will not impede the development and sustainability of the small and medium scale enterprises in Nigeria.

H₁: Poor state of infrastructural facilities will impede the development and sustainability of the small and medium scale enterprises in Nigeria.

To test the hypothesis as stated above, Chi-square (χ^2) test of independence was applied to the data on Table 1 and the test was carried out at 0.05 level of significance and 14 degrees of freedom (df). The hypothesis sought to find out if poor state of infrastructure could impede the development and sustainability of the small and medium scale enterprises in the country, using the South-east of Nigeria study area.

Table 2: Properties and the Result of the Chi-square (χ^2) test

Hypothesis	Sample size (n)	Degrees of Freedom (df)	Significance level (α)	Chi-square values		Decision on null hypothesis
				$\chi^2_{calculated}$	$\chi^2_{tabulated}$	
I	120	14	0.05	34.276	23.685	Rejected

The result of the test of hypothesis as shown above shows that the calculated χ^2 value (34.276) is greater than the tabulated χ^2 value (23.685). Therefore, the null hypothesis was rejected while the alternative which suggests that poor state of infrastructure could impede development and sustainability of the small-scale industries in Nigeria was accepted. Of course, to suggest otherwise would have been a very doubtful result especially when it is obvious that such environmental factors has astronomically increased the costs such industries have had to cope with in their operations in recent time.

Poor supply of electricity in particular has sent many of these categories of industries packing because they cannot afford to sustain their operations on generating sets as the major source of power supply. Similarly, poor road network as well as non-availability of public water supply has all combined to pose serious challenges to the development and sustainability of small and medium scale enterprises in the country.

In a related situation, the state of insecurity was considered to be very vital to the survival of any business enterprise especially now that the activities of the men of the under world is on the increase all over the country. Violent crimes especially economic kidnapping has made business environment very precarious. Therefore, Table 3 below is the presentation of the respondents' opinion on the effect of insecurity on the development and sustainability of small and medium scale enterprises in the country.

Table 3: Impact of Insecurity on the Development and Sustainability of Small-Scale Business

S/N	Questions	Respondents opinion on Effect of insecurity on Business Sustainability			
		Increased	Constant	Declining	Total
1.	How would you rate the performance of your business in the last 2 years?	40	31	49	120

2.	Can you rate performance in the area of opening up new sales outlets in the last 2 years?	33	45	42	120
3.	How would you rate performance of security operatives in protecting lives and property in your area with regard to incidence of kidnapping in particular in the last 2 years?	21	22	77	120
4.	What is your rating of the way new investors are establishing new businesses in your area in the last 2 years?	39	40	41	120
5.	How would you rate your performance in regard to profit making in the last 2 years?	28	48	44	120
Total		161	186	253	600

$$\chi^2_{calculated} = 37.970$$

$$\chi^2_{tabulated} = 15.507$$

Table 3 above is the presentation of respondents' opinion on the effect of insecurity on business development and sustainability in the country. The table shows that there has been a steady decline in all the parameters used for measuring performance in the sector. This was made more vivid in the number of respondents that said there has been a near collapse in the security of lives and investments when viewed from the frequent cares of kidnap especially in the South-east zone of the country.

Hypothesis Two:

H₀: Insecurity does not pose any serious challenges to the development and growth of small and medium scale enterprises in Nigeria.

H₁: Insecurity poses serious challenges to the development and growth of small and medium scale enterprises in Nigeria.

To test the hypothesis as outline above, Chi-square (χ^2) inferential statistics was applied to the data on Table 3 and the test was carried out at 0.05 level of significance and 8 degrees of freedom (df). The hypothesis sought to establish whether insecurity as it is at the moment poses any serious danger to the development and sustainability of small-scale enterprises in the country. The result of the test is presented on Table 4 below.

Table 4: Properties and the Result of Chi-square (χ^2) test

Hypothesis	Sample size (n)	Degrees of Freedom (df)	Significance level (α)	Chi-square values		Decision rule on null hypothesis
				$\chi^2_{calculated}$	$\chi^2_{tabulated}$	
II	120	8	0.05	37.970	15.507	Rejected

The result as presented above shows that $\chi^2_{calculated}$ (37.970) is greater than $\chi^2_{tabulated}$ (15.507). Therefore, the null hypothesis was rejected while the alternative was accepted meaning that insecurity poses great danger to the

development and sustainability of businesses in this category. This is a landmark revelation which calls for more proactive approach in the issue of security because no serious minded business person will take his/her investment to a place where security of lives and property cannot be guaranteed.

Access to finance was considered equally important to businesses and in order to find out how much of it is available to this category of businesses especially from formal sources, the following table was raised from the opinion of the respondents to determine the impact on development and sustainability.

Table 5: Impact of Lack of Access to Formal Sources of Funding

S/N	Questions	Opinions on Access to Formal Sources of Funds			
		Alternative responses			Total
		Yes	No	Don't know	
1.	Generally speaking, would you say that you access credit with relative ease?	30	79	11	120
2.	Apart from your retained earnings and informal savings and loan associations, can you access credit from a more formal source?	28	83	9	120
3.	Do you often meet the quantum of funds required by your business from the informal sources?	43	67	10	120
4.	Is it true that inability to provide acceptable security/collateral by your business is responsible for your poor access to formal sources of credit?	25	90	5	120
5.	Do you think, not having access to sufficient funds can cripple your business?	54	48	18	120
6.	In your opinion, would you say that the government is doing enough in the area of facilitating access to funds by SMEs?	29	81	10	120
	Total	209	448	63	720

$$\chi^2_{calculated} = 40.964$$

$$\chi^2_{tabulated} = 18.307$$

Table 5 above is the presentation of respondent's opinion on impact of inadequate financing on the sustainability of small and medium scale enterprises in the country. The trend of responses shows that poor access to credit can hinder development in the sector and prevent sustainability. Total reliance on retained earnings and other informal sources of credit often does not meet the financial needs of the industries as could be seen from the opinions of the respondents.

Hypothesis Three:

H₀: Lack of access to finance especially from formal sources does not constitute hindrance to growth and sustainability of small-scale industries in Nigeria.

H₁: Lack of access to finance especially from formal sources constitutes hindrance to the growth and sustainability of small and medium scale enterprises in Nigeria.

To test the hypothesis, the data on Table 5 was considered and the test was carried out at 0.05 level of significance using the chi-square (χ^2) test of statistics which was considered very adequate for the test. The degrees of freedom (df) permissible for the test is 10.

Table 6: Properties and the Result of the Chi-square (χ^2) Test

Hypothesis	Sample size (n)	Degrees of Freedom (df)	Significance level (α)	Chi-square values		Decision rule on null hypothesis
				$\chi^2_{calculated}$	$\chi^2_{tabulated}$	
III	120	10	0.05	40.964	18.307	Rejected

The result of the test as presented on the above table shows that $\chi^2_{calculated}$ (40.964) is greater than the value of $\chi^2_{tabulated}$ (18.307). Therefore, we reject the null hypothesis and accept the alternative which suggests that lack of access to finance especially from formal sources constitutes impediment to the development and sustainability of small and medium scale enterprises in the country. The implication of the above result is that insufficient funds can hinder development of a business outfit as well as stop it from being sustained. It could prevent the enterprise from realizing its full potentials.

Discussion of Research Results and Conclusions

Small and medium scale enterprises are critical to the promotion of sustainable economic growth and poverty reduction in the country. But for the sector to perform such functions these identifiable unfavorable business environment must be addressed. The factors as identified and examined in this study include: weak and inadequate infrastructure (roads, power and water supplies, telecommunication etc). Others are the state of insecurity arising from the activities of men of the underworld as well as poor access to credit facilities. Consequently, many producers have to provide their own alternative, which adversely affects cost structure and the competitiveness of the enterprises. The need for the government to intervene in a more meaningful way has been underscored. This is to enable the small and medium scale enterprises cope better with the challenges inherent in today's complex and highly volatile operating environments. The study recommends that the governments at the national and state levels should urgently address the issue of poor infrastructural facilities especially electricity supply as well as establish an SME stimulus package to rejuvenate SME development and sustainability. This has become critical in view of the

potentials of the SME sector in entrepreneurship development, poverty reduction, employment generation and wealth creation.

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Customer-Driven Innovation: A Conceptual Model

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Abstract

In light of the fact that customer driven innovation is fundamental to productivity and success of a firm, we present in this paper a framework for customer-driven innovation. We first describe the Customer Innovation Eco-System, and then present a generalized conceptual model for analysis and management. Integrated in this model is an approach to adaptive pricing.

Introduction

There has been much research in customer-driven innovation. The focus of this paper is on innovation. One of the traditional approaches to innovation has been product/service innovation (focusing on attributes and features) by the firm. Many firms, such as 3M, INTEL, and HP, have successfully adopted the path of product innovation, and maintained product and technological leadership.

However, over the last several years, the attention of executives and researchers (Desouza and Awazu 2004; Ulwick and Bettencourt 2008) has increasingly shifted to customer-driven innovations. In customer-driven innovations both the customer and the firm work together to create and design the innovation but the customer is the key player in this working relationship. The interaction is dynamic, with appropriate mechanism to support the interaction.

Recent research supports the customer-driven approach to innovations. Sawhney (2006) describes twelve ways for a firm to innovate, and one of the celebrated approaches to innovation is customer care and experience. Urban (2005) argues for customer advocacy and trust-based marketing. Von Hippel (2002) has empirically shown that users are the most successful drivers of innovation. Treacy and Wiersema (1997), while discussing the modes to market leadership, identify customer care and experience as one of the distinct modes to achieve such leadership.

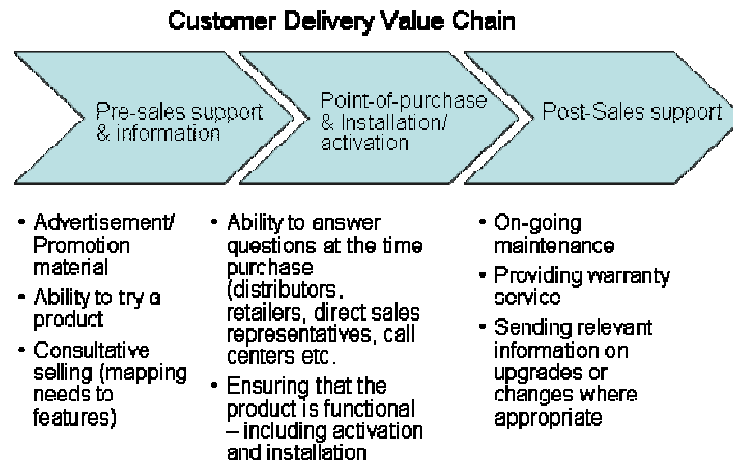
We present in this paper a framework for customer-driven innovation. We first describe the Customer Innovation Eco-System, and then present a generalized conceptual model. Finally, we offer a model for adaptive pricing relevant to customer-driven innovations.

Customer Innovation Eco-System

We postulate that customer-driven innovation is a function of “*customer-contact points*” and “*customer offer zones*.”

Value-Chain, and Customer-Contact Points: Customer experience is impacted by all customer-contact/touch points from pre-purchase process to post-purchase service and support as shown in Figure 1. Therefore, a customer may engage in innovation at any of the interface points.

FIGURE 1



The value chain includes accessibility of information about the product/offer, interaction with stake-holders during purchase (either distributors or direct sales), performance delivery of the product relative to the expectation of customers, post-sales support (including servicing the product under warranty, or offering maintenance on an on-going basis,) and other value added services (such as the creation of a network community as in the case of iTunes after the purchase of iPod from Apple.)

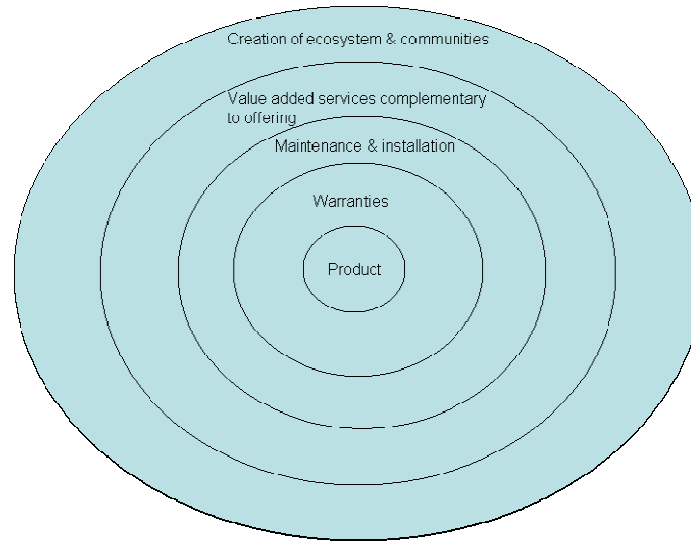
It is important to make every customer touch point rich and meaningful to maximize the customer-driven innovation. Customer innovation can be maximized by offering the best information to customers, and developing an ability to understand the customer needs at each one of the touch points. The goal is to build a bond and trust with the customers through the entire value chain. For example, even when a product is self sustaining, it is important to offer accurate and easy-to-understand information through promotions or labels or any other communication medium. On the other extreme, when several intermediaries (e.g. wholesale distributors, retailers, or value added resellers) are involved during the sales process, it is important to ensure that they are well trained on products/offerings and have the ability to understand relevant customer needs.

Value added Eco-System, and Customer Offer Zones: In addition to the customer delivery value chain (see Figure 1), there are many other opportunities for customer-driven innovation because the customer “service” and “experience” offerings should go beyond the pure products-related offering (e.g. basic installation/maintenance service) to an extended set of offerings (e.g. post-purchase consultative facilitation, design of warranties.)

This set of extended offerings will create a *value added eco-system*, which will provide consumers both tangible and intangible benefits that go beyond the mere adoption/consumption/usage of the product. The *eco-system* will enhance the total “experience” of the customer. We call these *extended offerings of the eco-system as “customer service offer zones”* (see figure 2 for an illustration of the “offer zones.”)

As we move through “offer zones” (from the inner core of pure products to the creation of more extended value driven “related” offerings that can further enhance the use of the core products), the customer is presented with new and different opportunities for adding value and innovating. In summary, there are many opportunities and challenges for a *customer to create and innovate*.

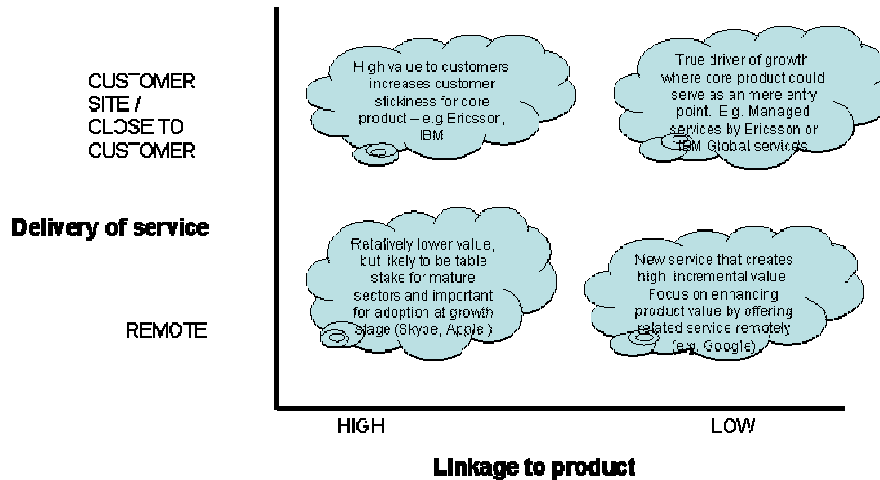
FIGURE 2: CUSTOMER EXPERIENCE AND SERVICE: CUSTOMER “OFFER ZONES”



Customer Driven Innovation Framework

Following our discussions, we propose a framework to understand customer-driven innovation. This framework offers an approach to relate the “customer offer zones” (measured by linkage to products – how closely are they related to products) and delivery of service. The x-axis defines the level of linkage of offerings (and “customer offer zones”) to the core product. When such linkage is high, then the offerings are close to the core product i.e. not many significant additional offerings beyond the core product are made (smaller number of “customer offer zones.”) However, when the linkage is relatively low, a number of additional offerings beyond the core product are made (smaller number of “customer offer zones.”) The y-axis is defined as the mode of delivery of customer experience and service. Such service may be delivered on-site close to the customer, or more remotely.

Figure 3: Customer Service Value Framework



The level and the manner of customer-driven innovation is different in each one of the four quadrants. For example, if a service is delivered on-site, either directly by the product manufacturer or a distributor, the extent of bonding with customers is likely to be very strong. However, significant customer stickiness can also be created by an increase in network effect, even if the service is delivered remotely. Examples of this include Google and Skype, where the service offered is remote but the value is created through a network effect and provision of relevant information in the right format.

Another set of examples is the offer of managed services by communications equipment suppliers like Ericsson and Siemens/Nokia and Lucent. They offer high value service to customers to manage and monitor a carrier’s network remotely in addition to offering field service support. They also offer related services like financing or a “build operate and transfer with traffic” in order to reduce capital exposure risk for carriers in emerging markets. Thus, type of service can be a very important determinant on how the service is offered.

The customer-driven innovation can be defined *a set of processes for facilitating design and creation of improvements, enhancements, and value-additions to the product/service by the customer.* This is a function of “customer offer zones (customer contact points) and mode of delivery.

Adaptive Pricing Framework

One of the most important attributes of offerings is price. We posit that price, too, should also be customer-driven. Adaptive pricing allows for this customer-driven pricing. Adaptive pricing consists of two main elements: (i) Let the customer/user set any price he/she considers fair after the purchase/consumption experience; and (ii) Let the firm/seller or a marketplace of firms track that price and use that information to determine whether to make further offers of that kind to that user/consumer in the future (Reisman, 2010). Adaptive pricing “creates a dynamically adaptive cycle of offers, prices, feedback, and further offers that rewards those who pay fairly and cuts off those who do not (Reisman, 2010).” Consumers become part of the decision-making, and thus feel empowered by added trust and flexibility.

For example, some music and downloadable games including Radiohead in 2007 have experimented with different versions of adaptive pricing and found moderate success. In case of Radiohead, while a reported 60% downloaders did not pay at all, enough did (paying an average of \$8.05 in the US and \$4.64 elsewhere), to make that experiment modestly successful.

Generally in a market process firms with least cost of production tend to appear. Firms work with the customers/consumers to meet the customers' needs. They possess the relevant information on their production technology, prices of inputs (input prices) and output prices. They can also work together with the customers to shape the output prices. On the other hand customers/consumers know their preferences and prices of goods and services as well as the remuneration for offering their inputs (factors of production). It should be noted that the customers/consumers can be persuaded to acquire new tastes and preferences.

As the firm increases its operation more resources (in terms of materials, capital, labor, energy, etc) tend to be utilized. Assume that there are no artificial and natural barriers hindering the expansion of the industry, as resources move into the expanding industry, so too with contracting industry resources move out. Firms in the industry produce where the output maximizes their profits – where respective marginal cost equals the price of the output. There is the industry or firm dynamics as there are continuous changes in the market conditions – like new products being produced, etc. But as the industry expands and demands more inputs, the price of inputs tends to increase.

Firms would generally adjust the scale of their activities (operation) to fit together with the demand of the customers (consumers) at the “prevailing price” and conditions. Changing conditions may change also the scale of operation (and output) of the firm/industry and consequently the prices (Browning and Browning 1986; Nechyba 2011). At a given market price, each firm in the industry produces at the output that maximizes its profit. But firms that do not create and innovate may find themselves going out of business.

In certain industries, increase in the output of few firms may not affect the input prices but if the changes are of big magnitude in the industry, the prices of the input may change. For instance, increase in the auto mobile production would increase the input prices such as steel. Still, the nature of the industry may be such that an increase in the demand of its inputs may not affect the prices of the inputs. This may be in a situation where the input of the industry is a very small fraction of the input market. For instance, an increase in the production of paper clip may have very little effect on the price of steel.

In an increasing-cost industry, an expansion in its operation or output would result to increase in the prices of its inputs. High input prices generate high production cost. The increases in operation or output lead to increase in input price consequently increase in cost of production. Hence, the industry produces higher output at higher output price.

While in a decreasing cost industry due to increase in demand the industry increases its output by lowering input prices. For instance, it is often seen in the industries such as digital cameras watches, color TV, personal computer video cassette recorder, small calculators have had a sharp drop in (output) prices since the introduction of these products. The reasons may be because of rapid technological improvement advances as well as a monopoly but later became competitive. In the production process of the industry, more output is therefore produced at a lower production cost; consequently output is sold at a lower price.

The production of the firm/industry generates the supply of that producer and the preferences of the customers generate the demand for the producer. Both the demand and supply of the product and services determine the market price and quantity, produced and demanded; consequently this also determines the level of employment. The expansion of the firm/industry operation/activities means increase in resources (factor inputs) usage. Hence, as the price and output are determined, implicitly the employment level with inputs prices is determined from the price and output.

Let us say an industry has n firms ($i = 1, 2, 3, \dots, n$). The revenue of firm i from its total output (x) is Px_i where P is the price of output. The total revenue for the whole industry is PXT with industrial total output XT . Assume that the output of all the other firms (excepting for i) is X_0 . Therefore, their total revenue is PX_0 . Thus the revenue of firm x_i is given as

$$x_i P = XTP - X_0P \quad (1)$$

We can derive the elasticity from the demand function but for simplicity let us derive it from the output of the firms and industry.

$$x_i = XT - X_0 \quad (1.1)$$

A change in the output of firm i means a change in the total output of the industry. That is,

$$\Delta x_i = \Delta X_T - \Delta X_0 \tag{2}$$

To obtain proportionate change divide equation 2 by x_i

$$\Delta x_i / x_i = \Delta X_T / x_i - \Delta X_0 / x_i \tag{3}$$

To transform (3) into shares and elasticity we divide and multiply the right side of (3) by their respective outputs and then divide by the proportionate change in price to give the following relation.

$$\Delta x_i / x_i * P / \Delta P = \Delta X_T / X_T * P / \Delta P (X_T / x_i) - \Delta X_0 / X_0 * P / \Delta P (X_0 / x_i) \tag{4}$$

Equation (4) gives the demand curve for the industry, firm x_i and supply curve of the other firms in the industry in terms of elasticities.

$$\epsilon_i = \epsilon S_i - \delta S_0 \tag{5}$$

where ϵ_i elasticity of firm i with output x_i . S_i gives proportion of the firm i's output in the total industry and S_0 reflects the share of i's output to the other firms, and δ is the elasticity of supply of the other firms. These values could be calculated without deriving the full demand and supply curves with their arguments.

If the elasticity of demand for i firm is larger, the smaller would be the i's share of output in the total industry's output. This would also reflect a greater elasticity of demand for industry's output and larger elasticity of supply for the other firms.

Generally while adaptive pricing can be practiced by a dynamic firm that innovates and takes care of customer needs or being customer-centered, it has to balance this with the elasticity of demand for its product or service. The pricing must therefore also be carried out within the context of the type of industry – constant-cost, increasing-cost or decreasing cost industry. But the principal factor driving the pricing is the elasticity of demand. If a firm is able to expand its customers and sustain their loyalty then the demand elasticity can become more inelastic – thus as holding the customers to the product and the firm, the firm can have some dominant role in setting the price.

In this article, we have thus presented a framework to enhance customer-driven innovation. We have also presented an approach to customer-driven adaptive pricing.

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A Model Of The Process Of Women's Entry Into Business Ownership: A Study Among Malay Businesswomen In Malaysia

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Abstract

Women from western and develop countries entering business ownership is increasing in numbers and more women in Asia, particularly in Malaysia are also becoming self-employed despite many tangible and intangible obstacles. In face of these barriers, they demonstrate a strong determination to succeed. Hence this paper will attempt to present a theoretical model of the economic and social factors associated with Malay businesswomen in the rural environment. Insight into the influences of socio-economic factors on entrepreneurship is based on a study of 31 Malay rural businesswomen from the District of Pendang, Kedah. This study has shown that a combination of individual needs and experience are not the only reasons why women start their own business ventures. In each case, other event and external factors have catapulted the women into business ownership. Hence this paper has set out theoretical and methodological implications which have added to our knowledge about the theory of the origins of entrepreneurship among rural businesswomen.

1. Introduction

Many studies have been conducted on women entrepreneurs since the beginning of the 1980s (Aldrich, 1989; Belcourt, 1987; Bowen & Hisrich, 1986; Brush & Hisrich, 1988; Cromie & Hayes, 1988). From the overview of research on entrepreneurship it is suggested that 'research on entrepreneurship has focused on three major areas: background factors and personal characteristics, psychological attributes and traits, and situational factors, as researchers work towards developing a model which explains and predicts entrepreneurial tendency at the micro level' (Stevenson, 1990:439). Stevenson argues that by using the existing 'male-based' models several stereotypes have subsequently emerged from the literature which continues to influence the interpretation of research findings on attitudes, expectations, and motivation of entrepreneurs, and what is known about the nature of female entrepreneurs is for the most part based on male-centred notions.

Recent research has focused on a new trend of women's participation in the labour force in Great Britain, the United States, Asia or even in the Third World. A recent phenomenon in the global situation has been the rise in the numbers of women entering into the so-called male domain of work that is self-employment or starting up a business and becoming an entrepreneur. According to Rees (1992) the potential of self-employment and small business proprietorship is that it may be a mechanism to challenge the restrictions of existing gender relations in the labour market. For example in early 1989, three quarters of a million women of working age reported that they were self-employed in Britain (Rees, 1992:158).

Extensive literatures and debates in the 1990s focus on women and the enterprise culture. Among issues debated and discussed by feminist researchers are the conceptualizing of female entrepreneurship, the growth of self-employment of women or the 'new entrepreneurs', the factors which obscure and obstruct women's enterprise, measuring women's entrepreneurialism, women's motivations for setting up in business, successes and failures, and the development of skills and training in entrepreneurship.

Women from western and develop countries entering business ownership is increasing in numbers and more women in Asia, particularly in Malaysia are also becoming self-employed despite many tangible and intangible obstacles. In face of these barriers, they demonstrate a strong determination to succeed. Hence this paper will attempt to present a theoretical model of the economic and social factors associated with Malay businesswomen in the rural environment. Insight into the influences of socio-economic factors on entrepreneurship is based on a study of 31

Malay rural businesswomen from the District of Pendang, Kedah. This study has shown that a combination of individual needs and experience are not the only reasons why women start their own business ventures. In each case, other event and external factors have catapulted the women into business ownership. Hence this paper has set out theoretical and methodological implications which have added to our knowledge about the theory of the origins of entrepreneurship among rural businesswomen.

1. Method Of Study

In this study in-depth interviewing and focus group work were carried out, followed by a survey in the form of a questionnaire. Miles and Huberman (1994) suggest that in many qualitative studies some quantifying may also be useful. Here the two main reasons for presenting the data in both ways, (qualitative and quantitative) are triangulation and complementarily. In-depth interviewing has been the major instrument of data collection of this study. The interview sessions were characterised by open-ended questions with broad guidelines in an 'interview guide'. More probing questions followed depending on the respondent's responses. All too often respondents are restricted in the responses they give in questionnaire surveys by the available options listed on the questionnaire.

This study, have focused on the District of Pendang in the state of Kedah Darul Aman in the north of Malaysia. This district and state are categorized as developing states with the majority population being ethnic Malay, especially in rural areas. There are significant reasons for selecting this area. Firstly, there is a need to conduct a study of the rural women in this area as no previous study has been done. Secondly, it is clear that there has been an 'emergence of a particular group of women entrepreneurs' who have the potential to contribute to the nation's economy and the labour market. Recent studies have been conducted on female entrepreneurship but not many have focused on a rural setting.

This study managed to select 31 cases was based on the following criteria: (i) Women who had been in business for more than 2 years. This is to ensure they are committed to business and have experience of being a businesswoman in a business environment, (ii) The women selected were spread over a variety of different types of business at various Amanah Ikhtiar Malaysia Programme centres and could be categorized as petty traders, owners of family farms and plantations and micro-enterprise owners, (iii) Women/participants were all able to make their loan repayments as scheduled by the evaluation committee of Amanah Ikhtiar Malaysia and had a substantial monthly income (a criteria set by Amanah Ikhtiar Malaysia in considering the participants as 'successful' in business), (iv) Participants were all accessible, (v) Participants were all willing to participate in the study.

2. Factors of Women's Entry Into Business Ownership

This study indicated there are various factors associated with the reasons why Malay businesswomen make the decision to go into business. The data indicated several categories which emerged during the analysis. The categories matched those in earlier studies such as unemployment, financial reward, poverty and the desire to improve the quality of their family life. In trying to pinpoint the factors that explain why these women went into business, we can look at both 'push' and 'pull' factors.

i. Motivations for Entry into Business Ownership

What motivated these women to go into business? This study has sought to explore the question of why the women decided to be self-employed and in particular to go into business. The respondents quoted a number of reasons in common with earlier studies: getting extra income for the family, because the opportunity was there, encouragement from friends and families, because it was the only way to do the kind of work they wanted to do, being in business fitted in with their lives, because they already had business skills and knowledge, economic necessity and survival and the availability of start-up capital

This study revealed that economic necessity and survival among these Malay rural women were the primary reason given for becoming involved in their present business venture. Other reasons such as the availability of capital for start-up, the desire to do business and opportunity were also cited by the women.

One woman described the reasons that contributed to her decision to go into business:

“I believe that going into business can be a way of earning extra income for the family. Besides that I want to have my own income. Maybe it feels good to be your own boss. I am jobless and I need to improve my quality of life and support my family.” (PM)

Another respondent had similar views, and she explained her reasons:

“...there is extra income for the family; before, the only income came from my husband. When I have my own income there is some freedom. So I want to be a bit more independent.” (SJI)

However, she also said that by being in business, she has time for the family too:

“I have worked for the government, but working time was so rigid and we had to follow rules and regulations, with no flexibility. I am not cut out to be a wage earner.” (SJI)

However, the dominant factor cited for going into business was that it was a way to earn extra income to improve the quality of their family life and not live in poverty, which was summarized by several respondents:

“I have a strong desire to improve my family’s quality of life. I know that by being an entrepreneur I am able to change the situation.” (HA)

“I put my first reason as earning extra income for the family, as you know that I have a large family to take care of. I feel I need to help my husband to support our family.” (FB)

“My husband’s income is too little to support the family and we had a difficult time. I foresee that if I don’t do anything we could end up in poverty. These thoughts have made me aware of the possibility of starting up a small business at first.” (RH)

However, two respondents said that their main reason for deciding to become self-employed and starting a business was the death of their husband. This reason was seen as the trigger factor that immediately influenced their decision to go into business. Here the two women explain their reasons:

“I had to work to earn a living; I am the breadwinner, I have had to keep my family going since my husband died. As a woman, this is the only skill I have: baking bread, cookies and cakes. So this is the only type of work that provides an income for me. I had low academic qualifications, it is impossible to get well-paid work.” (RS)

“I felt I had a big responsibility to feed and take care of my children when my husband died. So with the few skills I have, I decided to earn a living through my own efforts and start this tailoring business, because I can do this from home.” (SH)

The study reveals that these women had financial and personal needs they were determined to fulfil, and that business ownership was an avenue to that fulfilment. The changes in family structure and standards of living require many women to provide for their own financial needs and for the family, especially for their children’s education. Married women provide an income for the family other than their spouse’s income but for single women it is the sole source of income to support themselves and their children.

The interviews revealed that these women take their role as income provider seriously. The time they spend working hard running their businesses is as important as their role as mothers and wives, as the quotes from the two women above show. This result supported the findings of other research which concludes that women’s motivations for going into business are influenced primarily by the need to contribute to the family income (Kalsom et.al,1999; Rosli, Habshah & Asiah,2002; Norsiah et.al, 1996). According to Habshah (2004) and part of the income generated by rural women business owners goes to pay for the family’s education and other needs. A personal interest in business came second, and then encouragement from the family to go into business.

Women business owners are not, however, a homogenous group and reasons and motivations for starting-up a business vary considerably. Obviously there are various factors and influences which shape the start-up process and subsequent business outcome. According to Goffee and Scase (1986) the age, education, family background and occupational experience of entrepreneurs are all important, and for women in particular marital status and domestic commitment seem to be significant factors. What are the factors accounting for this variation with particular reference to Malay rural businesswomen? The data collected during this study indicated that ‘antecedent factors’ and ‘individual dimensions’ had an influence on women’s decisions to set up in business.

ii. ‘The Antecedent Factors’ Contributing to Business Start-up

Gartner (1985) suggested that work experience, entrepreneurial parents, age and education have an influence on entrepreneurship. Robinson (1989) found that gender, marital status, education background and work experience have a significant relationship with entrepreneurship. Timmon’s (1986) argued that work experience, particularly a thorough operating knowledge of the business one intends to start, is important in determining the success of the business venture. Bird (1989) too pointed out that relevant work experience can contribute to the development of skills, abilities and competencies in entrepreneurship. The question, however, arises as to what experiences contribute to the development of entrepreneurial behaviours among the Malay businesswomen studied here?

It is for this reason that in this section of the analysis I have sought to focus my analysis on the theme of ‘experience’ and attempted to identify the types of experience that contribute to the development of entrepreneurial behaviour among the women under study.

Having established the category of ‘experience’ and its sub-categories which emerged from the theme, by using the various literatures reviewed and the interview data and observations, I established 3 sub-categories: i) working experience, (ii) socialization, (iii) educational attainment.

What I hope to achieve in this section of my analysis is to proceed from the generation of identifiable categories to the foundation of certain propositions. On the basis of analysis of the interview data, I wish to establish several propositions related to the theme of experience as one of the factors influencing Malay women's entry into business ownership. The first proposition is that experience gained from working (either paid or unpaid) provides a useful and valuable training ground for the businesswomen. They gain skills and knowledge from work they have done which contribute to their ability to become businesswomen. The second proposition is that formal educational attainment has not been a direct factor influencing the women to decide to take up a business venture. The third proposition is that there are characteristics necessary for running a business operation which could have been developed during childhood and adolescence. If these propositions can be substantiated, the findings and analysis of this research will serve as a contribution to knowledge in the field of women's studies and entrepreneurship, and these propositions might serve as working hypotheses and provide a basis for further research.

Working Experience

Experience emerged as a category which indicates what kinds of experiences lead to an entrepreneurial venture. As the respondents narrated their experiences, few spoke of childhood experiences and work experiences that preceded their decisions to start-up a business venture of their own. What are the relevant work experiences that contribute to the development of a business venture? Gibb (1987) identified that when someone works alongside a small business owner the manager contributes to the development of the workers' knowledge of business. But how do different types of work experience in different environments or organizations contribute to the development of enterprising and entrepreneurial behaviour among the Malay businesswomen in the study?

Almost fifty percent of the Malay businesswomen in this study indicated they were involved in some form of entrepreneurial activity before starting their own business. They gained skills, knowledge and confidence either from some form of employment or from the domestic tasks they did before they started their business. These businesswomen have shown that there is a link between previous experiences and the type of business they chose to set up. One respondent recalled her experience in a business environment:

"I used to work as a salesgirl in Parkson for 3 years in the food and bakery section. Then I moved to the City Cake House in Kuala Lumpur for another 2 years. This is when I was young. I learned about the cake making business. This helps me to manage my own cake house." (RS)

However, many of the respondents (10 respondents) made a strong association between previous experience and the type of business they started. They claimed that their experiences, and in particular their working experience in a business organization, were valuable and useful because they gave them the opportunity to acquire knowledge of marketing skills and understanding how a business operates. This is how they described their experience:

"I was a paid worker in a company which deals in Malay traditional medicines for two years with Seri Rimba in Kota Sarang Semut and another eight years at Lambaian Besar in Simpang Empat. So I gained a lot of knowledge while working, like how to do marketing and a little bit of book-keeping." (AA)

“I got business experience from working before with my parents. I realized that by helping them then, I developed some ideas especially about marketing strategies.” (AJ)

One respondent revealed that her unpaid work helping her friend produce Malay traditional snacks, ‘kerepek’, was a source of organizational experience. She spoke of the marketing techniques she learned through this unpaid work. She described her work and the benefits of her previous experience:

“I was a house-wife before I started this business. I use to help a friend of mine producing ‘kerepek’. I was not paid, it was voluntary work. When I had the free time I would go to her barn just to give a hand. She would just give me some ‘kerepek’ to take home. Eventually I began to learn how to make this product and how she does her marketing.” (PM).

Apart from these experiences, analysis suggests that a number of respondents turned their household skills into a business, skills which can be categorized as ‘informal experience’. The analysis showed that the woman’s sewing skills were translated into tailoring services, cooking was translated into mini restaurants and the sales of products such as biscuits, cakes and cookies. These respondents explained the history of their idea and the origins of their business start-up:

“I learned from my mother how to sew and make clothes when I was very young and I took sewing classes after I finished school. I have the skills, so I thought this would be a good idea for business to open up a tailoring business.” (CKM)

“I had some knowledge and skills in making Malay traditional cakes and biscuits that I learned from my mum. First I started making those goodies for my family, who said they liked them, so it became my hobby. I tried making a few extra to offer to my neighbours. They said they were good, so I tried selling them from house to house in my neighbourhood. Eventually I thought this would be a good idea for a business.” (ZA)

What these findings and analysis suggest is that these rural women moved into self-employment as part of their strategy, as women with little formal business education for getting into business ownership. Their move into business ownership was achieved by building their business ventures up from their unpaid domestic skills or even their hobbies. As the owner of a tailoring shop described her situation before start-up:

“I was a housewife, staying at home looking after my children and the house. During my spare time I made clothes for my children. Sometimes my friends asked me to make their ‘baju kurung’ (Malay dress) and paid me for the service. I used to think of sewing as part of my domestic chores and as a hobby. But eventually...I realised it could be turned into a business venture.” (CKM)

Socialization

Social learning theory recognizes the importance of the upbringing process (socialization) and provides an explanation for entrepreneurship. Those whose parents or relatives are involved in business, it is argued, socialize in a way which nurtures their entrepreneurial tendencies (Salleh Hj Din,1997:45). Several studies (Litvak & Manse,1971; Hisrich & Brush,1985; Ronstadt,1984; Blythe,1989) suggest that family and friends serve as role models for aspiring entrepreneurs. Living alongside their parents who are in business and working alongside them may provide early experiences for those women to gain opportunities to develop the behaviours that would later be built into the process of developing their entrepreneurial skills. One respondent, talked about her relationship with her family who are also in business:

“My parents, my husband and my brother are business people. I became interested because when I had time after school I used to watch and help them with their business activities. After I finished school I worked with my brother in the rubber sheet trade. They gave me confidence and support and they always say ... you must have confidence...” (AMN)

Another respondent explained that she gained some skills and knowledge about her business from her husband:

“My husband had some experience working on a duck farm ... so I had some knowledge about the nature of this business from him ... he taught me some of his skills especially the rearing of the ducks and the marketing procedure.” (NAAZ)

It is clear that living with and helping parents or spouses who are in business stimulates and enhances the individual's characteristics which are critical to entrepreneurial behaviour such as determination and self-confidence. Several respondents mentioned this:

“I had some experience and knowledge of managing sundry stores through my husband who works in a supermarket called Depo Pernas Edar in Alor Setar. I used to observe his determination and confidence to succeed. He gave me words of encouragement too...so I learned a lot from him about running the shop and building up my self-confidence.” (SH)

“I lived with my sisters before I got married, and they are businesswomen. So I used to help them with their daily ‘business activities’. While watching, I learned and began to imitate my sister's character and behaviour. They used to encourage me and eventually I realized I really wanted to set up a business of my own and have confidence and be successful like them.” (LD)

From the sociological point of view, there is evidence in this study to suggest the importance of role models influencing the entrepreneurial behaviour of the Malay rural businesswomen. This suggests that the successful businesswomen in this study attribute their success in part to the values learned in early childhood or adolescence. The encouragement, skills and nurturing provided by their parents, siblings and close friends appear to have had an influence on their decision to set up in business on their own. Only a few of the respondents, however, believe that the socialization process did not influence their business activities, as the following two quotes show:

“None of my family members are business people. My husband is only a farmer. I was a full time housewife. But before I got married I worked in a school canteen. I got paid for work as a cleaner. However, I became interested in business after I was married when I was in my late 30s. This is when I registered as a participant in the AIM Project.” (HA)

“My interest in business began after I got married. My parents are not in business. I used to go to the Sunday Market in the village and saw a few women doing business. My family had no influence whatsoever. With the help of a friend I attended a women's development workshop in the village nearby and I became interested in business and started to make plans to set up my own business.” (FB)

Educational Attainment

The respondents in this study had varying levels of educational background including primary school, secondary school and a religious school. None had a diploma or a degree from a university. The statistics

for their levels of education is shown in the earlier qualitative analysis which shows that 8 respondents had primary education, 12 had lower secondary education, 10 had higher secondary education and one respondent had only religious education. Generally their level of formal education attainment is very low, but a few businesswomen claimed that school was a factor influencing their decision to become entrepreneurs. Two of the respondents explained that the subject of Commerce provided them with some background knowledge which was useful later for their business:

“At school, I learned a bit about the economy and commerce but it gave me some awareness and awakened my interest in the basics about business.” (MD)

When asked how their level of education had contributed to their decision to start a business venture, some respondents said they could not see how school had contributed to their going into business. None of them said that formal business education had been the reason for starting a business, though a few that pointed out that their education had only provided them with basic skills reading, writing and maths.

“I don’t really have a formal education in entrepreneurship or any training but I went to school until secondary level, and I learned to count, to read and even write business letters. But most of all I learned from watching and helping my husband with his business and then attended workshops to get more knowledge book-keeping, marketing and the handling of perishable goods.” (NMI)

“My highest educational attainment is only at primary level. I began to be interested in this bakery business after marriage and gain some knowledge and business skills from , an agency which does workshops on business which I was able to attend.” (RH)

It can be argued here that women in this category are ‘pushed’ into entrepreneurial activity for lack of other business opportunities. Moving on from this argument, the combination of individual needs and experience was generally not enough to lead these women into starting up a business enterprise. In each case there are other events and external factors that catapulted the women into initiating a business venture. As described by Shapero (1984), there is an event that either pushed a person away from one situation into entrepreneurship or pulled a person into the entrepreneurial arena. It is obvious that there are different explanations and characters for who is in the ‘push’ group and who in the ‘pull’ group, but it is important to note this finding in relation to the literature on poorly educated women, rather than to put all the women into the same category.

This study indicated that women set up a business venture for a variety of reasons. In some cases, there is little real choice and business ownership is a last resort because it is impossible to obtain paid employment in the labour market because of a lack of good academic qualifications and because they need flexible working hours to fit in with their family commitments. According to my analysis of the data from these Malay businesswomen, starting a business is often seen as a means whereby an income can be obtained in a manner compatible with other obligations.

Three of the respondents said the main reason they ventured into business was because of the opportunities it offered. The respondents explained their reasons:

“Yes, there are things that motivated me, my ambition, I have some skills already and most important the opportunity is there, the AIM Project (for financial help) and I see that there is a demand for the products. So you see, I believe I should seize the opportunities on offer.” (AA)

“I started my business way back in July 1993 because I realized then that demand for my product was high...there isn’t any other producer in the vicinity. So I decided to take this situation as an opportunity to produce on a bigger scale and not to wait any longer.” (PM)

“What really triggered my decision to start right away was because I noticed an increase in demand and interest in fashion in the Malay women in my community so I assumed that this would be an opportunity and that it would be a good market.” (RH)

As expected, the study revealed that unemployment is the most common factor that motivates the women to start up a business, followed by the financial reward (to earn extra income), and the flexibility to work while also fulfilling domestic responsibilities and to improve the quality of family life or get out of poverty. As can be seen, the most dominant motivating factor for going into business for these Malay rural women is the economic factor. The majority of the women were housewives prior to start-up so getting a job and earning extra income is the dominant motive for going into self-employment, although there may well also be other motivating factors.

Historically, entrepreneurship was not a traditionally popular Malay occupation of that earlier generation as most Malays then were engaged in agriculture-based occupations, while those who were slightly more educated chose to go into teaching or the civil service. The majority of the respondents clearly expressed that flexible working hours are also why they chose to be self-employed. They expressed their concern about their domestic duties and childcare responsibilities, and self-employments meant they could choose where to set up their business premises. ‘In a typical rural setting, young Malay women are told that their primary roles in life are to be wives to their husbands and a mother to their children’ (Strange,1978).

The ‘multiple role’ played by these businesswomen in their daily lives comes to the surface through the narratives in this study, and I would suggest that their multiple identity roles impel them to seek to empower themselves in a number of different ways. I define empowerment here as the woman’s ability to improve herself physically and spiritually and to be involved in creating income for herself and for the family and to increase their social participation within their community. More importantly, these women indicate that their businesses have given them financial independence. Their involvement in running businesses is empowering because it allows them to gain control over their physical wellbeing and achieve greater economic independence. To explain the phenomenon, I went back to some of the interview data and narratives:

“My social life has been great. I met new friends, too. We usually had our meetings in the AIM headquarters as most of us are in this project. So we exchange ideas and discuss our problems and we feel we have a bit of freedom. Actually before I got involved in business I was always at home... Now I have some spare cash to spend, too.”(BM)

“...I don’t regret getting involved in the hard work of being in business ...in fact by doing this I gain some autonomy and freedom...to spend my own money, because all this while I have depended on my husband’s income.” (AJ)

“...my life has changed greatly. I have more friends now, I have learned to be more sociable, and I attend social activities in my community, go shopping, and buy new dresses. I feel healthier, and sometimes I go for a facial. You get lots of exercise working and this is probably good for me too.” (FB)

Most social activities participated in by some of the women take place outside the home. For the purpose of analysis, social activities will be focused on in the businesswomen’s involvement in their local committees and their involvement in development activities in their local community, which are a form of empowerment for them. Although not many women have the chance to hold office, many are directly involved with Amanah Ikhtiar Malaysia activities. I obtained the following narratives:

“I have been with the Amanah Ikhtiar Malaysia project for quite some time. I am the treasurer at my centre, so I feel great holding this position and getting involved with other social activities too...” (AA)

“... well I feel great and happy with my life now, making new friends and being involved in some of the community social activities... I believe that since I got into business the local committee comes to me for advice and I feel more respected.” (RH)

“... I manage to improve my family’s quality of life - everyone is happy now. I have many acquaintances now, my friends have become my customers, my social life is interesting and lively now, and I have been elected to the committee for the local community women’s group and I feel great...” (NAA)

In the above narratives it is important to note that through their active participation, either as an ordinary member or as an office bearer, they believe that their voices can be heard and that they are of service to other women. These findings are consistent with studies of self-employed rural women from the SEWA movement in India. It suggests that once a women takes the step of becoming involved in local social activities she ‘yearns for more’ to improve her living conditions, to broadening her knowledge and become more confident in taking further steps towards improving life for her family and herself and perhaps setting up in business, as exemplified by the following two women:

“One thing I learned is that every Malay rural woman needs to get more knowledge in whatever field, whether in business or in home care, in family care, in improving your life....anything. So women, especially in rural areas like Pendang, should not just daydream, they have to go out and see the world, learn. This is what I have gained by going into business...” (RS)

“Well...at the beginning my aspirations and vision about going into business were about providing extra income and lessening my husband’s burden. But now I realize that I can go further, but I need the family’s support too. My aspiration is of course to expand and diversify the business to a wider market with bigger networks.”(RH)

The findings from this study shed some light on the businesses of the women entrepreneurs in the rural area. As discussed earlier, a strong combination of push and pull factors influenced the women entrepreneurs’ involvement in business. Since most of the women who entered the business world did so from a need to contribute to the family income, and not simply out of personal interest, it was only fair that they should get support in running the business from their husbands and children

iii. Push and Pull Factors

In addition to personal factors which were previously assumed to be the starting point, and having an idea for creating a business venture, there are factors that ‘pull and push’ an individual towards business ownership. The positive displacement factors which push the individual towards business ownership include the positive influence of reward (income received), the availability of financial support, opportunities of resources, demand for the product and the rural entrepreneurship development programme (Amanah Ikhtiar Project). The negative displacement factors that pull the individual towards business ownership include the spouse’s income being insufficient to support the family, obligations to support parents and siblings and the need to raise the family’s standard of living.

Besides these factors, it has been argued in this study that another precipitating factor is the religious factor (in this case the teachings of Islam) and the influence of other critical agents, such as the individual triggering factor influencing these women to set up a business venture. However, it is suggested that the impetus for creating a business venture is a combination of both push and pull factors together with the religious factor which forms a person's aspirations in line with culturally imparted religious values.

3. Formulating A Model of The Process of Women's Entry Into Business Ownership

This study has shown that women's entry into business ownership is a process, in accordance to Shapiro and Sokol's (1983) argument that the process of change in an individual life path can be described in terms of vectors, directed forces that keep the individual moving in a given direction at any given time. The great majority of individuals are held on a given path by the sum of the vectors in their lives: a job, family situations, and the powerful force of inertia, the daily pushes and pulls that make up individual lives. It takes a powerful drive in a new direction or the accumulation of many detracting forces before an individual is pushed into or consciously opts for a major change of life path.

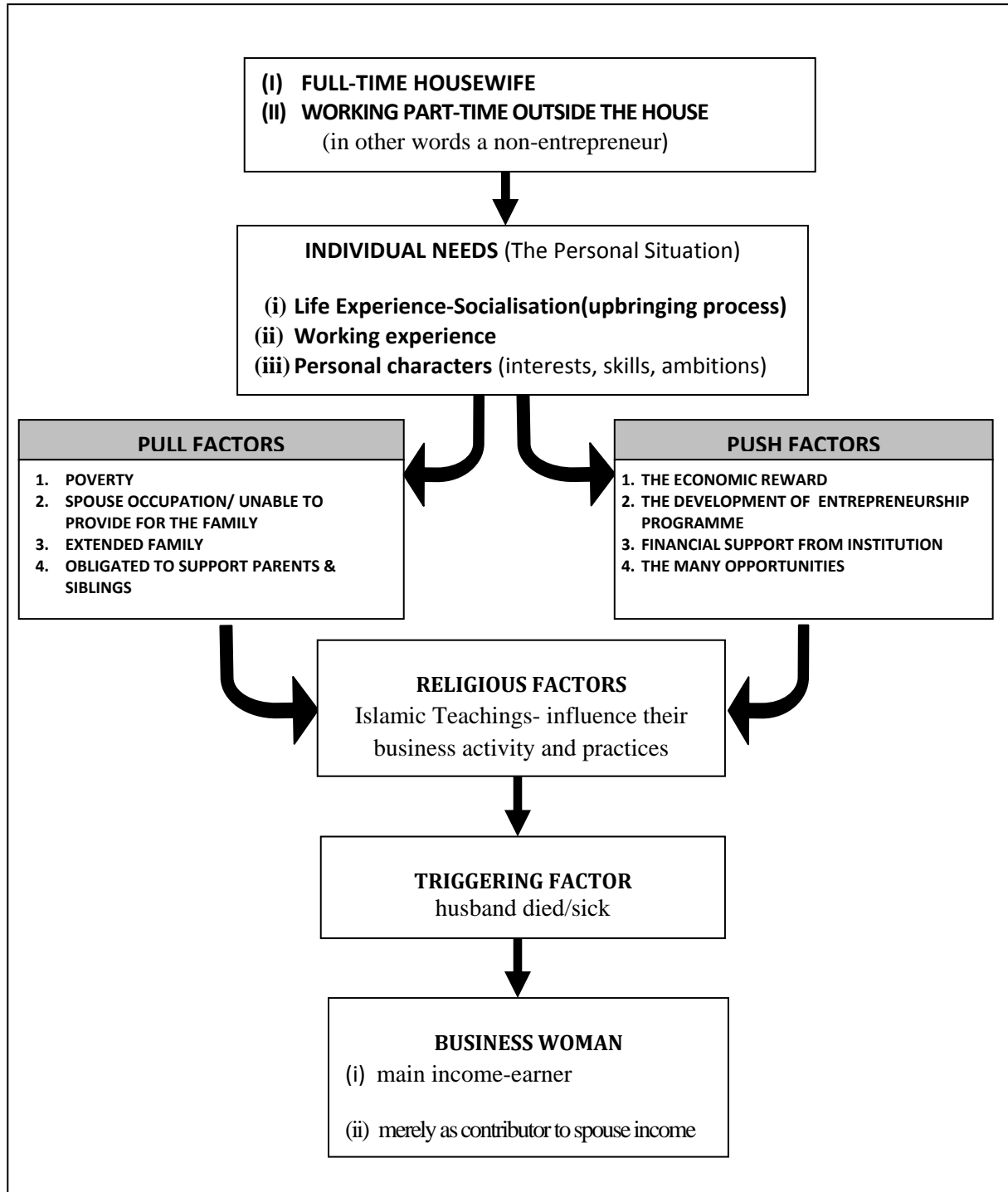
The thesis recognizes that the process of starting a business is highly interactive, a combination of many factors which include individual factors, antecedent factors, individual needs, cultural and environmental factors to motivate the would-be entrepreneur. Entrepreneurship development may be viewed as the process of acquiring the necessary knowledge, skills and attributes to undertake a systematic, high-risk business venture for economic viability and profitability. The findings were conceptualized into a model that illustrates the process of movement in creating a business venture. This innovative finding would fit within the broader effort of feminist scholarship to decentre the experience of white, Western, upper-middle class, urban women by expanding the field to include the experiences and understandings of groups of women outside these conventional categories.

This study supports previous research from the Western background on women business owners, which found that socio-economic factors have a strong influence on the decision to create a business venture. The findings of the study revealed that this group of Malay rural businesswomen is 'pulled' into self-employment and that the majority were unemployed before start-up. However, unemployment was not the sole determining factor in the self-employment decisions of these women. The 'push' factors, such as economic rewards and interest, were also cited as motivations by the women. However, this study also revealed that religious factors had a particularly strong influence on why they decided to become self employed businesswomen.

My analysis of the experiences of the businesswomen under study found that their faith, the teachings, values and beliefs of Islam, had directly or indirectly encouraged and persuaded them to go into business. Their religion provided practical legislation for proper business conduct, so a Muslim who decides to go into business has no reason to be apprehensive as long as they abide by the guidelines provided by the Qur'an. Muslims have faith that having a business and creating wealth through earning '*halal*' income and from their own efforts creates the promise of 'rewards' in the life of the hereafter. My analysis of Malay rural businesswomen's entry into entrepreneurship showed that religious faith and teaching played a vital role in their decision to go into business.

The model shown below displays the various factors that interact with one another and form the significant contributing factors which led the women to start a business venture and finally to become a businesswoman. The cultural factors and triggering factors exert an influence that emerged during the study.

A Model of the Process of Women's Entry into Business Ownership



4. Conclusion

This study challenges the well-established assumption that 'entrepreneurs are born, not made'. It has explored a variety of influences and the findings underline the value of considering business-ownership among women as a social process open to a variety of influences. In light of these findings it is therefore important to elaborate the relevance of the key antecedent influences.

Firstly, I wish to establish that for the women going into business is a form of social mobility, out of employment into self-employment. Almost all the respondents had moved upwards in class before contemplating starting their own business. However, the evidence suggests that the move to self-employment was mainly because they were left with no option but to work hard and to be thrifty and flexible in order to seize every opportunity to improve them and become more resilient and independent.

The study confirms the importance of family influences and life experiences while educational background appeared to play only a minor part. The ideas and ambitions of the entrepreneurs and the formation of their initial motivation were the crystallization of a wide range of influences in their lives, including the socialization process, their working experiences, socio-economic status and their personal characteristics (interests, skills, aspirations, confidence, whether they were a knowledge-seeker or not or a religious person). Acquisition of business ideas can be viewed as an ongoing process developed according to the knowledge of both the individual and the range of social situations she finds herself in. Additionally, I believe that social intervention (government policies, development agencies, etc) contributed to activating the individual towards creating a business venture. The entry of these Malay businesswomen into business can be summarized by the following categories: (i) through interest: a vocation turned into income-generation; (ii) through economic necessity (felt need, personal requirements); (iii) through intervention programmes such as government incentives and entrepreneurial development policies. (the Amanah Ikhtiar Malaysia); (iv) through 'accidental' causes (presentation of an unforeseen opportunity or misfortune); (v) through inheritance, by continuing what their parents started.

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An Examination of the Characteristics of a High-tech Innovation

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Abstract

India has large shortfalls of electric-power generation, and Solar photovoltaic (PV) energy is an alternative energy source that the Ministry for New Energy Sources is promoting to alleviate this problem. Innovation characteristics such as relative advantage, compatibility, complexity, trialability and observability are important determinants in decision makers developing an interest in the innovation. The Directory of Hotels and Resorts in India was used as the sampling frame to draw a representative sample. The data was collected from the Utility Managers of these hotels, using a structured questionnaire. The results show that PV systems are perceived to have relative advantages over conventional systems; they are compatible; they are not seen to be complex systems; trialability and observability of PV systems were made possible through the various demonstration sites. Consequently, it is not surprising that utility managers are highly interested in PV systems.

Key Words: Innovation, Photovoltaics, Renewable Energy

Stream: Sustainability & Inclusive Development

1.0 Introduction

Energy is one of the most important inputs for the economic development of a country because its availability improves the standard of living. India has large shortfalls of electric-power generation, so the Government of India has introduced reforms in the power sector and is encouraging large-scale generation by private sector and joint sector participation. Undoubtedly, there is a shift towards decentralized power generation and private entrepreneurship in power generation.

Solar photovoltaic (PV) energy is one of the special-purpose decentralized forms of power-generating units that the Ministry for New Energy Sources is trying to promote in an attempt to alleviate the power problem in the country. However, the availability of a new technology does not guarantee a high level of interest of the same and, consequently, it is necessary to understand the characteristics of the innovation that influence potential adopters' interest in PV systems.

2.0 Theoretical Background

Rogers (2003) innovation-decision model is used as the theoretical framework for this study. Blackwell, D'Souza, Taghian, Miniard, and Engel (2007) have noted the contribution of Rogers work in relation to the five general characteristics of innovation that could affect its acceptance. These five attributes include *relative advantage, compatibility, complexity, trialability, and observability*. The *relative advantage* of an innovation is defined as "the degree to which an innovation is perceived as being better than the idea it supersedes" (Rogers 2003 p. 229); i.e., it is the extent to which an innovation is perceived as being better than its traditional alternatives. This includes perceptions of relative economic advantage, social prestige or other benefits (Rogers 2003; Brockman & Morgan 1999). Economic advantages of an innovation that lead to improvements in profitability are an important factor that influences the adoption decision of firms (Frambach 1993); e.g., PV systems may be perceived as advantageous because they are less polluting, provide long-term cost advantages or increase self sufficiency.

Compatibility is defined as "the degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters" (Rogers 2003 p. 240). It is the extent to which an innovation meshes with personal values, past experiences, goals of the user or with the norms of the social

system (Lovato & Chiasson 2001). There are many individuals and organisations that recognise that PV systems are good for the environment. PV systems are compatible with the values of these individuals and firms. However, in most countries the dominant mode of obtaining energy is through centralised production and distribution via the grid system. This system of producing and distributing electricity is undoubtedly strongly entrenched all over the world. However, PV systems are remarkably different in that they can be designed to fit specific needs. PV systems can be located close to the users of electricity. Conceptually PV systems differ from conventional mode of generating and distributing electricity. Therefore, PV systems may not be compatible with the existing norms of the social system where traditionally people expect their power requirements to be met through the grid system. Frambach (1993, p. 27) has stated that “the more an innovation is compatible with the current situation of a potential adopter and his needs, the lesser are his switching costs and uncertainties, the more probable it is the innovation will be accepted”.

Rogers (2003, p. 257) has defined complexity as “the degree to which an innovation is perceived as relatively difficult to understand and use”. The rate of adoption of an innovation that is perceived to be complex will be slow. According to Brockman (1999) complexity includes factors such as radicalness, disruptiveness, uncertainty and ambiguity. Potential adopters may view PV systems as complex and difficult to use. Adoption of PV systems involves radical changes to the way in which organisations seek to meet their power requirements. PV systems may also be regarded as being disruptive to a firm’s dependence on the grid or diesel generating systems when there is a power shutdown. These factors are likely to slow down the rate of adoption of PV systems.

Trialability is defined as “the degree to which an innovation may be experimented with on a limited basis” (Rogers 2003, p. 258). It is the extent to which the innovation can be experimented with or tried on a limited basis before the adoption decision is made. This enables the potential adopter to understand how the innovation works and to examine the features and benefits that it offers under working conditions. It helps to dispel fears and to reduce the uncertainty associated with the innovation. The initial costs associated with PV systems are high and the nature of the product do not allow for trial and testing of the system by potential adopters. However this can be overcome by the setting up of demonstration projects, which is discussed later.

Observability is defined as “the degree to which the results of an innovation are visible to others” (Rogers 2003, p. 258). An innovation is more likely to be adopted when others can see the results of its performance and its demonstrated success. Observability refers to the visibility of the results and, like trialability, it reduces ambiguity and uncertainty (Brockman & Morgan 1999). The communication of the results assumes importance in increasing its visibility. Once again, in the context of a technology like PV systems, demonstration projects have a role to play in making the results available to those who are interested and to the wider public.

Innovation characteristics such as relative advantage, compatibility, complexity, trialability and observability are important determinants in persuasion or developing an interest in the innovation. They influence the formation of a positive or negative attitude toward the innovation. In this stage the decision maker actively engages in information search, evaluates this information and interprets the information. As the psychological involvement with the innovation grows, characteristics of the innovation such as the relative advantage, compatibility and complexity contribute to an individual’s perception of the innovation. The decision-maker, then, may examine the suitability of the innovation to meet either a present need or a situation that is expected to arise in the future.

There is an element of uncertainty associated with every innovation, which prompts the decision maker to seek information to evaluate the innovation. The individual seeks answers to questions such as: What are the advantages and disadvantages of the innovation? What are the costs and benefits? This information may be available either from secondary sources or from scientific and technical evaluation of the innovation. However, decision-makers tend to be more confident about the information obtained from those who have adopted the innovation and have personal experience with it.

Kaplan (1999, p.470) preferred to call this stage in the innovation-decision process as ‘interest’ rather than ‘persuasion’. He posited that interest is “a state in which potential adopters arrive at some level of affective investment in a technology and are able to express an attitude that a respondent at the knowledge stage cannot”. He considered that potential adopters show more interest in an innovative technology as they acquire and gain more knowledge about the technology.

The adoption and acceptance of PV systems depends on a variety of socio-techno-economic factors (Rubab & Kandpal 1996). The commercialization and the diffusion of photovoltaics in developing countries

such as India is still at the infancy stage. The government has an important role to play in promoting and fostering the adoption of PV technology and the nature and costs associated with the technology do not facilitate 'trial' of the innovation. Therefore, it is necessary to set up demonstration sites where potential adopters can experience the PV technology, conduct trials and observe the results.

Demonstration projects have an important role to play in educating users and the general public about the benefits of PV systems. Demonstration plants are being set up in developing countries as they serve to create awareness. However, their numbers are limited in many of these countries primarily due to lack of awareness about its potential and the current national economic trends. More demonstration sites are needed in different parts of these nations in order for them to significantly raise the level of awareness of PV systems (Adurodija, Asia & Chendo 1998).

Despite the limitations, there have been ongoing efforts to popularise the use of PV systems because of its inherent advantages over diesel generators and its low negative affect on the environment (Adurodija, Asia & Chendo 1998). Recognising the scope and potential for use of PV technology in India, the government undertook various initiatives to develop and promote the use of PVs in the late 1970s. Realising the importance of demonstrating a variety of applications, in 1980 the Government of India embarked on a programme to develop and demonstrate PV applications. This was done with a view to bringing PV technology to a stage of commercial production in the country (Sastry 1997).

Demonstration projects facilitate trials of PVs and provide data for comparison with conventional systems (Nayar 1997, Koner & Dutta, 1998). The publication of these results leads to these projects serving as centres for dissemination of information on PV systems. Similarly, there are a number of projects in developing countries, which are funded by agencies such as the Global Environmental Facility (GEF); they often start as pilot projects and they play an important role in promoting the use of PV systems. The scope of these projects is much wider and they contribute to the upgrading of the domestic PV manufacturing industry. They enhance the delivery and installation infrastructure that is available in the country as they provide technical assistance, technician training and other valuable inputs (Marawanyika 1997). Qualified and trained workers install PV systems. End-users are trained on preventive maintenance. These measures increase the quality of the installation infrastructure (Gope, Aghdasi & Dlamini 1997).

A wide range of PV applications has been used for demonstration purposes in developing countries. Pioneering work following this has led to the adoption of PV as a power source for these applications. A good example of this is the work initiated in 1977 by Mali Aqua Viva (MAV) a Non Government Organization in Mali. They successfully pioneered the introduction of solar pumps, which led to other organisations such as USAID and UNDP adopting PV as a power source for water pumping. In 1987 the government set up a national organisation to coordinate PV pumping and the number of sites using PV pumping has been steadily increasing. Other PV applications that have been successfully integrated into the community include PV lighting systems and PV powered refrigerators which are used in health centres and clinics in Africa (Gope, Aghdasi & Dlamini 1997).

3.0 Research Design

3.1 Questionnaire Design

A combination of extensive literature review, and results of the pre-tests led to the development of the final questionnaire, which was used as the survey instrument in this study. Higher order scales such as interval scales are more powerful than nominal scales. They are more useful since they allow stronger comparison and stronger conclusions to be made. Hence Likert scales (1 = Strongly Disagree to 7 = Strongly Agree) were used to enable respondents to indicate their degree of agreement or disagreement with a series of statements.

Eleven variables were used to measure the innovation characteristics of Photovoltaic Uninterrupted Power Supply Systems. These variables relate to attributes specified by Rogers (2003) — relative advantage (2 items), compatibility (3 items), complexity (4 items) and trialability (2 items). Respondents' perceptions to these attributes were measured using seven point Likert scales. The scale was primarily drawn from Choffray and Lilien's (1978) study on developing an operational model to assess industrial response to marketing strategy.

Further Demonstration sites/projects of PV systems have an important role to play in creating awareness, disseminating information, facilitating trials, providing comparative data and promote the use of PV Systems. These 4 dimensions of demonstration sites were also assessed using the same Likert scale. It is envisaged that for a high tech innovation like PV systems, the characteristics of the innovation along with the

role of demonstration sites are expected to influence the interest of decision makers in these PV systems. Two items measured on the Likert scale assessed the interest of respondents in PV systems.

3.2 Sampling and Data Collection

The Directory of Hotels and Resorts in India was used as the sampling frame as it provided a comprehensive listing of the target population. The hotels were categorized according to their star ratings and adequate care was taken to ensure a representative sample. The sample size is 205. Sampling error and non-sampling errors are two key factors, which affect the overall quality of data (Malhotra 2006). Sampling error is the difference between the result of a sample and the result of a census conducted using identical procedures. It is a statistical fluctuation that occurs because of chance variations in the elements selected for a sample. Sampling errors arise from errors in constructing a sampling frame and selecting a sample. Adequate steps were taken to minimise potential sources of error during the process of data collection.

The target population consists of 769 hotels and as in the case of many industrial products a census approach was feasible since the target population was not very large. The questionnaires were initially administered to the population through mail surveys. The mail survey was administered across all the elements of the target population. However, low response rates (3%) necessitated a change to the adoption of administering the questionnaires through trained interviewers. Stratified random sampling was used to ensure that the sample adequately represented the population. More particularly, the proportional stratified random sample was used to ensure that the number of sampling units drawn from each stratum was in proportion to the relative population size of that stratum. The target population comprises of 769 hotels of different star ratings and these are spread across the country. The sample distribution of these hotels across the four different regions and across the different star ratings are given in Table 1.

TABLE1: SAMPLE DISTRIBUTION OF HOTELS

	North		South		East		West		All India	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
4, 5 star hotels	20	(37%)	12	(22%)	4	(8%)	18	(33%)	55	(27%)
3 star hotels	23	(35%)	18	(29%)	8	(12%)	17	(26%)	65	(32%)
1, 2 star hotels and Govt. Approved Hotels	25	(30%)	23	(27%)	6	(7%)	31	(36%)	85	(41%)
Total	68	(34%)	53	(26%)	18	(9%)	66	(32%)	205	(100%)

In order to ensure randomness of the sample drawn, a computer program called 'Research Randomizer' was used to generate random numbers from the list of hotels in the different regions. The distribution of hotels in the sample has been maintained to be the same as the population distribution of hotels across the four different regions in India. In choosing the stratification variable, Malhotra (2006) recommends that the elements within the stratum should be as homogeneous as possible whereas the elements in the different strata should be as heterogeneous as possible. This criterion has been followed and the star rating of the hotels has been used as the stratification variable. Therefore in selecting the sample for administering the questionnaires through trained interviewers, the process of stratification and randomization was followed in order to minimise sampling errors. Thus, great care was taken to avoid imbalances in the representativeness of the sample. The data was collected by a prestigious market research firm in India in six Indian cities spread across the different regions of the country.

The sample size of 205 was spread across six Indian cities covering the different regions of the country. The data was collected from the Utility Managers of these hotels, using a structured questionnaire, by a prestigious market research firm in India. The results of the descriptive analysis are presented in this paper.

4.0 Results

In terms of relative advantage, the respondents agreed that PV systems have proven advantages over existing systems ($\bar{x} = 4.69$) and are beneficial in the long term ($\bar{x} = 5.02$). The Utility Managers tended to agree that the adoption of PV systems were consistent with the business needs ($\bar{x} = 4.69$), the values and beliefs of their company ($\bar{x} = 4.78$) and had the support from top management of the company ($\bar{x} = 4.49$). Thus PV systems are compatible with the values of these firms.

Managers disagreed that PV systems are difficult to understand ($\bar{x} = 3.53$) and to use ($\bar{x} = 3.63$). They also agreed that skills ($\bar{x} = 4.44$) and training ($\bar{x} = 4.38$) required to adopt PV systems were available. As such they did not perceive PV systems to be complex. Organisations were keen to run some sort of trial of PV systems before committing more resources although they recognized that independent trial of PV systems are not possible ($\bar{x} = 4.18$) and even a small trial of PV systems involve a major financial commitment ($\bar{x} = 4.45$).

This difficulty was overcome by various demonstration projects that facilitated trials of PVs ($\bar{x} = 5.54$), promoted awareness of PVs ($\bar{x} = 5.67$), provide comparative data of PV systems against conventional systems ($\bar{x} = 5.40$), disseminated information ($\bar{x} = 5.42$) and fostered the use of PV systems ($\bar{x} = 5.62$). The initiatives taken by the Indian Government in setting up various demonstration projects around the country made various aspects of PV systems to be observable.

There is evidence to support a high level of interest in PV systems as they indicated that they would like to know more about PV systems ($\bar{x} = 5.69$) and that they are very interested in PV systems ($\bar{x} = 4.98$).

5.0 Conclusion

PV systems are perceived to have relative advantages over conventional systems; they are compatible; they are not seen to be complex systems; trialability and observability of PV systems were made possible through the various demonstration sites. The four dimensions of demonstration sites play a pivotal role in stimulating a high level of interest in PV systems. Consequently, it is not surprising that utility managers are highly interested in PV systems.

A limitation of the study is that it is restricted to the hospitality sector. It will be worthwhile to extend the study to other sectors of the economy as well. Qualitative research will help to provide insights into aspects that have not been picked up by the quantitative findings of this study.

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Indigenous entrepreneurship: Closing the gap on local terms

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Abstract

Australian federal government policy over the last ten years has renewed the focus on closing the gap between Indigenous and non-Indigenous Australians, targeting chiefly improvements in health and economic participation among Indigenous people. Thus far, however, the results have been mixed, in part because of the endurance of Indigenous socio-economic disadvantage in Australia which cannot be expected to be undone within a matter of years. Failure to deliver better policy outcomes, however, can also be seen as a function of an inflexible policy design, which aims at the mainstreaming of Indigenous communities on non-Indigenous terms, whilst militating against the potential for Indigenous entrepreneurial activities especially in rural and remote regions.

Against this policy background, this paper reports on local entrepreneurial activities by local Yolngu clans in East Arnhem Land in the Northern Territories (NT). In particular, attention is directed to local for-profit and not-for-profit activities by members of the Gumatj clan south of the regional centre of Nhulunbuy and the Rirratjingu operations in the town Yirrkala respectively. The paper describes how the ventures run by the Gumatj and Rirratjingu clans offer pathways for the creation of income, employment and social capital within the respective local communities whilst also being axiomatic in the protection of cultural vitality and integrity. The findings point to the need for more flexible approaches to policy design and delivery, enabling the establishment and growth of Indigenous business activities outside the economic mainstream targeted by federal government policy. As such, the authors echo calls in the literature for policy support for what has been described as the ‘hybrid economy’, which allows for participation in both economic and cultural activities both of which are crucial for Indigenous future well-being as they are for any cultural group.

Introduction

Since white settlement Indigenous Australians have suffered socio-economic disadvantage under the rule of their white colonisers (Attwood, 1989), and to this day rate as the most economically, socially and culturally disadvantaged population segment in Australian society (Steering Committee for the Review of Government Service Provision, 2009). Despite the end of 140 years of so-called protection under the ‘missionary project’ in the 1970s which marked the advent of Indigenous self-determination under the Whitlam Labor government (Markus, 1994) and self-governance in the 1990s (Fletcher, 1994), Indigenous disadvantage still proves pervasive. The last decade saw renewed political interest in ‘closing the gap’ between Indigenous and non-Indigenous Australians.

Under the Howard Coalition government this goal was pursued under the banner of ‘practical reconciliation’ to reduce Indigenous material disadvantage (Altman, 2004), a policy focus that was maintained by the Rudd Labor government from 2007 onwards.

Closing the gap is a political attempt at achieving statistical equality between Indigenous and non-Indigenous Australians in areas such as health, life expectancy, employment and education. While the need for equality is beyond dispute, the closing the gap policy framework is criticized, however, for being neither new nor promising. This is because similar policy initiatives were attempted already under previous governments in the late 1980s (see the Hawke government’s Aboriginal Employment Development Policy) and because policy frameworks such as this have commonly failed to address the causes of Indigenous disadvantage in the past (Altman, 2009; Pholi, Black, and Richards, 2009). One key objective of the closing the gap framework is to halve the Indigenous employment gap within 10 years by way of fostering Indigenous participation in the formal economy. While this approach is purported to afford Indigenous Australians with a choice between mainstream work and welfare, the uptake of mainstream work may not only necessitate migration from home communities it may also run counter to Indigenous cultures, goals and aspirations (Peterson, 2005). Furthermore, especially in remote parts of Australia where Indigenous communities have adapted strategies to blend market engagements with customary practices with the assistance from the now dismantled Community Development Employment Program (CDEP) the current push for normalization under the closing the gap framework has the potential to disrupt local efforts to build economically sustainable and culturally germane livelihoods. Notwithstanding the support of some Indigenous leaders (e.g., Pearson, 2000) for a push towards economic mainstreaming, such attempts are criticized by others for homogenizing cultural diversity through the creation of economic sameness, leaving little room for alternative approaches to Indigenous economic participation (Altman, 2009; Altman and Hinkson, 2010). Statistical equality is thus seen to come at the expense of cultural difference.

Against this policy background and the larger debate about achieving Indigenous equality in Australia this paper reports on two examples of Indigenous entrepreneurship in East Arnhem Land in the Northern Territories, which offer insights into alternative pathways to Indigenous economic participation. The ventures described here are the entrepreneurial activities of two Yulgnu clans operating near the mining town of Nuhlnunbuy which provide opportunities to local community members for economic engagement on Indigenous terms, blending semi-formal employment with customary practices and local traditions. Both cases are treated here as exemplars of what is described as hybrid economy models (Altman, 2007), which overcome the economy-culture dichotomy. The Indigenous entrepreneurship examples lend support to calls for more flexible policy delivery to achieve Indigenous equality and offer prompts for more targeted policy support.

Indigenous Disadvantage and Political Responses

Overall, statistics on disadvantage in Australia compare poorly to the OECD average in light of widening gaps in income, wealth and opportunity (Leigh, 2007; Organisation for Economic Cooperation and Development, 2009a; UNICEF, 2007), affecting particularly the country’s youth (Boese and Scutella, 2006; UNICEF, 2007), its seniors (Organisation for Economic Cooperation and Development, 2009b) as well as people with disabilities (The Physical Disability Council of Australia, 2003) and ethnic minorities (Dawkins, Gregg, and Scutella, 2002). Above all, however, Indigenous Australians rate as the most disadvantaged population group in Australia (Foley, 2003) due to a long history of discrimination, dispossession and ‘protection’, which led to the subjugation as well as social and economic exclusion of Indigenous people (Markus, 1994). While the 1970s saw a policy shift toward self-determination and subsequently reconciliation, Indigenous Australians still face socio-economic disadvantage and discrimination, a situation reflected starkly in the national statistics (Steering Committee for the Review of Government Service Provision, 2009).

Indigenous people only make up only 2.5 per cent of the country’s population, yet as a population group they are overrepresented in the country’s welfare statistics (see Australian Bureau of Statistics and Australian Institute of Health and Welfare, 2008; New South Wales Department of Education and Training and Charles Sturt University, 2009; Steering Committee for the Review of Government Service Provision, 2009). In expounding, Indigenous Australians have a lower life expectancy, dying 10 to 12 years earlier when compared to the rest of the country. They earn just over half the country’s average weekly income, are three times more likely to be unemployed and twice as likely not to complete high school compared to non-Indigenous Australians. Indigenous adults are also twice as likely to suffer from psychological distress and are more than twice as likely to be hospitalized as other Australians. Indigenous people are also overrepresented in the national crime and prison statistics, being 17 times more likely to be arrested, 15 times more likely to be imprisoned and 16 times more likely to die in custody than non-Indigenous Australians. Overall, Indigenous people make up 20 per cent of the prison

population in Australia today. In light of these statistics it seems reasonable to suggest that the political reforms of recent decades have proved ineffective thus far in overcoming the disparities between Indigenous and non-Indigenous Australians and the associated social exclusion and social tensions.

The more recent political attempts at addressing Indigenous disadvantage under the banner of 'closing the gap' focus chiefly on the lack of formal economic participation by Indigenous people, which is seen to be responsible for the low socio-economic status of Indigenous Australians and their comparatively poor health statistics. The political challenge in this regard is seen to be the creation of employment prospects for Indigenous people, especially in rural and remote areas where despite many years of economic boom in the resources sector, Indigenous participation remains low whilst welfare dependence continues to be high (Altman, Gray, and Levitus, 2005; Brereton and Parmenter, 2008). The remote regions of Australia, which this paper focuses on, present a special political challenge due to the unique combination of geographical remoteness, sparse populations and the absence of mainstream employment. In addition, Indigenous land ownership and strong ties to customary life fuel ongoing conflicts between dominant non-Indigenous and Indigenous worldviews in these parts of the country (Altman, 2007). Consequently, mainstreaming attempts of Indigenous communities in remote regions have proven difficult in the past.

Over many years, a high proportion of Indigenous Australians benefited in social and economic terms from participation in CDEP-funded programmes, which were originally designed to provide a bridge between welfare and mainstream employment (Altman and Gray, 2005). The late 1990s saw much political enthusiasm under the federal Howard government to reform Australia's welfare system, focusing also on the CDEP scheme due to the growing perception of its role in the maintenance of Indigenous welfare dependence (Spicer, 1997). Despite evidence of social and economic improvements in the lives of Indigenous people through participation in CDEP-funded projects (Altman and Gray, 2005; Morphy and Sanders, 2002), the fear of ever-expanding demands for welfare support led to a review by government of the welfare system (McClure, 2000), which culminated in the design of a so-called 'new participation framework' under the banner of mutual obligation (Commonwealth of Australia, 2001); this triggered the dismantling of CDEP funding. The aim of this new policy approach was purported to help Indigenous people lessen their reliance on income support and achieve economic self-sufficiency. This objective is to be achieved by way of Indigenous people seeking to improve their chances of obtaining employment, actively looking for work and giving back to the communities that support them (Newman, 1999). This approach, however, raises a series of concerns.

Closing the Gap On Non-Indigenous Terms

There is little disagreement about the role of economic participation in the improvement of people's socio-economic status, their health and well-being per se (Sen, 1999). However, in the Australian Indigenous context, especially in rural and remote parts of the country, there is dispute about the adequacy of mainstreaming attempts targeting Aboriginal people who have strong cultural ties, engage in customary practices and have strong attachments to their land. The government's mainstreaming efforts are driven by a belief that the free market philosophy can succeed in rural and remote Australia and bring about growth and development as experienced across the rest of the country. Such an approach assumes the adequacy of this development blueprint in both geographical and cultural terms. Many years of successive governments attempting to address Indigenous employment, especially in remote Australia, have been unable to raise Indigenous economic participation figures markedly, underscoring the view that universal mainstreaming approaches are ill-suited for communities whose cultural and economic circumstances are very different from those of dominant society. While overall 20 000 new Indigenous public and private sector jobs were created between 2002 and 2007 (Australian Bureau of Statistics, 2008), between 71 000 and 106 000 new jobs would need to be created to meet the policy target of halving the employment gap by 2016 (Biddle, Taylor, and Yap, 2008). Not only is this an ambitious policy goal, it will also be a particular challenge to meet this objective through job creation in rural and remote parts of the country, which explains growing calls for regionally differentiated policy responses to address Indigenous unemployment and disadvantage (Altman, Biddle, and Hunter, 2008).

The closing the gap policy framework aims at so-called 'work readiness', seeking the creation of 'real jobs' for Indigenous people. However, as suggested earlier, finding mainstream employment in remote Australia is limited due to geographic isolation alone. In recognizing the absence of commercial opportunity in remote Indigenous communities, policy-makers promote the idea of people moving to places where such opportunities exist. The consequent uprooting of Indigenous people, as required under this policy approach, is problematic, however, for it requires Indigenous people to leave their ancestral lands in search of mainstream employment. In this regard, their low educational status and economic marginality do not bode well for successful labour migration. In addition,

orthodox forms of employment harbour the risk of undermining ongoing Indigenous involvement in cultural practices and customs due to the inflexibility of the dominant, non-Indigenous approach to paid employment (Altman, 2007). Indigenous economic mainstreaming, as pursued under the closing the gap policy framework, is thus being criticised for driving cultural shifts by way of imposing requirements for geographic dislocation and militating against ongoing cultural engagements. It also risks reducing culture to a matter of “individual choice, the kind of activity people might participate in *after* they have secured an education, a job and a mortgage, as a lifestyle option rather than a form of ontological anchorage” (Altman and Hinkson, 2010: 191 (original emphasis)).

The logic of the market, which the closing the gap framework promulgates, tends to undervalue traditional Indigenous practices and gives little attention to their market and non-market values, which explains a government focus on policy prescriptions that favour non-Indigenous forms of employment. In the face of mounting mainstreaming pressures there is growing recognition, however, of the value of what Altman (2007) describes as hybrid economic activities in Australia’s remote regions, which blend cultural, customary and economic practices, which serve the protection of social, cultural and environmental values whilst also providing economic returns in areas such as land management, health and the arts. Importantly, it is the protection of these socio-cultural values that are seen as instrumental in achieving and maintaining health and well-being (Pholi, et al., 2009) and thus indispensable for closing the gap between Indigenous and non-Indigenous Australia. In this context, the cases reported on in this paper will illustrate further how Indigenous approaches outside policy parameters for Indigenous mainstreaming not only help protect Indigenous values but also offer alternative pathways for Indigenous economic participation, and thus help overcome the culture-economy dichotomy the closing gap approach is seen to create.

Indigenous Entrepreneurship

The dominant policy discourse in Australia over recent years may lead to the erroneous conclusion that entrepreneurial activity is foreign to Indigenous people. Perceptions such as these may also arise in view of the seemingly non-materialistic and collectivist nature of Indigenous lifestyles (Schwab, 1995) as wealth accumulation and private ownership are not necessarily seen by Indigenous people as sources of success or social status in the way they are framed by the dominant, non-Indigenous culture (Altman, 2000). The seeming lack of aspiration for mainstream symbols of success is thus prone to be interpreted as profligacy, fecklessness, laziness or lacking in pride and self-esteem; misperceptions such as these serve to drive social exclusion and vilification (Brenner and Theodore, 2002).

Aboriginal enterprises and entrepreneurial activity, however, have a long tradition. In fact, Aboriginal enterprises are known as some of the world’s oldest recorded business undertakings (Foley, 2011), which dispels the myth that Aboriginal communities can solely be understood in hunter-gatherer terms as is often suggested (e.g., Broome, 1994). East Arnhem Land, for example, which this paper focuses on, provides good historical evidence of the business and trading activities of local Yolngu people, dating back to the 17th century. For hundreds of years there was a flourishing trade between Yolngu and the Macassans from southern Sulawesi, Indonesia of goods such as trepan, sea cucumber and tools (Berndt and Berndt, 1999; Worsely, 1955). In the early years of the 20th century, however, these trading activities were legislated against by the South Australian government, and further commercial and trading restrictions were placed on Aboriginal people by the Australian government; restrictions that were in place until the 1960s (Smith, 2006). In other words, not only have Indigenous Australians a long history of entrepreneurial and enterprising activities, these very activities were suppressed by their colonisers who only in recent decades have been trying to revitalise and stimulate Indigenous economic pursuits.

Despite a discernible void in the literature in the area of Indigenous entrepreneurship in Australia, there is growing interest in, and academic focus on Indigenous entrepreneurship per se, which has been evolving into a discrete area of inquiry (Hindle and Moroz, 2010). Even though definitions of Indigenous entrepreneurship today remain fragmented (Paredo and Anderson, 2006), enterprising activities by Indigenous people are largely perceived as a means of overcoming economic disadvantage and social exclusion (Hindle and Moroz, 2010) and as means of liberation and self-determination (Foley, 2003). In addition, many definitions of Indigenous enterprise highlight the centrality of social and cultural norms relating to Indigeneity (see Dana and Anderson, 2006). Thus, Indigenous entrepreneurship can usefully be understood in terms of pursuing economic opportunity for the purpose of diminishing Indigenous disadvantage through culturally viable and acceptable forms of wealth creation (Hindle and Moroz, 2010). Such understanding of Indigenous entrepreneurship highlights that the generation of profits and income is vital to achieve financial autonomy, while culture, family and community form equally central dimensions of Indigenous enterprise (Hindle and Moroz, 2010; Moylan, 2008). In other words, there is a focus on the delivery

of benefits to Indigenous communities (Lindsay, 2005); yet, these go beyond, albeit important, socio-economic improvements. It is this social orientation evident in Indigenous entrepreneurship that led to theorising about its close alignment to social entrepreneurship (Brueckner, Paulin, Davis, and Chatterjee, 2010; Pearson and Helms, 2010a) which regards social value creation as a measure of entrepreneurial success in contrast to profitability in the conventional entrepreneurial context (Nicholls, 2006). The entrepreneurial activities described below will serve to illustrate further the foregrounding of social, community-focused aspects.

An East Arnhem Land experience

The two cases presented here are based on ongoing research efforts (see Pearson and Helms, 2010a; Pearson and Helms, 2010b; Pearson and Helms, forthcoming) seeking to document and analyse Indigenous entrepreneurial activities in East Arnhem Land. Attention is directed at the work of local Yulgnu people from the Gumatj and Rirratjingu clans near the towns of Nhulunbuy and Yirrkala in the North-East of East Arnhem Land.

The Gumatj operations under the leadership of Galarrway Yunupingu aim at local income and employment generation and the provision of benefits to local community members by way of harnessing local resources and skills and creating partnerships with local and outside organisations. Local hardwood timber represents a relatively abundant local resource found in the tropical savannah forests on traditional Gumatj land in the area. In the face of acute housing shortages and substandard living arrangements for many Yulgnu people living in the area – a persistent problem substantial government spending in recent years was unable to address (Mercer, 2009; Toohey, 2009) – the opportunity was identified to use local timber resources for housing construction whilst providing employment and training opportunities for local Yulgnu. The Gumatj Corporation formed partnerships with Forestry Tasmania, the Architectural Division of the University of Tasmania and Fairbrother Builders and was successful in securing Commonwealth government subsidies through the Jobnet work programme which in conjunction with the receipt of mining royalties provided the needed knowhow and financial capital to commence utilising local timber resources for the purpose of housing construction.

Based on a Memorandum of Understanding between the project partners, Forestry Tasmania staff provided training to local community members and offered instruction in the cutting and processing of timber while the Architectural School of the University of Tasmania Construction made available architectural drawings and milled timber lists for the accommodation to be built by local Yulgnus. Beyond financial support, links to government facilitated logistical support and reductions in red tape, and Fairbrother representatives oversaw building construction. Local hardwoods were cut and processed on site in the forested areas south of Nhulunbuy using a mobile Lucas mill (see Fig. 1). The milled timber was then transported to different locations to commence building construction.



FIG. 1: TIMBER MILLING NEAR GARRATHIYA

Over a period of two years between 2009 and 2010 building projects were completed at the Garrathiya cattle station near Port Bradshaw and in Dhanaya. The buildings at Garrathiya comprised of a bunkhouse to accommodate up to 12 local Yulgnus working at the cattle station as well as an ablution block and a large kitchen area while a 240m² multi-bedroom house was constructed in Dhanaya (see Fig. 2). Both projects were completed on time and within budget at comparatively lower cost to equivalent construction work undertaken by non-Indigenous contractors. Local contractors were used only for plumbing and electrical work.



FIG. 2: BUNK HOUSE AT GARRATHIYA AND LIVING QUARTERS IN DHANAYA

The above housing construction projects were community-based ventures (after Peredo and Chrisman, 2006), that served the purpose of fostering community involvement, skill transfer as well as providing direct and indirect economic benefits. The work was embedded in existing social structures and cultural connections with the country, offering an opportunity for Indigenous people to work on their ancestral lands together with other community members. Involvement in the project thus did not come at cultural expense. In fact, participating Yulgnu people were able to engage in cultural activities such as group hunting, fishing or ceremonial activities, allowing for a blending of customary and commercial activities. Participation in the project also enabled the transfer of technical knowledge, providing local Yulgnu with marketable skills (e.g. timber cutting, milling, construction) which are seen as critical for entry into mainstream employment. The community focus of the projects, that is building much-needed accommodation for clan members, also helped promote a sense of citizenship, sharing and contribution to the community, whilst also fostering participants' personal sense of achievement and self-esteem.

Further projects currently underway aim at building on the approach taken for the housing construction process, using existing low cost infrastructure, local resources and partnerships for local capacity building. In addition to further housing projects undertakings such as furniture making with the support of external craftsmen as well as the planned introduction of a mobile slaughter house for meat production from local cattle grazing operations serve the purpose of widening opportunities for community members to receive marketable skills and gain employment whilst being axiomatic in the improvement of local living conditions (e.g. furniture, low cost nutrition). Instead of risking losing ties to local culture and customs, participants can maintain local traditions and customary practices and at the same time take steps toward more formal economic participation.

The second case reported here describes the entrepreneurial activities of members of the Rirratjingu clan in the town of Yirrkala, located 20 km south of Nhulunbuy. Specifically, the focus here is on the Dudungurr Nursery, a not for profit enterprise which at the time research commenced was part of the local Bunuwal Group overseen by the Rirratjingu Aboriginal Corporation. Since late 2009 efforts have been underway to revitalise the operations of the

Dudungurr Nursery which ceased in years previously following the abolishment of CDEP funding and the dismantling of Landcare. Whilst managed by Gareth Wise - a non-Indigenous ethno-botanist, the nursery is community owned and staffed by local community members. The focal point of the operation is the collection, storage and propagation of native seeds and plants used for landscaping and revegetation work (see Fig. 3). Nursery activities are self-funded through ground maintenance and landscaping contracts with local authorities, businesses and residents as well as through the sale of native plants.



FIG 4: SEED COLLECTION AND LAND REVEGETATION

The nursery provides a platform for community members to become involved in semi-formal economic activities that serve social, cultural, environmental and economic goals. To illustrate, the nursery deliberately ‘overstaffs’ to ensure that a critical mass of workers are present each day, recognising that not all nursery staff will attend work. This practice provides flexibility to nursery workers and eliminates the pressure from a rigid ‘nine-to-five’ work routine by running on ‘Indigenous time’. Therefore, non-attendance merely results in non-payment but not reprimand. This in turn also provides opportunities for attending cultural events or participating in customary practices such as local arts, hunting and fishing. At the same time, the work at the nursery is itself a form of cultural expression. The aims and nature of nursery operations are well aligned with locals’ connections to the land and their sense of custodianship. Plant and seed collection activities also ensure the keeping alive, passing on and recording of local knowledge of native flora which are intrinsically linked to local customs and traditional laws. Traditional healing practices, for example, rely on traditional knowledge about native plants, which places the nursery at the very centre of local culture. In economic terms, nursery work provides a source of income and helps staff acquire technical skills not only in botanical work but also in areas such numeracy and literacy as well as project and time management (e.g. landscaping contracts, plant watering regimes); thus improving local opportunities for mainstream employment.

Staff attending work at the nursery also receive training in managing their financial affairs, receive advice on lifestyle and have access to counselling. The nursery also provides an in-house banking service, which is a voluntary initiative enabling staff to have part of their income quarantined to achieve personal saving goals, to prevent ‘humbugging’ from family and other clan members or to ensure that tea, coffee and food are provided during breaks (smokos) at work, which for many staff are the only regular meals during the week. Upon successful project completion nursery staff also receive rewards in the form of group activities that help build team cohesion and maintain a group focus. These rewards are often structured around customary practices such as camping, hunting and fishing, which also help maintain the connection to the land and traditional practices, especially for the younger generation.

The non-Indigenous management of the nursery enables staff to traverse culturally, exposing them to non-Indigenous ways of working in a culturally safe place. The nursery functions in this regard as a third space enterprise (after Moje et al., 2004), providing a space for crossing between Indigenous and non-Indigenous culture and building a bridge between Indigenous and non-Indigenous knowledges. The sharing of knowledge in this third space creates room for mutual learning. Non-Indigenous ways of knowing are enriched through insights into traditional and cultural knowledge whilst Indigenous exposure to non-Indigenous, economy-relevant ways of knowing offer opportunities for, and increase chances of success in mainstream economic participation.

Whilst non-profit in orientation, the nursery also harbours the potential for growth in commercial terms in that opportunities exist to tap into areas such as tourism, traditional healing, education and bush food, only to mention a few, and efforts are currently underway to explore these options. Noteworthy in this regard is the observation that such an expansion would not compromise the socio-cultural functions of the organisation but instead would serve to increase its capacity to fulfil these roles as they are mutually reinforcing. Fig. 4 provides a summary depiction of the multiple roles and functions of the nursery operations.

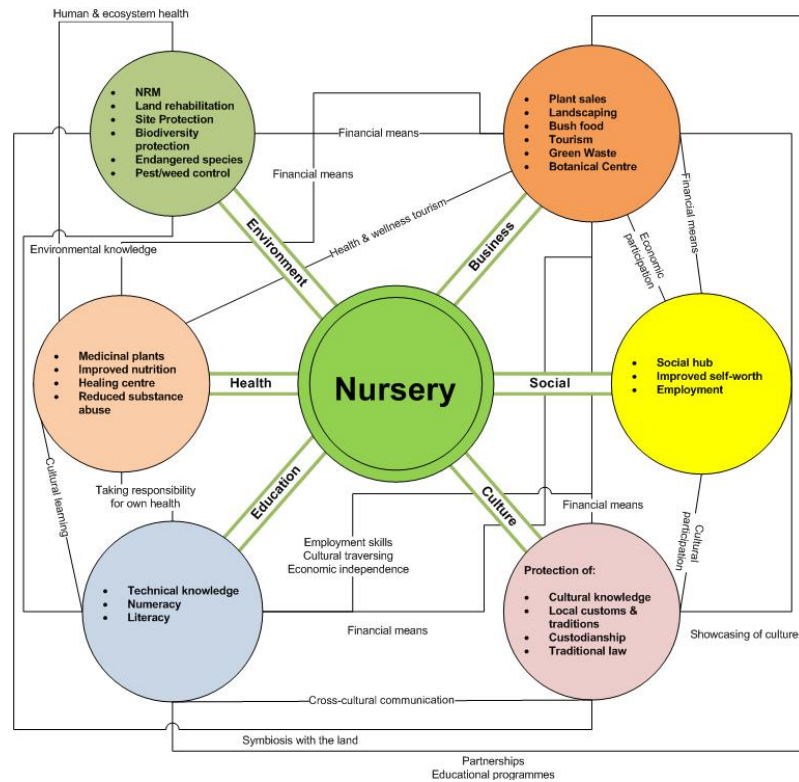


FIG. 4: MODEL OF THE DUDUNGURR NURSERY

Discussion and Concluding Comments

The entrepreneurial examples detailed above shed light onto the potential of alternative Indigenous business models, which currently fall outside orthodox mainstreaming attempts. It was shown that the operations of both Gumatj and Rirratjingu clans offer promising pathways for Indigenous economic participation, allowing for culturally safe ways of learning about the non-Indigenous, economic way of life. This approach is in contrast to the dominant policy approach which envisages Indigenous labour migration to places of economic opportunity with all the concomitant risks explored previously. The cases reported here illustrate how economic opportunities were created locally, which eliminated the need to sever local ties to culture and land. These findings are congruent with research pointing to growing evidence of Indigenous hybrid economies in remote Australia where economic and cultural activities were found to coexist and to be blended (Altman, 2007). This blending not only provided livelihood opportunities for participants in these business ventures, it also fostered the provision of social (e.g. provision of housing), cultural (e.g. preservation of botanical knowledge) and environmental services (land management) that are largely unnoticed within the so-called 'real' economy (Pearson, 2000). Therefore, much care should be taken so as not to mandate Indigenous mainstreaming into the 'real' economy by policy decree if the paternalism of the past is not to be repeated (Pholi, et al., 2009) but also to ensure that the *real* value of work already undertaken is accounted for and recognised.

In terms of policy implications, it needs noting also that the two Indigenous ventures described here hinge to varying degrees on skills and expertise external to the respective organisations. Referred to here are skills and an expertise in identifying funding opportunities, grant writing capabilities, capitalising on formal and informal networks or simply being able to temper some of the organisational goals and visions to ensure financial feasibility or compatibility with the rules and customs of the formal economy. While access to these skills currently helps attain the goals of both organisations, they may not be relied upon in the long-term. In other words, there is a vulnerability concerning the longevity of these ventures. This also relates to the question of organisational leadership and the task of keeping visions and aspirations alive. In this regard, current government measures to support Indigenous entrepreneurial activity makes access to assistance dependent on having access to the skills required to meet bureaucratic requirements such as the ability to write business plans and produce cash flow

forecasts (Pearson and Helms, 2010a). As such, targeted policy measures that provide assistance to Indigenous enterprises in overcoming structural impediments for access to funding and operational support may prove effective in fostering both the uptake and survival of Indigenous business ventures. Such an approach may usefully be coupled with measures that help maintain and build the local social capital needed for the creation of business ventures in contrast to attempts that seek the migration of talent to places of economic opportunity away from local Indigenous contexts. (Altman, 2007; Foley, 2008).

This paper described two distinct examples of Indigenous business ventures operating in remote parts of East Arnhem Land. Both operations were shown to facilitate the development of local people and their communities, playing a vital role also in the maintenance of culture and land. The Gumatj operations can be seen as more actively geared towards becoming a fully-fledged business venture – also in non-Indigenous terms – in the medium-term, especially in light of new plans for the production of marketable commodities such as furniture and meat. In contrast, the Rirratjingu nursery venture was found to serve primarily socio-cultural and environmental goals, and while potential for a more active economic engagement exists, the organisation is likely to maintain its customary emphasis. This variety of approaches is indicative of the potential in remote parts of Australia for the establishment of business ventures that not only help meet policy goals for Indigenous economic participation but also serve vital environmental and socio-cultural functions. The East Arnhem Land experience briefly sketched here also underpins the need for policy formats that cater for a variety of different business models some of which may well remain outside the bounds of the formal economy. Rather than viewing these ventures as economically deficient and in need of mainstreaming, reflection is needed on the true values they provide and the true cost their normalisation would entail.

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Challenges in the Development of Technological Capabilities: Business Models and Entrepreneurial Culture in Emerging Economies

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Abstract

Small and medium firms in emerging economies tend not to use technological innovation as a competitive strategy, but rather to passively assimilate technology as embedded in capital goods. However, as these economies become increasingly subject to international competitive pressures, the need for improving technological capabilities increases in many sectors, whereas many conditions in the economic environment are still not conducive to the development of technological capabilities in small firms.

We present here results from a study that uses a database of approximately 400 small and medium enterprises in Mexico, and a set of 35 in-depth interviews dealing with the ways in which entrepreneurs and owners/managers perceive the need for greater technological capabilities, and the process through which they develop them. Results help us identify key managerial and entrepreneurial characteristics associated with the development of technological innovation capabilities in the firm. We also identify characteristics in the business environment that constrain or enhance their chances of success in this endeavor, and discuss policy implications for regional and federal programs that aim to support SME's.

Business Strategy and Technological Capabilities in Emerging Economies

An important fact in describing and understanding the role that technology and innovation play in emerging economies is that firms in them have had to compete in their own domestic markets with multi national corporations and with more mature firms that have been evolving for decades before them. Small and medium enterprises in latecomer economies have had to compete against firms that are way ahead of them in learning and developing business capabilities. Firms in developing countries tend to adapt knowledge that has been developed in industrialised countries to their industrial sectors' absorptive capacity and local market demand (Katz 2001, Mathews 2001, Viotti, 2002), or simply adopt technologies as incorporated in capital goods. In some instances, they even use obsolete machinery that has been discarded from more competitive economies.

Drawing on technology acquired abroad or assimilated from foreign-based firms, local firms imitate, copy, or generate products that are technologically similar to existing ones in developed economies (Katz 2001, Aulakh et al. 2000). Firms adapt such knowledge to local needs, a process which usually does not require cooperation with organisations like universities or banks, or among firms themselves (Kroll and Liefner 2008).

A useful conceptual framework in trying to understand constraints that small firms face when attempting to adapt to new competitive environments can be built on the basis of theoretical advances in the area of business models and business model dynamics (Casadesus-Masanell and Ricart 2010, Morris et al. 2005, Osterwalder et al. 2005). As firms make choices in order to create and capture value, they respond to conditions in their environment that represent opportunities or threats. Whether these decisions correspond to an explicit design or whether they are reactive responses to unforeseen situations, they configure business models that define their strategies in creating and capturing value, the operational architecture they will use to achieve this, and their interaction patterns with other organizations in their environment. Initially, almost every firm will have a period of experimentation, as they learn along the way which strategies and operational

configurations are more conducive to their survival and growth, but as long as they are successful in this task they will tend to stabilize over time, switching their skills from experimentation to exploitation of fruitful operational arrangements.

Once their choices give rise to a specific business model, their strategic and tactical choices are constrained: they cannot easily take advantage of, or in many instances even realize, opportunities that their business model is not well equipped to handle (Casadesus-Masanell and Ricart 2010). As technology and innovation is not usually part of their business model in emerging economies, entrepreneurs and managers in small firms will tend not to consider options in that arena, when faced with competitive pressures. In many instances for example, and particularly in the Mexican case, import substitution policies precisely created a context in which technology was something to be acquired as part of capital goods, instead of being created in-house. However, as markets have been rapidly opened in recent years, such firms have faced competitive pressures they are ill equipped to handle. After decades of operating under business models that did not require endogenous innovation and technology, they have had enormous difficulty in realizing the need for them and, even when they do this, they have had little resources and capital to develop the needed capabilities.

Firms in less-developed economies have also had to compete on the basis of business ecosystems that provide them with lower levels and quality of support from other organizations (Bell and Pavitt 1993, Iammarino et al. 2008). Thus, firms in industrialized nations that come to operate in countries with less developed economies face weak competition, and are able to easily establish technological superiority and market dominance, while endogenous firms face a lack of high-level human resources and technological infrastructure to compete, thus being relegated to compete on the basis of cheap unskilled labour in their products and production processes, and therefore to low value added markets (Katz 2001, Kroll and Liefner 2008).

In this context, firms created in emerging economies tend to seek lower value-added markets in order to survive, and to acquire technology developed abroad (as embodied in capital goods, which are usually obsolete in the countries where they were produced). Financial capital tends to be scarce, and concentrated in few families, so firms are set in a context where survival depends on lower prices, rather than on differentiation and innovation. As has happened in many developing countries (such as Mexico, Brazil and Chile, for example), government policies have tended to be protectionist, resorting at least for some periods to import substitution strategies. In very few cases (such as Korea, China and other newly industrialized countries) have aggressive policies aimed at developing endogenous technological capabilities been implemented.

In this way, firms in emerging economies have had little resources, government support and fertile business environments on the basis of which to compete internationally or even to defend their domestic markets. Technological innovation has therefore been absent from their business practices in most cases, and business education has only been rudimentary and based on trial and error survival tactics. Moreover, previous studies have documented the fact that Mexican firms tend to exhibit a low level of adaptability to changing circumstances, and that cohesiveness of top management teams around founders' centrality in decision making tends to become a strategic liability for them (Greer and Stephens 2001, Athanassiou et al. 2002).

Thus, small firms in Mexico, as very likely in the rest of Latin America, have tended to remain rigidly fixated on old business models and practices, even in light of increasing domestic and international competition. Few of them have embarked in processes that aim to improve their competitiveness. Once the initial stages experimentation and survival give way to a relatively stable operation, they tend to give up searches for better business models and more competitive operating practices, and choose rather to exploit old and well-known routines, as opposed to learning new behaviours (March 1991).

More recently, however, a growing segment of local firms have been able to compete out of low value added markets and into more profitable ones. Whether they have learned along the way (usually across generations), or whether they are founded by entrepreneurs with international-level education and outlook, these firms are beginning to systematically use technological innovation to successfully compete in both domestic and the international markets (Iammarino et al. 2008, Fontes and Coombs 2001, Perez and Soete 1988).

However, in view of the fact that many small firms in western Mexico have shown a lack of capability for change in their strategies and business models, there are several questions that

arise when trying to understand those factors that may influence their ability to learn and to mature towards better practices and be more competitive: How do firms shape their business models, and how do these business models shape the search space in which they seek tactical and operational solutions to the problems they face? Do firms evolve, at least to a significant extent, as a function of firm age? Do they, for example, initiate their existence with very rudimentary business practices and operating systems, and later evolve them into more sophisticated versions, or are their business models and routines imprinted rigidly into their structures and culture, once they are able to survive in the market? Is their ability to evolve into higher order capabilities a function of the entrepreneurial profile of their founder? Do such capabilities evolve as business goals grow more ambitious over time?

Thus, the goal of this study is to search for variables that may account for a firm's propensity to evolve towards international-level practices and systems in order to jump out of the spiraling trap that falling back into low value added markets represents. Understanding of these processes should be useful in improving the overall competitiveness of national economies by guiding policy making; it should also be relevant in pulling more traditional and less competitive industries forward, in order to avoid the gap between traditional and more dynamic sectors within an economy.

Method

As part of our group's consulting and research activities, case studies are systematically conducted and subjected to a diagnostic instrument designed to evaluate the firms' level of development with respect to a set of more than 70 variables. Variables are defined in each case as Guttman scales with 5 levels each.

Variables are grouped by functional area (management, production, commercialization, finance, human resources and organization), and three groups of variables that cut across functional areas: business culture, technological capabilities and exports capabilities. Case study coding for all of these variables is carefully tailored to ensure inter observer reliability: each case study is coded by three independent groups, and those cases where significant discrepancies are found are excluded from the database.

All of the variables are defined in terms of actual practices and behaviours observed in firms, rather than on the basis of normative managerial recommendations, as is usually the case with operational audits. Each variable's lower values reflect those practices used by firms with less experience, technical level and capabilities, while higher levels describe more sophisticated and powerful operating procedures, approaching world class firms' behaviour.

Variables selected for this analysis correspond to theoretically based concepts. Entrepreneurial orientation, for example, is a construct that represents management's proactiveness, goals and strategic outlook (Lumpkin and Dess 1996), which has also been grounded on empirical evidence (Wang 2008, for example). Technological capabilities, as relevant to firms in emerging economies, follow Bell and Pavitt's approach (Bell and Pavitt 1995, Bell and Pavitt 1993), which has also been extensively documented for studies of Latin American firms. The database used has been coded with these constructs in mind. For this analysis a database of 363 small and medium sized firms in Western Mexico were used. Mean age of the firms is 25.15 years, and their mean size is 61.8 employees. Firms included in the database come from different industrial and service sectors, as shown in Table 1. No attempt was made to obtain a stratified sample, since the main constraint in the country is usually the extreme secretiveness of owners and founders of firms, which leads them to refuse to provide access to outsiders. In many instances, this access was obtained mainly on the basis of consulting activities that our group carries out regularly, in order to develop more competitive capabilities in them.

TABLE 1: INDUSTRY SECTORS INCLUDED IN THE SAMPLE.

INDUSTRY SECTOR	
AGRO INDUSTRY	7
FOOD AND BEVERAGES	58
CRAFTS	9
SHOE INDUSTRY	30
GARMENT INDUSTRY	40
CONSTRUCTION	10
TRANSPORT	3
COMMERCE	37
ELECTRONICS	8
PRINTING AND GRAPHICS	5
FURNITURE	22
METAL MECHANICS	21
PLASTICS	23
CHEMICAL AND PHARMACEUTICAL	8
SERVICES	82
	n= 363

Thirty five semi structured interviews with higher management in firms (usually their owner/founder) were conducted in order to assess their accounts of how they have come to develop specific business and technological capabilities, and of the way these capabilities relate to their business goals and strategies. Interviews were designed in order to qualitatively assess entrepreneurs' backgrounds, the ways in which they acquired their managerial and technical capabilities, and their business goals and strategies, with the goal of inductively identifying patterns in their origins as entrepreneurs and in their business/ managerial culture.

Thirty five interview transcripts were then coded with the aid of content analysis software (QSR NUD*IST) in order to ascertain the relationships these goals and strategies may have with theoretically based categories, and in order to inductively build new categories that may be more adequate in describing small firm behaviour in emerging economies.

Even though qualitative data is not easy to integrate as scientific evidence, it does help understand the ways in which quantitatively measured variables interact in specific cases, thus providing a better foundation for the comprehension of causal relationships that quantitatively assess (Lee 1991).

Results

In order to quantitatively assess patterns in learning behaviours among firms studied, a subset of variables reflecting processes likely to influence a firm's proclivity to improve their operating systems and procedures toward more competitive levels was selected. Data shows that there are important differences among those variables studied as predictors of overall maturity level (OVALLMAT) that a firm achieves in terms of the set of variables coded for in the database, excluding the values of the variables used as predictors. Table 2 summarizes correlation coefficients for the variables studied.

TABLE 2: CORRELATIONS AMONG BUSINESS CULTURE VARIABLES

	OVALLMAT	FIRMAGE	GOALS	SIZE	ENTREPOR
OVALLMAT	-				
FIRMAGE	0.338	-			
GOALS	0.561	0.126	-		
SIZE	0.308	0.331	0.193	-	
ENTREPOR	0.828	0.251	0.698	0.261	-
IDT	0.841	0.312	0.407	0.298	0.606

Because of the size of the sample, all of the variables selected for this study have a statistically significant ($p < .01$) correlation with overall maturity level (OVALLMAT), which is our dependent variable. However, it is worthwhile noting that the highest correlations with this variable correspond to entrepreneurial orientation (ENTREPOR) and technological capabilities (TECHCAP), while the smallest correlations exist between firm age (FIRMAGE) and management's goals (GOALS) on the one hand, and firm size (SIZE) and GOALS on the other. At first glance, this can be interpreted as a relatively weak relationship between the size of the firm (in terms of number of workers) and its business goals. That is to say, the level of the firm's goals is only weakly correlated to its age or to its size (as measured by its number of workers). Contrary to what could be expected, the correlation between firm age and its overall maturity level is also among the lowest values in the table. That is to say, a firm's overall competitiveness is not merely a function of its age: firms do not necessarily continue to evolve into more advanced practices over time. Also, the relatively low value (0.338) of the correlation between a firm's size and its overall maturity level seems indicate that its competitiveness is not primarily a function of its growth. Although this correlation is significant (as are all of those included in the table simply because of the sample size), its value is smaller than others.

On the other hand, the significantly higher correlation between the overall competitiveness of the firm (OVALLMAT) and its technological capabilities (TECHCAP) calls attention to the close relationship that exists between a firm's level of technological capabilities and its ability to evolve into world class standards. Together with entrepreneurial orientation in the management team (ENTREPOR), technological capabilities in the firm are an important predictor of its competitiveness.

Interviewees' accounts of their entrepreneurial development show qualitative differences in their training and business experience that provide insights into the nature of the processes that account for the associations among the variables described above. More technologically dynamic firms, as compared to less flexible and more traditional firms for example, tend to be founded by technically trained entrepreneurs with experience in large transnational firms or with international-level education. This background provides them with both technical expertise and more competitive business and managerial skills. In what follows, some illustrative responses are reproduced:

How did you acquire the managerial skills necessary in founding and developing your firm?

"First, because of my professional training, and second because of the opportunity I had to work for different major laboratories for many years, where I participated in the development of production processes, new products, marketing; and all of that helped me prepare to start my own business."

A significant difference is also evident when comparing interviewees' accounts of the way in which they have built a successful firm. Such difference has to do with their predisposition

and ability to interact with other organizations and sources of knowledge in order to solve technical problems:

"Well, as far as technological capabilities, we rely on support from (the local public) university and from an external advisor, who helps us in developing synergistic formulations for our products (...) that enable us to use antibiotics that increase the range of effects on the animals and have good results, that helps us a lot (...)"

"(...) commercially we have we have opened distribution channels and tried to go directly to producers, we leverage trade associations such as (...) we also participate in national and local trade exhibitions and conferences (...) and try to reach decision makers, be they veterinarians, farm owners and the like (...)"

Learning and knowledge management are important for technologically dynamic firms, as opposed to more traditional firms. In technologically active firms usually proactive views in this aspect shape decision-making in most functional areas:

"Our administrative manager is continually in training, be it on accounting and fiscal requirements and procedures, in human resource management, and so on (...) the purchasing manager has to deal with raw material imports, dealing with international and local suppliers and needs to participate in updating courses frequently, as well as our sales assistants and production supervisors."

The same is not true, however, for more traditional firms, where personal experience and knowledge of a trade have frequently been the basis of stability for the firm. Patterns in their responses reveal a lack of entrepreneurial orientation, as well as little predisposition towards collaboration with other organizations and development of new skills and capabilities, which usually are the product of the firm's strategic space as defined by its founder:

How did you acquire the managerial skills necessary in founding and developing your firm?

"Well, it is rather the founder's skills. He used to be a physician, but then went on to create the company. He is the one who knows the business. (...) in the technology arena we are obsolete. I know of new, bigger, faster machines that are now used in (printing industry), but we don't have them (...) there haven't been significant changes in the company in a long time (...) No, we do not collaborate with other firms in this or other industries (...) firms should be independent, printing firms should always be independent."

How do you see your firm in five years? In ten years?

"I hope we do get to five years hence, I hope we can continue to operate the same as we are now, at least the same as we are now (...) Ten years? Ten years is even more uncertain, just imagine... 2019 ... if we can get over the present crisis I hope we are doing better."

Thus, interviews show the ways in which variables of interest are related to each other in specific cases, even though the corresponding evidence can only be shown in an illustrative manner. In this last interview fragments, for example, it can be seen that firms where more elementary operating procedures tend to shy away from technology and from interaction with other organizations. This isolation tends in its turn to respond to those characteristics and values that founders imprint in the firms culture (Jones, Macpherson and Thorpe 2010, Schein 1985)

Discussion

It seems surprising that the overall maturity level of a firm is not primarily a function of its age or size, since it can be argued that firms that survive and grow over time would do so mostly because

of their ability to adapt to changes in their environments and to improve on their business models and practices.

The fact that correlation of overall maturity level with technological capabilities is greater than correlation between overall maturity level and entrepreneurial orientation level seems to imply that technological capabilities are a better indicator of overall maturity for the firm than even proactiveness and entrepreneurial capabilities by themselves.

The fact, as well, that business culture variables (such as goals and entrepreneurial orientation) are less correlated than technological capabilities to overall maturity level indicates that a firm's ability to evolve into world class practices and operating systems is more strongly manifested in those organizations in which technology has been adopted as a tool in competitive strategy. That is to say, when incorporated into their business models, technology is likely to represent itself a source of pressures towards further modifying the firm's architecture and operating systems. Technological change represents increasing demands and opportunities for change in the firm's strategic and tactical choices, thus providing a continuous influence in the firm's ability to adapt to external circumstances. This would make sense, as technologies tend to have a short life cycle, and obsolescence is always a looming danger, but also because technological capabilities represent also opportunities for further enhance the firm's ability to create and capture value. Besides that, technological change tends to imply organizational change, at least in the long run. Both processes would tend to push the firm towards continuous experimentation and exploration in its business practices.

It should be evident, however, that a directionality in the causal relationship between technological capabilities and overall maturity level in the firm cannot be established, since both overall competitiveness would lean the firm towards searching for more technological capabilities as it operates in more competitive environments, but the process in the opposite direction seems concomitant as well.

These previous arguments are reinforced by the fact that interviewees provide credible and consistent qualitative accounts of the way in which developing technological capabilities is associated with a different mindset in the case of more technologically dynamic firms. Although not statistically oriented at this stage in our research, this analysis provides evidence of differences in patterns and backgrounds in more traditional firms, as opposed to those that have developed more significant technological capabilities.

The contribution that this study aims to make to the scientific literature, however, rests more on the fact that the correlations documented here call attention to processes that have still not been sufficiently documented in previous studies. More specifically, we aim to contribute to the understanding of those processes that trigger (or fail to do so), firm dynamism and learning in less developed countries. This understanding is all the more important because governments need it in order to devise policies that may improve these processes for firms in them.

The fact that the level of technological capabilities in firms is such a strong predictor of their competitiveness level, for example, should point in the direction of policies and programs that increase incentives for firms to improve their efforts to use technology and innovation as part of their survival and growth strategies. That, by itself, should signal to policy makers that the country, for example, should invest more in science, technology and innovation.

Such knowledge should also be important for practitioners such as business consultants and for entrepreneurs and higher management in firms struggling to gain competitiveness in emerging economies. Perhaps for many of them it would turn out to be too late to attempt to reorient their strategies towards a more technologically solid approach. R&D is a most expensive, though profitable endeavour, and most of them are running out of investment resources, but the alternative is even less attractive.

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Strategic Enterprise Management and SEM Product of SAP

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Abstract

Product design, purchasing, production, sales, distribution or service are processes supported by current ERP systems. In some cases human activity was replaced by system decision. One example is automated disposition, when system follows consumption and warehouse status and automatically purchases if needed. Even though it is always possible to improve operational processes, real challenge stays in connecting high level targets with daily operational processes. Current approach in the most companies is far away from ideal. Certainly, not all ideas are possible, it is not feasible to expect from system to manage a company, but it should support data analysis and support of management strategy tools as good as possible. It is exactly this connection of strategy with operational processes that is the main task of SEM (Strategic Enterprise Management).

Introduction

Strategy processes start with an analysis of the environment of the company, continue through the formulation of strategy, go to higher level strategy and then the strategy is broken down to operational processes. Methods of strategic management as benchmarking, scenario analysis, simulation, portfolio analysis, balanced scorecard are in practice commonly used methods. Operational methods as target costing, prognosis, consolidation, budgeting are processes supported frequently by non-integrated systems.

The SEM software product was developed to help to operationalize the high level strategy to specific plans. According to SAP product description the key messages of SEM are:
“SAP Strategic Enterprise Management supports and enables strategic management processes such as strategic planning, resource allocation, risk management, performance management and value communication.
SAP SEM links strategic enterprise management systems with the business execution system (e.g supply chain management / extended financials/ HR) and thus closing the loop. It enables constant improvements of the strategy through ongoing learning.”

Strategy Loop

Contrary to the ‘waterfall’ strategy process, SAP understands strategy as a multi-loop process. Instead of sequential tasks the strategy utilization is split into 3 interactive loops:

1. Strategic planning loop

All loops are starting with external communication. Interests of different stakeholder groups are matched into the high-level strategy definition. Long-term internal strategy is adjusted to expectations won from external communication. The long-term strategy is split to mid-term and the anticipated developments are described in alternatives. One alternative is chosen, out of which specific initiatives are launched. The time will verify the chosen alternative, new expectations and lessons learned will lead to new strategy adjustments.

2. Strategy and business management loop

In the second loop the targets are set for launched initiatives from the first loop. In the next step the forecast is completed for the organizational units of the company. Based on actual figures forecast and the strategy is assessed, if necessary adjusted from ‘bottom’ (actual figures and forecast were the trigger, not new external expectations or strategy definition).

3. Performance management process

The last loop refines the forecast into operative plans and business as usual is executed. If necessary, operations of daily business are adjusted to meet the plan so that performance measurement confirms or tops the plan.

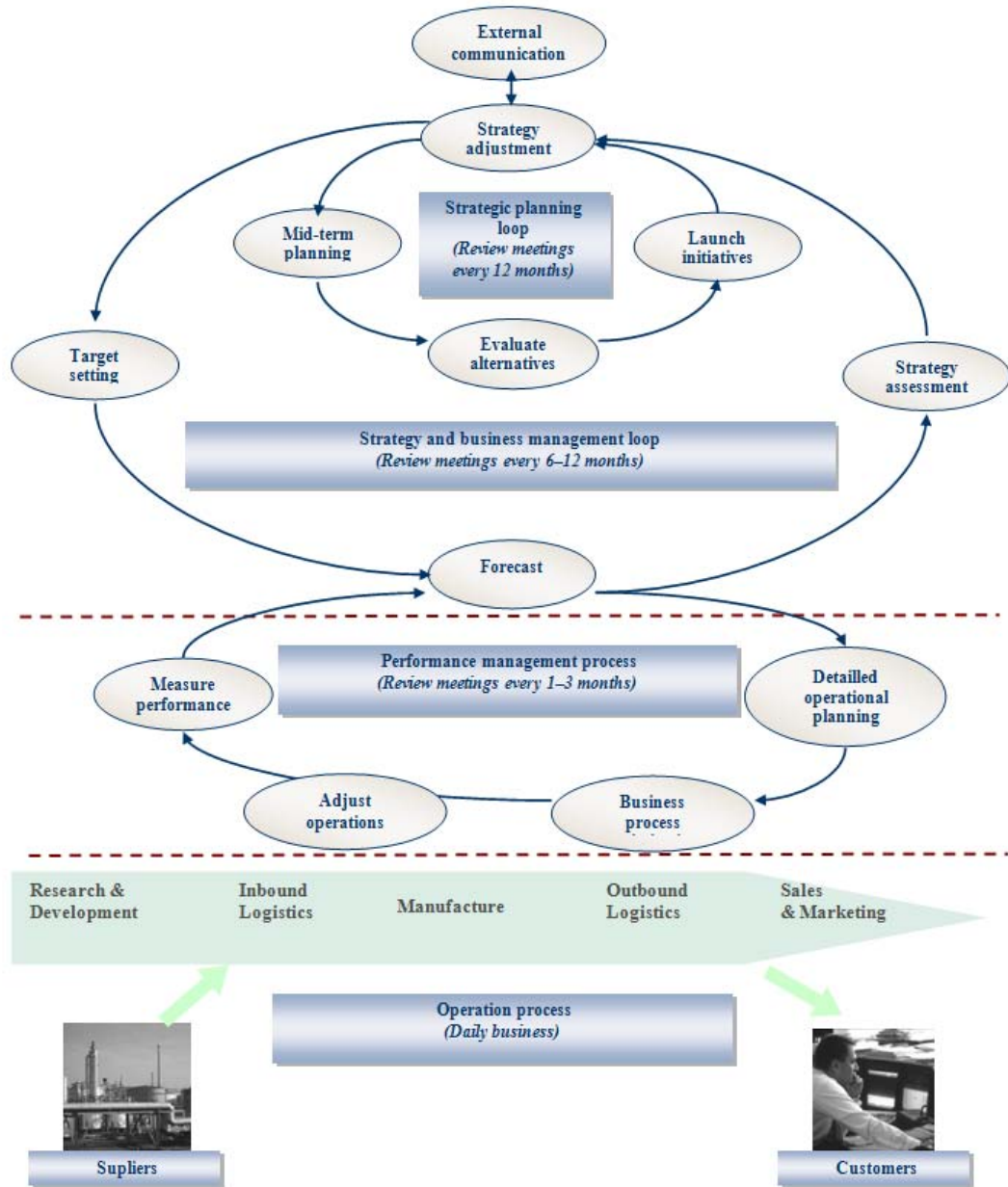


FIG. 1

Component Architecture

The daily business processes are handled by the transaction systems. For example leading ERP (Enterprise Resource Planning) software company SAP offers R/3 (R stands for real time, 3 for third generation) suite, which can provide company backbone in generic areas:

- financials
- controlling
- logistics
- production planning
- human resources

Industry sector specific functionality is delivered by SAP in Add-Ons. For instance handling of insurance or oil products is applicable process in particular industry. Following Add-Ons have been developed by SAP:

- Insurance
- Banking
- Oil&Gas
- Consumer Products
- Aerospace&Defence
- Utilities

Not only operative processes are crucial for the survival. At present day supportive processes as customer care or optimization are critical competitive advantages. SAP delivers in this area product customer relationship management (CRM) and for the optimization of the logistical supply chain APO (Advanced Planner and Optimizer).

The actual data resulting from operational and supportive processes need to be combined together and reported to obtain cross-process analytical information. This role is performed by component of Business Intelligence – Business information warehouse. The data warehouse product fulfills all OLAP (Online Analytical Processing) related requirements.

The Strategic Enterprise Management components are using Business Information Warehouse as its foundation.

SEM Components

The Strategic Management Product (SEM) includes following components:

- Stakeholder Relationship Management
- Corporate Performance Management
- Business Consolidation
- Business Planning

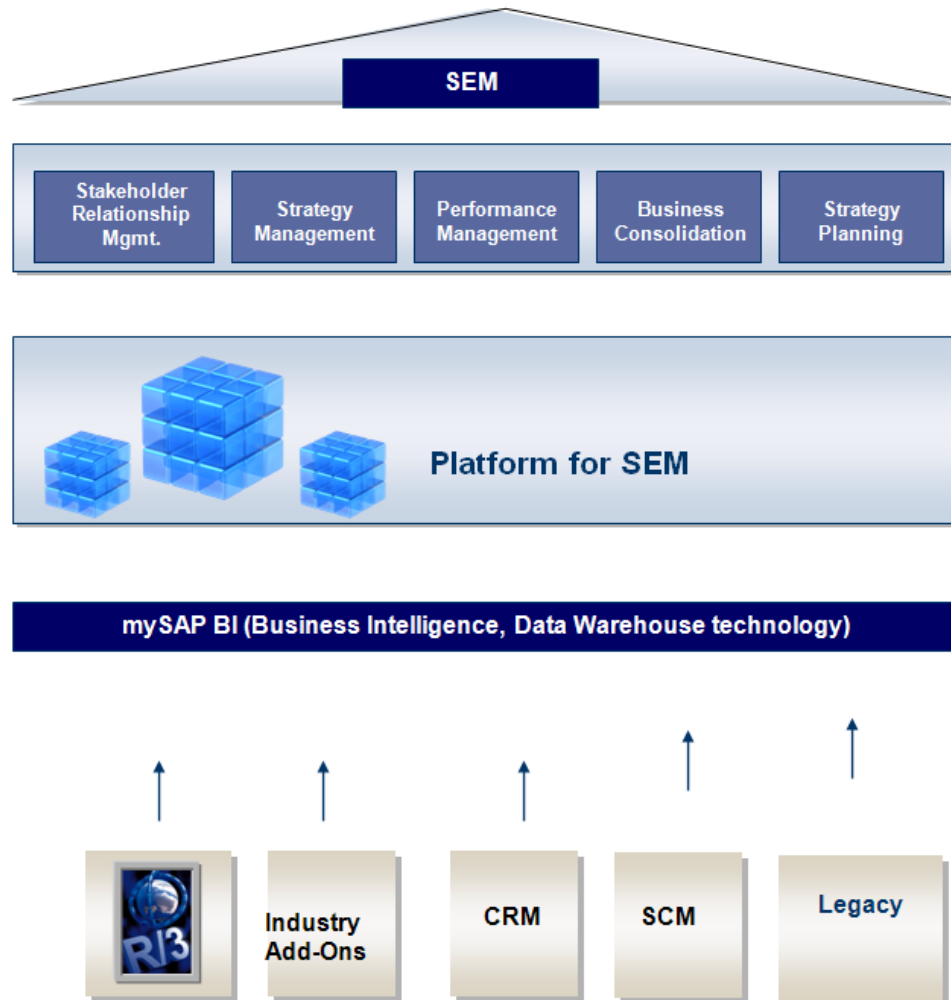


FIG. 2

Stakeholder Relationship Management

This component of SEM supports organization in external communication (first task of the strategy loop) with the interest groups. The SRM allows communicating the strategy to major stakeholders and collecting feedback. Major features are:

- Management of stakeholder relationships
- Integration of Stakeholder into strategic Management Process
- Investor Portal

Today, the long-term success and prevention of hostile takeovers of an enterprise depends increasingly on its ability to establish solid relationships with its related stakeholder groups. Even though the prioritization of the interest groups may vary, no company can afford today to ignore them. High-quality, in long term developed partnerships with the stakeholder groups signifies valuable 'intangible assets'. Fast spread of information via internet

leads to the fact, that even small groups, for instance environmental activists, may influence the capital market's valuation of the enterprise.

SEM-SRM was designed to support the communication of enterprise strategy, current plan data, and strategic initiatives to the predefined stakeholder groups. In some cases the strategy and operative plans may depend on stakeholder expectations – therefore the communication should not be designed in one way only: dialogue should be the aim. Only known expectations could be incorporated into strategic management processes.

The distribution of annual reports or forecasts relied in past on mailing list. SRM supports such old fashioned method, because this technique is still in use. The restricted sharing of information can be solved by internet. World Wide Web pages are a must in corporate world today. The homepage can be identified by any interested person through search engines. SRM assists in collection of contents for stakeholder homepage. In addition, the push technique is represented by e-mail distribute lists.

Not only outgoing e-mails are handled by SRM, also incoming e-mails are processed in order to check if the stakeholder already knows to choose how to react. Specific mailing groups, for example small private investors, can be very large numerically and may imply time and resource consuming care. The SAP offers generic workflow functionality, which can be called by SEM-SRM in order to activate investor relations queries in a workflow process and thus handle them semi-automatically.

The central foundation of SRM is the stakeholder database. In this database contact information related to a stakeholder is stored, categorized and managed. A company can achieve better overview on the investor structure. Categorization of stakeholders improves distribution of group tailored information.

In addition to stakeholder handling, the management of unstructured information is becoming more and more important as the availability and quantity of information exploded by utilization of world wide web. For instance stock prices can be identified on stock exchange web site, the material price on supplier's intranet, market sales volume on analyst page. The problem of strategy relevant data is sourcing and structuring. Business Information Collection (BIC) can help to automate the compilation of structured data, for example key figures from the ERP system, stock prices from commercial database providers via the Internet. The editorial workbench can provide assistance to build the strategy related information database. The handling of the search procedure is supported by administration functionality for the web search engines. The search query is sent to particular search engine in its syntax, received information is indexed and stored on database. The own structured multi dimensional information (for instance sales per period per customer segment) is enriched by unstructured information like market volume or market share of the competitors. Compiled analytical information can be forwarded via mailing list to affected decision makers.

Corporate Performance Management (CPM)

The role of Corporate Performance Management is to provide computer aided balanced scorecard solution (Strategy Management) with additional key performance indicator administration tool (Performance Measurement). Key functionality of both components is:

Strategy Management

- Balanced Scorecard
- Risk Management
- Strategy Templates
- Value Driver Trees
- Value Based Management

Performance Measurement

- Management Cockpit
- Measure Builder
- Measure Catalogs
- Benchmarking

The CPM module of SEM allows collection, description, reporting, visualization, of key performance indicators and their tree-form relations (for Instance Dupont's ROI tree). The key performance indicators may be combined in dimensions of a balanced scorecard. The indicators do not have to be of financial or calculated nature – soft factors like employee satisfaction as an intangible asset can be recorded as well.

The Balanced Scorecard conception developed by Robert S. Kaplan and David P. Norton is a visualization proposal to refine, integrate different aspects and communicate the enterprise strategy. Major aim is to translate high-level figures into operational targets for all levels of the enterprise. SAP solution offers flexible management and visualization of measures in views, cause and impact chains and developed initiatives. SAP SEM has been the first software on the market certified by the Balanced Scorecard Collaboration, which has been established by the founder of the methodology - David Norton.

In addition to balanced scorecard, management 'war-room' concept is supported by CPM module. The Management Cockpit is an ergonomic approach for arrangement and visualizing of key performance indicators. Four walls of an executive meeting room are covered by structured business graphs. The visualization on the walls is achieved via LCD panels connected to computer set up with special graphic capability. The graphs are rendered by a server on basis of actual company figures. The meetings of executive or supervisory board can rely on recent figures presented in decision taking friendly technique. SEM-CPM offers software solution for the Management Cockpit.

The CPM module can unify past actual figures with plan data. Close integration of CPM with Business Planning allows deployment of corresponding plan figures. Variation analysis supports strategy and operations adjustment process.

Business Consolidation (BCS)

The financial flows of international operating companies are spread across multiple entities. The integration of financial flow into global balance-sheet provides BCS (Business Consolidation) component of SEM. Main tasks of SEM BCS are:

- Legal Consolidation
- Management Consolidation

Common accounting rules like IAS, US GAAP, German HGB, Slovak and other local rules can be covered for configurable legal structures. In parallel more precise management consolidation can be executed for user-defined organizational units numerous user-specified organizational hierarchies. Generic monitoring and status management of the involved tasks and high level of automation considerably accelerate the consolidation process.

Explicit consolidation methods as inter-unit eliminations, allocations or adjustments could be handled automatically, for conditional methods variety of solutions is available: for instance the treatment of balance differences can be resolved by automated parameterized posting of currency-related variances or by automatic creation of warning e-mails or faxes. The reconciliation between organizational units and version concept allows simulations related to determination of effects of mergers and acquisitions, different currency exchange rates or other changed consolidation rules.

The legal and management consolidations are sourcing the same data basis. Common data foundation synchronizes the legal accounting and management accounting figures. Despite this fact, data structures could be enriched for the management consolidation providing the required flexibility to analyze the consolidated data according to regions, customer or product groups, divisions etc. Moreover, BCS component allows you to provide Economic Profit calculations at the level of internal organizational units, legal entities and or any other additional analysis criteria (e.g. customer group).

The integration within SEM allows you to use consolidated figures as key performance indicator in CPM or use the consolidation engine on the plan data of BPS. Flexible sophisticated reporting in form of analysis of consolidated variances is possible.

Business Planning (BPS)

To operationalize and assess a strategy plan figures in form of targets or forecast/budget figures must be entered for later actual/plan comparisons. The main goal of Business Planning (BPS) component is to provide computer added support of planning processes. Main features are:

- Modeling
- Planning Framework
- Planning Applications
- Link strategy with operative targets and resource allocation
- Simulation

In the strategic loop the BPS component plays important role connecting the ‘Strategy and business management loop’ and ‘Performance management process’. The strategy initiatives are associated with high level figures, the BPS provides functionality to break the high level goals into operative forecasts/budget/business plans. The top-down plans can be compared with aggregated bottom-up figures provided by organizational units.

The article illustrates variety and complexity of the planning process. The nature of planning is diverse, due to:

Timing – at a specific time point spotlight can shift. For example in expansion time sales volume and contribution are the major focus, in difficult times costs are watched closely. However, the software solution should allow change of the focus rapidly.

People involved – The planning process starts at high level involving executives in strategic plan going further to e.g. production planner ordering machines for the future. A company is heterogeneous environment divided into departments following different short term interest in order to achieve long term goals. Therefore a planning software product must comply with dissimilarities caused by different focus of people using it.

The level of the plan is various, but the plans interact with each other. Which figure is planned? Profit or contribution? Costs? Headcount? The actual figures are recorded according to given company structures. The plan figures cannot be entered at such low level for longer time period, because the involved effort is too high and value questionable. Thus alternative higher-level structures (customer groups instead of customer) are used to record plan data. The planned objects are specific, in dependency on planning process the plan application has to cover cost centers, profit centers, machinery, customers, regions etc. Even more the current actual structures do not contain any possible spin-offs or take-overs. The plan structure should allow recording of the plan data on a potential structural change.

Methods – how is planning processed? Is all data entered manually? Are external sources involved? Is prognosis, top-down distribution step of the process? The plan process activities are various again.

In order to cover various planning processes, BPS component supports following requirements:

1. Generic handling of figures: the software product must handle any set of figures, independently on their nature and technical features. BPS can handle various planning processes in generic way – sales volume, cost plan figure or headcount can be modeled.

2. Generic handling of objects, which are planned: flexible handling of plan structures

3. Variable planning levels and planning functions - Combination of figures and plan structures, e.g. planning of profit on division level or cost center level on yearly or monthly basis and generic functions (distribution, allocation etc.) support the planning process

4. Manage the planning process – The single tasks are not executed by single person, team work is necessary for successful plan. Therefore workflow options with visualization of current status of tasks are the essential criteria.

5. Personalized view – Many people, many departments are involved in integrated planning environment. Responsible person should receive personalized view on his/her part of the process. Various front-end technologies (Excel, Java, HTML-Browser etc) should be supported.

6. Integration with operative systems – For instance the high-level budget can be automatically transferred to the Cost-Center system for iterative split to single cost centers.

7. Integration with reporting – The records created in planning process should be available immediately for analytical reporting. The transformation of data should provide the option of plan-actual comparison with variance reporting.

8. Locking – A ‘business process’ lock is disabling data belonging to specific plan object (e.g. version or period), which has been frozen and should not be changed anymore. On the other hand ‘technical lock’ should avoid changing of the same record by another user at the same time.

9. Robustness – The system is expected to prevent any inconsistencies. One example could be a plan against month thirteen.

10. Centralization – master data and plan data should be stored and stored centrally

11. Scalability – The software platform should be scalable in terms of hardware features like hard-drive space or main memory caused by increase number of users and their activities

12. Authorization – Responsible person only should view and change approved data.

13. Performance – The system should deliver user-friendly response and processing times

14. Openness – The open architecture supporting APIs (Application Programming Interfaces) offer integration of the application with front end – Visual Basic or Java Front-End for data collection and function execution can be implemented.

15. Internet Support – The plan process can be operated (data collection and function execution) over web.

Conclusion

SAP offers wide range of products today. In the product portfolio analytical components enhanced operative products. In the management levels variety of strategic and operative methods is being used, however with low assistance of IT-systems. Following table should give the connection among selected significant strategy related methods and tools and SAP products dedicated to support them. Obviously, principal decision as overall direction of strategy (e.g. cost leadership, differentiation etc) cannot be met by any sophisticated computer. However, in more operational steps, analytical components can provide decision support.

TABLE 1

Strategy related method/Tool	Corresponding SAP Product
Environmental/Competition analysis	The collection of macroeconomics factors is a dedicated human interaction task. The SAP can semi-automate the collection in Business Information Collection (see 7.3.1) and provide storage/analysis tool: BW (Business Warehouse, see 7.2)
Shareholder/Stakeholder value approach	Apart from fact, that information technology supports higher productivity leading to higher profits, the communication with shareholder / stakeholder groups can be improved via SEM-SRM (see 7.3.1)
Benchmarking	The collection of competitor’s data must be solved by human beings, SEM-CPM offers interfaces to benchmarking agencies and BW provides reporting capability
Scenario Analysis	SEM-BPS component offers flexible versions allowing storage of various scenarios. BW provides features for analytical reporting.
Portfolio Analysis	SEM-CPM in combination with BW offer collection and visualization elements
Balanced Scorecard	SEM-CPM provides full certified range of flexible components. Cause and effect chains, initiatives, measure catalogue, scorecard with custom

	perspective.
Target Costing	Project system module which is part of R/3
Contribution Calculation	Controlling modules of R/3 system (CO-PA = Controlling-Profitability Analysis)
ABC, XYZ Analysis	Operative movements recorded in R/3, reporting in BW
RFM Analysis	Customer Relationship Management for data collection with reporting in BW
Activity Based Management	CO-ABC module of R/3
Prognosis	Function in SEM-BPS
Simulation	Variable simulation capabilities of SEM-BPS
Consolidation	Legal and management consolidation functionality of SEM-BCS
Forecasting/Budgeting	Sales, Capacity, Capital, Production, Marketing, Headcount, Procurement, Project, Inventory, Zero-Based, Profit, Break-Even, Contribution etc. processes and their modeling, monitoring and reporting is part of SEM-BPS.

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Entrepreneurs and competences: the Development of Human Resources in Jalisco, México

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Abstract

The development of entrepreneurial competences in México has recently faced a set of rapidly changing external forces. The main contribution of our paper is to provide data that supports the need for more emphasis in developing entrepreneurial competences that may increase the survival rate of small businesses in Jalisco. Our study is based on data from four hundred small and medium enterprises.

Entrepreneurial competences serve as an important input to the business development process. The development of business competences is evaluated in the firms studied by profiling the skills used in building their business models and operational characteristics as they relate to competitiveness at the international level. The paper concludes with a discussion of educational and policy measures that affect the development of entrepreneurial competences and small firm competitiveness.

Introduction

In a global economy competences and labor markets are more intertwined. As previous research shows (Drejer, 2000) an educational system is traditionally oriented towards the development of professional competences. Some of them are called “hard” competences (reading comprehension, writing, mathematical skills and technological, for example), while “soft” competences (personal, social, emotional) are much less regarded.

Not only in one study area, but particularly in the entrepreneurial domain, it is important to recognize the need for information and knowledge in order to develop the required competences. For entrepreneurs, certain competences are a critical factor for their firm's success in increasingly competitive and global markets. The adoption of a competence development approach is currently assumed to promote the competitiveness of Mexican citizens in higher-skilled positions. This approach is based on the premise that increasing human capital qualifications will have a significant impact in wealth generation, because human resources are a source of value creation and sustainable competitiveness (Huselid & Barnes, 2003).

The paper intends to make two main contributions. The first one is to provide a clearer insight into the skills and competences entrepreneurs use or develop while creating their new firms, whether out of a personal decision, or because they are forced to start their own business as a result of lay-offs (defensive self-employment). We address this issue on the basis of analysis of a set of three hundred and seventy cases in a database on small firms in Western Mexico. Our second aim is to identify the abilities, knowledge, values and attitudes, that ground the entrepreneurial and managerial competences as expressed in a firm's competitiveness and operational capabilities. In the first part the conceptual structure of our approach is explained. In section two a discussion of relevant literature is provided. In section three the methodology is discussed. In the following section the study results are presented and finally the paper concludes with a discussion about the relevance of the competence approach in assessing entrepreneurial and small firms' capabilities in the context of an emergent open economy.

Literature Review

Professional competences are determined by the functional labor and the perspective of technology is very dynamic. Analyzing the development of individual competences they represent a priority individual's needs. The

theoretic aspects of the scientific literature about competences include the methodological foundation of competences (Boyatzis, 1982: and Collin 1997) and the second that is about models on competence development and education systems (Byham, Smith & Pease 2002).

Though the topic of competences according to (Savaneviciene, Stukaite y Shingiene 2008). The hard competences, depending on organizational performance and soft competences depends on the particular relevant competences, the important idea is which competences does the employee has not on their amount. The universal individual competences work in two levels: organizational (company) and individual, the optimal result is combining both. Fig. 1

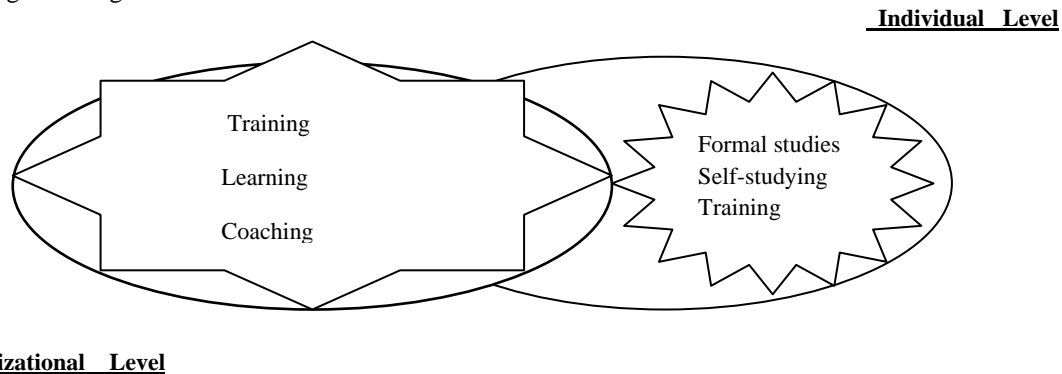


FIG. 1 INDIVIDUAL AND ORGANIZATIONAL COMPETENCE

According to (Senge, 1990). The special conditions in one organization are necessary to increase the competences and correct their possible mistakes.

The Mexican case.

The competition will increase the professional competences and the employability is at the core of the transformation process. There are no doubts about the importance of entrepreneur competence's development according to Savaneviciene et al. (2008) the employees know what helps to work more efficiently, in other words the organization will be strong in technique .

Mexican small firms must rapidly adapt to open market contexts (Arechavala, 2003). In 2003 there were in Mexico three million enterprises, 99.8% of which are small and medium enterprises (SE, 2011). Jalisco is the third state in Mexico in terms of population with bachelor's degree, with 7.7% of the national total; it is also the main agricultural producer in the country.(PROMEXICO, 2011). To have a better idea about its geographical location see Fig. 2.

In the last years Jalisco had suffered a process of industrial reconversion in (electronic, software and biotechnology), in the generation of qualify workers and try to gain positions with the production of goods with more value add in the international productive chain (Arechavala, Rico, Rodríguez and Huerta 2010). Mexico is in the 14th place of the most powerful economies in the world (IMF, 2010) but the majority of SME's have technological obsolescence, because they do not change their work procedures and their prices level in international market in many cases are lower than their production cost. This is the main reason of many SME's closed operations import and commercialized the foreign products into the country.

It is necessary to add in the internal development of SME's, the effect of global economical situation, the contraction of the internal market, the inflation, devaluation, corruption, legislation and the disposable of raw materials (Arechavala, 2008). The free income of foreign merchandises in dumping conditions and the smuggling have more difficult the internal commercialization of Mexican products.



FIG. 2 MAP OF MEXICO

Methodology and Data

The efficient development of individual competences becomes the competitive advantage as well as economical. The attitude is dominated that competences are universal and not depending on the performance area (Thompson, 1998) guaranteeing long success (Drejer, 2000). Schultz (1993) described of human capital as: “it is necessary to keep in mind all the human capacities, *innate or acquired*. Each person is born with a specific set of genes, which determines its innate capacity. The acquired attributes, which have value and can be increased through an appropriate investment, will be considered as human capital”.

The concept of competence defines the individual abilities, values and knowledge, usually applied and oriented in a working environment. In this case the organization and its needs are important only as a worker with the needed competence. The hard competences are determined by the organization performance and are complemented with a special professional knowledge and skills to understand processes, competitors and technologies. These kinds of competences are necessary and not depending on the position of the people into organization.

The priority changes of competence formation are influenced by the same employees because are able oriented in the new environment, know their value (Dalton, 2010). It is emphasized that the employees, demonstrate loyalty to their activity. Thought there are no doubts about the importance of competence development (Oliver & Kandadi, 2006). The organizations learn individual and collective the managerial style, managerial culture and the relation between employees are an important role of the application of competences, because the learning conduct to behavior change (Gomez, 2010).

In this work we take the most important competences in base on personal attributes, soft skills that help to work with others, practical skills and capabilities to stayed ahead of change (Jurce, Milan and Tominc, 2008). Including professionals and entrepreneurial competences (Tuning Educational Structures in Europe, 2003) because are used the platform to raise their employability. The education are expanding and changing, the entrepreneurs express their individual demands with the expectation that their learning experience prepare them to answer the changes in a business environment. We talk about specific and generic competences such as capacity to adapt to new situations, problem solving, ability to work autonomously, knowledge of a second language, elementary computer skills, capacity for applying knowledge in practice, decision making, creativity, initiative and entrepreneurial spirit,

information management skills, interpersonal skills, will to succeed, teamwork, project design and management, oral and written communication in native language, capacity for analysis and synthesis, leadership, concern for quality, ability to work in international context, capacity for organization and planning, ability to learn, capacity to communicate with expert to other fields, ability to work in an interdisciplinary team, critical and self critical abilities, grounding in basics knowledge of the profession, research skills, appreciation of diversity and multiculturality, basic general knowledge, ethical commitment, understand customs and cultures of other countries.

In order to understand what kind of competences it was possible to find in the IDITpyme the data base we compare the information of competences list.

Competences and skills were understood in three ways How to know, how to act and how to be. We try to manage generic competences which are general to all fields. See Fig. 3

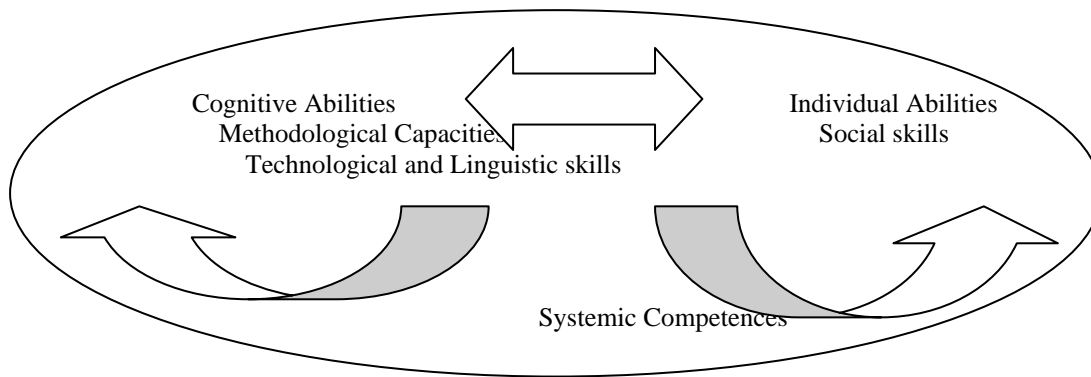


FIG. 3 GENERAL COMPETENCES

The study is descriptive and the main data sources for our empirical research were four hundred enterprises in the data base IDITpyme . This data base have more than 15 years working and it is divided in six sections: Managerial Culture, Management, Commercialization, Finance, Production and Human Resources . For this purpose we have utilized the Managerial Culture results of written and transversal operative data collected through a qualitative survey applied to SME's in different states of Mexico as Jalisco, Michoacán, Guanajuato and Aguascalientes. A qualitative inquiry was used to gain in – depth understanding of phenomena in context specific Savaneviciene et,al (2008). The majority of these enterprises in Mexico are family business of the first generation, in which the entrepreneur/founder still runs the business. We try to identify entrepreneurial competences in the practical observation of the real life. According to the results in study changes in management education in Europe, it is expected that in the future the clients will demand greater quality and service. In this context if we have to be more competitive and to attract international investments, we will be forced to act according international competences standards in order to provide the entrepreneurs with relevant knowledge and skills that will enable them to raise their employability.

One of the most important variables regarding the entrepreneur's profile is his ability to *formulate* and to *implement* strategy in the firm. CEO's personal characteristics influence strategy formulation (which we here identify as entrepreneurial ability) in many ways, and later on in the organization's structure and performance (managerial ability), but this second influence is mediated by the implementation of systems, structures and routines in the firm. Successful development and performance in the small business organization implies skillful use of both entrepreneurial and managerial orientation traits, competencies and skills.

Analysis

The Managerial Culture is divided in five levels and six dimensions (propriety, management, objectives, basic managerial concept, basic outlook and business theory). We decided that, among the thirty competences that have a closer relationship with variables in the data base, there are five which fit our framework well, among them the capacity to adapt to new situations, leadership, initiative and entrepreneurial spirit, teamwork and creativity in the next levels and dimensions. See Table 1.

Competence

Capacity to adapt to new situation
 Leadership
 Initiative and entrepreneurial spirit
 Teamwork
 Creativity

Dimension and Level

B.T. 3 / 4 / 5
 P.M.O.BMC.BR.BT / 1
 P/1
 M/2/3/4/5
 P/ 1

DIMENTION (D)	(L)LEVEL 1	2	3	4	5
Propriety P.	Individual	Individual or not	Family partners F.P.	Not family	Stock market
Management M.	Individual	Family	Family general management	Not family	Chairman board
Objectives O.	Familiar income	Survive	Growth and expansion	Product and market market diversification	Institutional
Basic Management Concept B.M.C.	Quickly and safe	Short time	Medium time invest	Large time	New business and markets
Basic Roll B.R.	Passive	Reactive . adaptation R.A.	Prediction and R.A.	Active adaptation	Environmental control
Business Theory B.T.	Business opportunity	Specialized one product	Understand the Client	New business diversification	Diversify markets

TABLE 1. MANAGEMENT CULTURE. IDITpyme (2010).

Results

The most striking differences are in the dimension of management level 1, which are related with the competences of leadership and teamwork in second place property that are related with initiative and entrepreneurial spirit and creativity. The basic concept is related with leadership as a basic roll and business theory too. The competence to adapt to new situation we will find in business theory. See table 2

DIMENSION / LEVEL	1	2	3	4	5
PROPERTY	99	141	52	39	1
MANAGEMENT	107	81	67	41	34
OBJECTIVES	16	80	175	57	3
BASIC MANAGERIAL CONCEPT	47	63	88	67	59
BASIC ROLL	63	129	51	65	10
BUSINESS THEORY	42	52	161	14	52

TABLE 2 DIMENSION /LEVEL QUANTITY SME's MANAGERIAL CULTURE

One important conclusion was a very high correlation between ratings of competences with levels of SME's development and the competences. In relation to importance we found the next data. See table 3.

The most important competences in Managerial Culture	Dimensions
Creativity	Propriety
Initiatives and entrepreneurial spirit	Propriety
Leadership	P. M. O. BMC. BR. BT.
Teamwork	Management
Capacity to adapt to new situation	BT.

TABLE 3 RELATIONS BETWEEN COMPETENCES AND DIMENSIONS

At the end the importance according with the number of enterprises are the dimensions that show in the next table. See table 4. By comparing the results of our analysis is highly positively correlated ranking in property with the most quantity of enterprises, continue with management , objectives, BMC, BT and the final is BR.

	<i>PROPERTY</i>	<i>MANAGEMENT</i>	<i>OBJECTIVES</i>	<i>BASIC MANAGERIAL CONCEPT</i>	<i>BASIC ROL</i>	<i>BUSINESS THEORY</i>
PROPERTY	1					
MANAGEMENT	0.803536288	1				
OBJECTIVES	0.148777251	0.062664297	1			

BASIC MANAGERIAL CONCEPT	-0.223684607	-0.337667013	0.91487502	1		
BASIC ROLL	0.913528317	0.514622325	0.251623824	-0.033351528	1	
BUSINESS THEORY	-0.069660564	0.096647471	0.827047462	0.77787583	-0.147538088	1

TABLE 4. CORRELATION OF RANKS

Conclusions

To be an entrepreneur nowadays is has been faced a big quantity of pressures from internal and external forces. As a result of internal pressures, the entrepreneurs should put more emphasis in the development competences, because they confront a new global situation and they need to start to redesign their strategies and aligning with the requirements on internal and external market. The proposed of this study is to know what kind of influence have the five competences in Mexican SME's.

Competences and employability have especially evolved with entrepreneurs because a competence is a key requirement to confront the new reality for Mexico. The basic concept is transform the skills and abilities of entrepreneurs in designing new environments as a should be taken as a start point for new business capabilities, the professional competences define and develop new teaching and learning new methods in which their acquired skills and competences.

The comparison of our results are important because we tried to find generic competences in Mexican entrepreneurs and also shown the level of achievement of certain important competences that the entrepreneurs used in practice. All these conclusions should be taken into account when the government or educational institutions tried to include or implement to help the entrepreneur capability.

The general abilities, competences and skills should be selected to teach into entrepreneurs and managers because they will be better equipped for the challenges in a dynamic business world reality in the hard labor market.

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Microcredit in Italy: Past Present and Future

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Abstract

The aim of this paper is to investigate the microcredit offer in Italy with a particular focus on the peculiarities that distinguish the different areas of intervention (microcredit to business and/or social cooperative microcredit). We tried to understand if there is an inclination to generate products specifically targeted to immigrants and to see if there is any other space for intervention for a more balanced development of microcredit within the network of Cooperative Credit banks. We have adopted a statistical approach to this research with a descriptive-explorative approach. We used a questionnaire aimed at the Italian operators in microcredit sector. We studied the work done by such organizations to understand whether there is a common denominator within the different initiatives operated in Italy and the Grameen work. Finally we tried to understand if the current microcredit operators use a similar or different approach to the cooperative credit system when addressed to immigrants¹.

Methodology

The methodology used in this work follows the principles of classic statistical analysis applied to quantitative research, adopting the questionnaire as a data collection tool (Molteni, Troilo, 2003). Such methodology envisages a rational timely sequence of data survey stages, analysis and development and presentation of results. In particular we carried out the analysis of a fraction of the total statistical corpus of data.

With the aim of reproducing a clear picture of what microcredit is in Italy, including the different dynamics operating in the sector, we also decided to adopt and combine different techniques of data collection and the analysis of results such as cluster analysis, historical events analysis and the descriptive-explorative analysis.

In summary, through this research we tried to answer the following questions:

- In Italy is microcredit a phenomenon with a "history" or is it just a fashionable term derived from the high popularity of Prof. Yunus' results?
- Does the high volume of so far generated activity follow an ascending trend to be able to justify a more structured approach?
- Is there a geographical concentration of the so far generated microcredit operations?
- Are the Italian operators going through an experience similar to Grameen? If so what are the common key factors to the various projects?
- Do the bureaucratic-administrative approaches that release the micro finance projects share a common ground among the different experiences?
- Are the immigrants a potential target?
- Can the credit cooperation system develop a structured offer of microcredit in Italy?

Statistical survey

To define the statistical survey plan, given the already mentioned diversification within the Italian sector, we utilized different sources as a data base in particular:

- list of the operators registered with RITMI (Association of microfinance institutions), where the various institutions are classified and grouped together according to the geographical areas of intervention (operational level), typology of the activity (typology distinguishing between No profit organizations, ONG, public body,

financial intermediaries, bank, foundation, other) and legal status (profit and non profit),

- Italian writers (Viganò, 2004; Brunori, 2005; De Bernardo and Pezone, 2008; Eurispes, 2007; Scarpa and Delise, 2007; Sgroi, 2008; Tramonto, 2008; Borgomeo & Co., 2007)² whose work on specific topics, have recalled projects and best practices of real interest and depth with the common aim of launching microcredit and microfinance.

This is how we defined the statistical corpus of data i.e. the universe of microcredit projects/initiatives operating in Italy³, to structure our research (based on the above mentioned questions).

As for quantitative data processing, the statistical literature (Orsi, 1985; Pieraccini, 1991, Posa and De Iaco, 2005), envisages that error measurements and the level of significance of the analysis are established beforehand, in order to obtain a balance between the multitude of the sample and the nature of the operation. Because of the typical limitations of statistical qualitative/quantitative surveys carried out by questionnaires⁴, and with the aim to increase the sample population, this study focussed on the parameters of relevance given by the distribution of the questionnaire to the whole universe of this survey. Overall we identified and contacted 48 microcredit organizations in Italy that operate for the residents (excluding the national institutions working exclusively on projects abroad). Out of these, 19 replied to the questionnaire⁵ and have been adopted as the sample of our research. Therefore the results are valid with a confidence level of 95%, with a confidence gap of 15%. The first step of this analysis shows:

- nearly the total of the projects operate on a local basis, except some rare exceptions⁶,
- similarly to what happens to the rest of the world, microcredit is a phenomenon strictly connected to the social development and human rights environments, campaigns against poverty and, more generally, not for profit,
- the onset of management structures typical of the financial market often derives from the acquisition of levels of knowledge or volumes that can be hardly managed by voluntary assisting bodies (Vikram, 2008).

In Italy, moreover, microcredit has found a stable operational ground amongst:

- the Mutue di Auto Gestione –MAG- (self managed lending operations) are historically renowned for having launched the first microcredit projects in favour of third sector bodies, cooperatives, businesses involved in fair trade and in a few instances, individuals experiencing temporary financial difficulties⁷,
- foundations against “loan sharking” developed mostly by Dioceses or single parish priests and that often have become a point of reference for the entire area and population (De Bernardo and Pezone, 2008).

Main Features of the microcredit initiatives in Italy

The first aim of this work was to understand the position of the microcredit initiatives in Italy and their operatively in the national financial panorama in terms of space, time, volumes and nature of the operations. In other words, we tried to summarize the elements that can offer a critical/constructive reading to the phenomenon.

The first main feature has been the geography of microcredit in Italy. We then moved on to observe the characteristics of the nature of the supplier⁸ and the geographical location (the belonging to the so called Nielsen area) through the development of a location finder to assist in the reading of the data. The country area more keen to use microcredit against poverty is the so called Area Nielsen 2, which is also the one most evidently sensitive area to issues of social support and progress, thanks to the work developed by the operators living in Tuscany (Innocenti and Ortolani and Rizzitiello, 2007; Brunori, 2005; Borgomeo & Co, 2005); followed, with a short gap, by Area 3 and Area 1. The south of Italy ranked as last since the precarious economic and social conditions of a few areas and the high level of unemployment which make the demand of microcredit really high. When shifting the attention towards the nature of organizational structures chosen for the development of microcredit projects and looking at number in distribution, it comes out that the least frequent operations come from Public Bodies, followed by Foundations, Onlus and the financial intermediaries. Amongst the least take part the so called Mag, which are mainly no-profit cooperatives.

Fig.2 shows that microcredit in Italy started clearly after 2000, after the popularity of the Grameen Bank work and various changes that happened within the national context of Italy. On this the following works (Borgomeo C. & Co, 2007) show:

Microcredit institutions	Area 1	Area 2	Area 3	Area 4	Absolute number
Financial Intermediaries	[Dark Blue]				9
Foundations	[Orange]		[Light Blue]	[Orange]	5
Onlus	[Light Blue]	[Orange]	[Light Blue]	[Orange]	3
Public Bodies	[Orange]				2
Absolute number	5	7	6	1	19

Legend	
Numerosity	Color
zero	[White]
one	[Orange]
two	[Light Blue]
three	[Dark Blue]

FIG.1: SPACE/ORGANISATIONAL DISTRIBUTION OF MICROCREDIT INITIATIVES IN ITALY

- the agreement picture amongst the numerous public and private political actors, of national entrepreneurship and associations with the common aim to use, develop and apply preventative Funds against “loan sharking” (law 108/96),
- the transformation of the “National Italian committee for Microcredit” into “Permanent National Italian Committee for Microcredit” with the aim to promote and monitor the ongoing projects and those under “work in progress”.

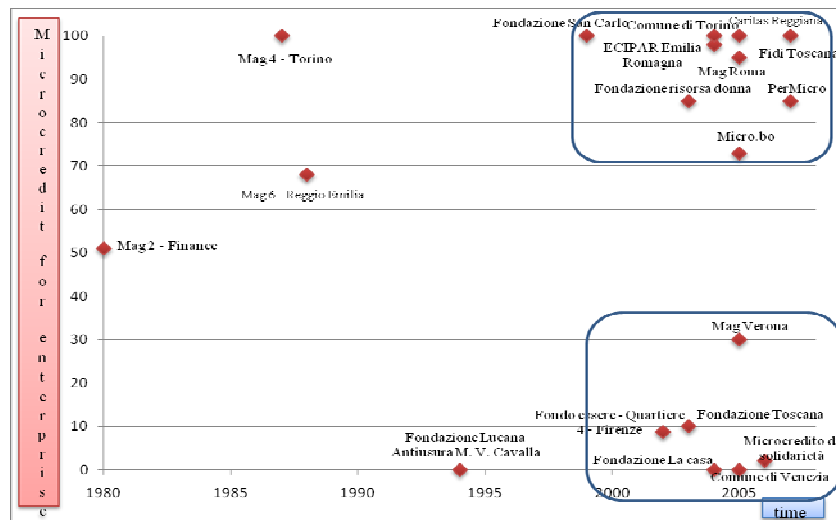


FIG.2: HISTORICAL CONCENTRATION OF MICROCREDIT INITIATIVES IN ITALY

Before the onset of the new century, it is possible to identify only four initiatives of microcredit, three of which developed by MAG. When looking more thoroughly at the objectives achieved by the different projects, except from Mag2 which operates undistiguishly in both sectors, there is a clear difference between the subjects operating in favour of businesses and those operating to support people⁹ or families with temporary lack of cash; hence, microcredit in Italy is increasingly characterised by area of specialisation.

The first part of this paper aimed at identifying the relational positioning of the microcredit organisations. With this aim we suggested a methodological comparison with the recommendations given by the management literature in the life- systemic theory (Golinelli, 2000-2002). Assuming microcredit is a coordinated system of institutions, instruments and resources that need to interact with the connected systems to grow and thrive, we then measured its strength in the relations with the actors that belong to it and:

- themselves, in Italy and abroad. A similar proxy has been recognized in the degree of participation in national and international networks,
- Public Administration we surveyed the existence of strategic relations between public institutions and microcredit operators and the inclination of the last ones to demand/obtain supported sponsorship to launch or develop initiatives,
- the financial intermediaries, through the identification of potential collaboration with the credit/banking brokers

to carry out lending operations,

- their own customers, i.e the inclination to concentrate the efforts towards one target.

The summary shown in Fig.3, concludes that microcredit initiatives do not belong to an initiative of common nature, they rather develop via single actions (operators in the civil sector, public local bodies etc.) and, as stated before, they belong to a very recent past. On this purpose, the establishment of RITMI, a system which includes the major number of surveyed activities, like the European Microfinance Network, should put together the various initiatives aimed at creating a “critical mass” able to retain attention of the Institutions and an increased interest among the potential clients, who often ignore the existence of support tools to their advantage.

The degree of interaction between microcredit organizations and public institutions (in particular when it comes to financial support aimed at start-up as well as development of own initiatives) is are instead working really well. The public bodies involved in the most successful relationships are the borough and counties, followed by the regions and in some cases small business associations, job centres and universities.

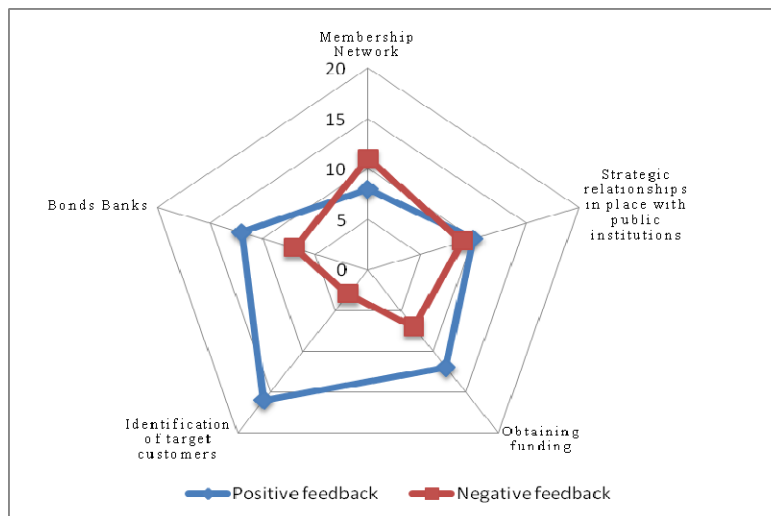


FIG.3: SUMMARY OF RELATIONAL POSITIONING OF MICROCREDIT ORGANIZATIONS AND RELATED CHARACTERISTICS

The relationships between microcredit institutions and the financial intermediaries are much stronger compared to what we analysed so far. Strategic partnerships aimed at increasing the knowledge of the potential marginal clients, available resources and organizational structure are working effectively. With specific reference to the business models adopted by the operators working in synergy with the banks, it turns out that the organizational framework (Innocenti and Ortolani and Rizzitiello, 2007) are used to satisfy the specific needs of those requiring them, are often unique and difficult to track down. The interaction between microcredit organizations and financial intermediaries is due to become stronger thanks to the new development of financial activities within the European community aimed at supporting microcredit. In particular we refer to the measures called Jeremie and Jasmine¹⁰. The first aims at improving the financial context of operation for the PMI (small, medium business) at a national, regional and local level. The intention is to facilitate access to financial borrowings and increase the stake of risk capital through the development of warranty instruments. In the specific case of microcredit, Jeremie envisages the creation of a warranty fund aimed at microfinance Institutions. Jasmine is instead a measure for the development of microcredit whose objectives are to:

- improve the legal and institutional context of the member states.
- positively improve the entrepreneurial mood.
- promote best practices.
- provide capital necessary for the so called “unbankable”.

Microcredit organizations seem to have established a strong bond with their own customers. 85% of the activities are aimed at specific targets, generally defined as unbankable. The literature on this topic (La Torre and Vento, 2005) has shown that in the last few years the users of microfinance at a global level have become much more complex compared to the one of microcredit, in shifting the attention from the “poorest amongst the poor” to all those excluded from the financial system (as the victims of loan sharking activities) which can be tracked down into five macro categories:

- *self-exclusion* which derives from self inadequacy of the individual in front of the demands of the financial mediators (poor amongst the poor),
- *access-exclusion* deriving from the lack of financial requisites to obtain credibility of a potential client, further to a risk assessment with negative result,
- *political-exclusion* where the ineptness of the socio-political system that ignores the demands of specific individuals. The immigrants, for example, are a main typology of financial exclusion,
- *condition-exclusion* which derives from the high cost or the narrow conditions to credit access,
- *marketing-exclusion* where the so called "marginal" individuals are considered a low added value to the financial mediators according to the traditional values of customer valuation.

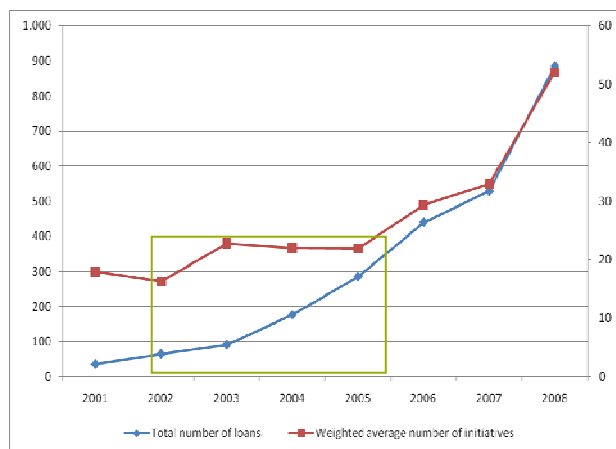


FIG.4: TIME SERIES OF THE NUMBER OF MICROLOANS

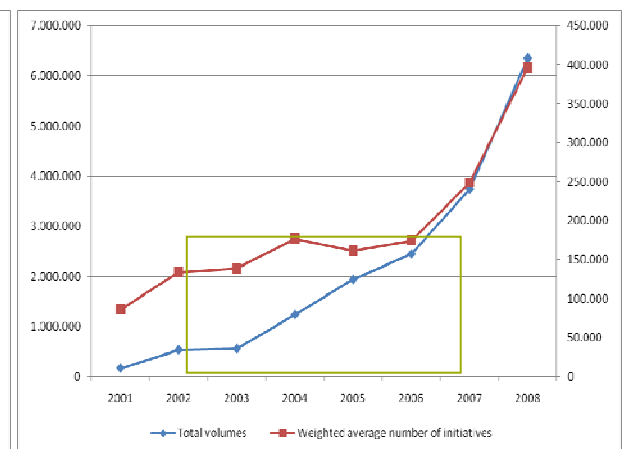


FIG.5: TIME SERIES OF VOLUMES OF MICRO LENDING

The progressive involvement of the financially excluded individuals due to the last three points above described, demonstrates a major complexity within the financial architecture and more involvement on behalf of the banks from the traditional schemes of microcredit. This trend should guide the institutions of national microfinance to focus their attention towards specific targets or individuals (in particular the immigrants) and develop synergistic efforts with the cooperative credit system which similarly work with the same principles and values. When looking at the features of areas of specialisation (shown Fig.2) and customer targeting, it emerges that microcredit is addressed still today to a specific target, difficult to be tracked by the classic finance system. The last interesting characteristic investigated through the field analysis is the development of the phenomenon in Italy in terms of volumes and number of operations. The statistical analysis of the data determined by graphic equalization (Pellicciari and Tinti, 1998), that the evolution of the phenomenon is similar to an exponential function like. Its performance shows a peak since 2006, putting more emphasis on the volume variable (see Fig.4 and Fig. 5). In the central phase of the investigated time frame (between 2002-2005), it comes out that microcredit projects have progressively strengthened and consolidated, increasing by number of loans as well as by intermediate volumes despite a lower growth of the same ones (the relative strength of growth in absolute values is smooth compared to the points highlighted by the weighted average).

Since 2006 the number of initiatives, loans and traded volumes has increased dramatically. As for economic returns microcredit offers reasonable areas of intervention. Currently the applied interest rates include:

- between a minimum of 2.5% to a maximum of 12% for microcredit to business, despite there is more attenuation around the median distribution values (the average rate is 6.3% against a variable -standard deviation equal to 3.3),
- between 2.5 and 6% in case of emergency microcredit against an average rate equals to 4,4% and the variable equal to 1.29.

The cost of funding cannot be found to be appropriate to the high degree of risk assumed by the category of borrowers discussed in this paper. This is because of the use of agreements between three parties aimed to reduce the exposure of the lenders by introducing adequate warranty funds, which positively influence the credit recovery rate. Hence the introduction of specific safeguards, reduces the rate of loss in case of default, improves the degree of risk exposure of the borrower and lowers the cost of financing¹¹.

Generally speaking the individuals partaking in a microcredit project are:

- promoting organizations, whose work is to identify potential customers and start up/manage the lending projects,
- public or private bodies of high social orientation, that release unbanked warranty funds of level II (often of rotative nature), which are useful once reimbursement cannot take place,
- partner banks that review practices and operate the loan and are the only counterparties to the debtors because they are the only authorized brokers to the lending activity.

The presence of third structures, overlooking the stages of screening and monitoring of the relationship of trust, also becomes a fundamental element in order to reduce the friction components in the provision of loans (properly highlighted in the position paper work and in order to facilitate the financial intermediation, which would otherwise be impossible. Management schemes of this nature should be activated in the case of structured products offered by microcredit BCC. The location on site and, therefore, the territorial proximity of the bank to potential small entrepreneurs could reduce (but not zero) the distances in the operation of the logical-functional new product financing. The microcredit organisation, as discussed in greater detail below, operate at a strong social level through their own players (usually belonging to voluntary welfare associations located in public or private clinics throughout the areas). To develop this into a banking product and business opportunity in the eyes of the credit intermediaries, it is necessary to shape it into the mentality of privatisation.

In summary, therefore, the intensity and speed of growth of the phenomenon, the attractive rates of financing and the significant community resources to support the development of micro-credit are the economic and financial conditions to support a more stable supply of microcredit on behalf of commercial banks and, specifically, the BCC.

Similarity Between the Italian Project and Grameen Model and Comparisons Between the Different Operating Experiences

The second part of the work aimed to measure the degree of connection between the Grameen experience and achievements in Italy, has also investigated the degree of uniformity in the bureaucratic and administrative path adopted to initiate loans among the different projects in Italy.

At the question “are there common elements between your initiatives and the inspiring values beneath the work of Grameen bank?”, 85% of the organizations sampled responded positively. There seems to be therefore a high appreciation of the initiative that has brought worldwide attention to the existence of micro-credit, re-vamping techniques and tools, as demonstrated in previous work, that have characterized the history of European cooperation credit. It was also investigated which of the elements of the paradigm Grameen characterize more significant initiatives undertaken so far in Italy, the Fig.6 shows, in descending order of importance, these aspects. The first main characteristic of microcredit in Italy is the addressed market (non-bankable) which, as noted, is the essence of many initiatives for the benefit of the weakest. The strength and consistency of the findings of this research leads to the conclusion that in Italy there is a vulnerable area of the population which would not have access to credit, due to the absence of self supporting initiatives hence the inability of the traditional banking system to identify and capture it. These are followed in order of relevance by the principles of compulsory repayment, the elimination of loan guarantees and containment of the amount of the instalments. These elements, although essential, are of lesser

importance compared to the features of the Grameen experience due to the fact that:

- mandatory reimbursement characterizes also any other lending activities,
- the elimination of loan guarantees is often only replaced by the above-mentioned revolving fund made available by organizations of collective interest in case of repayment difficulties by the microcredit users,
- containment of the amounts of the instalments is a technique also used by commercial banks to facilitate the debtor in the regular loan repayments stretching the payback deadline.

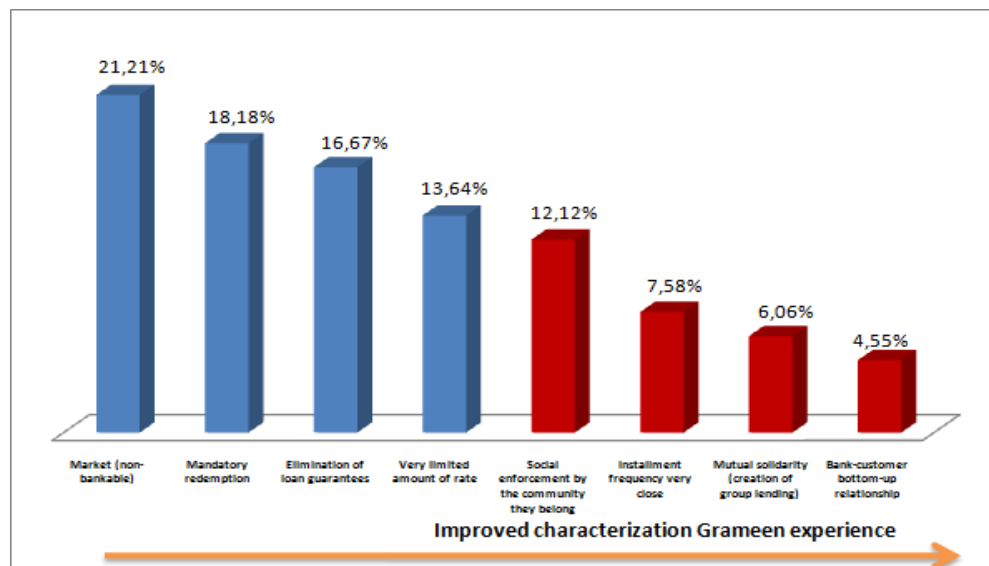


FIG.6: DISTINGUISHABLE FEATURES BETWEEN MICROCREDIT IN ITALY AND THE GRAMEEN EXPERIENCE

The distinguishing features that characterize the unique mission of Professor Yunus in Bangladesh are reflected in a minimal number of current experiences in Italy (coloured differently in Fig.6). Currently, some initiatives (very few and of most recent institution) use the community of origin as an instrument of social enforcement at the start of the loans (requesting a letter of moral guarantee) as well as during the monitoring (accompaniment led to reimbursement) by the head of them (usually the pastor of the parishes belonging to the Italian people or the spiritual leaders of different religious communities or representatives of immigrant communities in the case of foreigners).

Even less important are the elements for the establishment of group lending and the nature of the relationship between bottom-up micro-credit institutions and customers. According to the largest number of workers, the difficulties related to the first aspect can be traced back to poor cohesion of the social relationships between people in Italy (or more generally in Western countries) and the consequent reduction of trust and mutual respect amongst Italian people (principle that distinguishes between the so-called active poor in developing countries).

The difficulties related to the second aspect are connected to the scarcity of resources available to the operators (both economically and of staff availability). Often these start working towards the loan admission procedures too late, which creates reimbursement difficulties and the lender becomes insolvent.

The distinction between microfinance and the traditional banking system in Italy when it comes to offering loans to individuals (individual firms) lies on the approach to the issue of the failure to repay and the specific borrowers and micro-organisation meet to identify the causes that led to non-payment and seek ways to overcome the problem via social and operational approaches, recurring to the forced return of the loan as an extreme remedy. With regard to the degree of uniformity of the initiatives, the analysis reveals that all projects are following a standard operational guideline however adapted to the peculiarity of each single case. As noted above, the micro-

credit organization is distinguished by the presence of three subjects:

1. an external body to the financial intermediary (bank): (usually counselling centres, departments for social policies, foundations, associations, non-profit organization) with a co-ordinating responsibility, which starts up the procedure of microcredit, prepares the additional guarantee and monitors the effective repayment of the loan,
2. the financing bank, which expresses the opinion of creditworthiness, and carries out the administrative and bureaucratic procedure at the beginning of the (credit) relationship and during its duration,
3. a guaranteeing body that, when not involved as a third party, is committed to secure the loan by acting with a specific allocation of resources in case of failure.

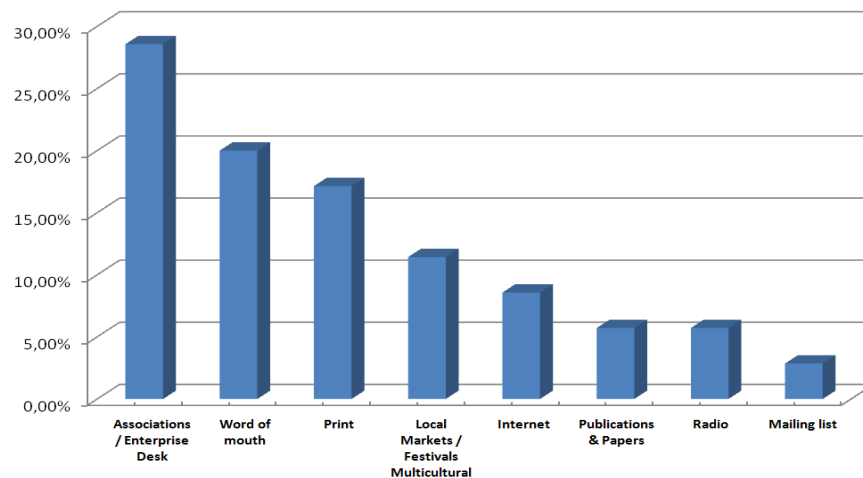


FIG.7: MEDIA AND THE COMMUNICATION OF MICROCREDIT PROJECTS

A clear exception to the above mentioned structure arises when a financial intermediary intervenes (mainly a Mag), in which case the whole activity is managed by its operators and, in extreme cases, only the activity of customer identification is given to the counselling centres. In some cases, and similarly to what happens in the case of Grameen Bank, the coordinating structure does:

- before or alongside the provision of funding, provide training and education to access the credit to future borrowers,
- in case of rejection of funding by the financial intermediary carry out activities of individual support to overcome weaknesses.

Despite being a financial product in its essence, microcredit (as it facilitates the transfer of funds by persons in surplus to those in deficit), is most of all a social tool to assist; the emergence from poverty and personal depression, lack of liquidity originating from the development of small businesses, satisfaction of basic needs related to housing, work or family.

We investigated on the communication channels used to promote or reinforce new initiatives, amongst the potential customers.

In descending order of importance the commercial channel currently used are the voluntary associations and business services addressed to those in need of help, followed by word of mouth and participation in local markets, festivals and multicultural events. As for the promotional channels, the main attention is given to the press (third channel), followed by internet, various publications and radio and finally mailing list. The last two, being most costly, are used by organizations (financial intermediaries) that deal with bigger volumes.

Microcredit For the Immigrants and the Cooperative System

The last two points of our research focussed on understanding if microcredit organisations view microcredit as a

standard product offered to immigrants (potential demand) by the cooperative credit system (the potential offer). We asked microcredit organizations if the national banking system has any knowledge of microcredit in its operations, and if not how to justify the need of its existence.

When asked “in your personal experience have you ever noticed banking systems that approach a microcredit mentality?”, 36.84% of the sampled population replied yes, 57.89% no and 5.26% do not know.

Reasons given for positive responses are related to the presence of:

- Banca Etica (ethical bank) in the national banking scene is, according to many, the only bank close to the logic of micro-credit,
- the classic banks that, are locally committed to the success of these initiatives. Relevant aspect to the research is that almost all relationships have been closely connected with the BCC.

Operators who have considered the national banks as “close” to micro-credit banking experiences have acknowledged that in the long term, the interest of banks towards microcredit may decrease because of poor guarantee on economic returns and because of the high operating costs to assist the clients and for these reasons they have considered microcredit as an “unsustainable product” when not supported by public assistance funds (although this is at odds with the logic Grameen). Another interesting idea is to be found operating in the “confidi” (trust credits) as a link between the national banking system and micro-credit. The reasons which led the largest share of sampled population to respond negatively to the above question are of course related to the recipients of micro-credit, or the non-bankable, which are not because considered a greater risk, instead because of their inability to provide adequate effective or personal guarantees, hence the need for constant mentoring during the entire duration of the loan (a process which increases costs and decreases the product profitability). The degree of closeness, then, between the traditional micro-credit and credit is, in the opinion of the operators, discriminated by the number and quality of guarantees offered to support loans; therefore to improve the degree of bankability the presence of a third subject with the principal task of guaranteeing the loans (as usually happens, however, already today) seems a necessary step. In terms of cost, what affects the cumbersome operation of generation of a micro-credit is the definition of a “trustworthiness” process based on subjective prerequisites which, however, should be uniquely detectable by different operators of front-office. The standardization of the procedure and the identification of specific tasks to be undertaken by stakeholders, both in start-up phase of the relationship as well as during its duration, lead to useful economies of scale, economies of learning and act to consolidate the competitive advantages (Porter, 1999), which together with a diversified customer base (both in favour of retail and small corporate banks) should reduce the risks from micro-credit (Vikram, 2008). Getting into the heart of the inquiry and examining the nature of the responses to the question “Do immigrants, in your opinion, constitute a privileged target to devote more attention?”, there is a substantial equity between positive and negative responses. To facilitate the reading of the data we built a map showing the relations between the nature of the subject and the result of the response. This shows that within the categories “foundations” and “public bodies” there is an even bipartition between subjects whose privileged target for microcredit operations are the immigrants and subjects with no privileged targets and who think microcredit should be considered an instrument of social emancipation, i.e. for all those who find themselves in difficult situations. Of particular interest are institutions as non-profit organizations and onlus that see immigrants as the prime target customers in a bid to address micro-credit, in contrast with the MAG which disagrees with it.

Deepening the analysis, the reasons that have led the operators to see immigrants as a specific microcredit target, include:

- the strong connection between social integration and credit. Immigrants need access to resources at the arrival in the host country and at a time of family reunion; during the stages the probability of integration increases with the trustworthiness given by their funding agencies (usually specific projects by the municipal social services),
- a critical analysis of the current law (primarily the Bossi-Fini law), according to which the issue of a visa to live in the country relies on the duration of the employment contract. This is often part time and is linked to temporal patterns of mobility which are difficult to reconcile with the need for stability on behalf of the immigrants. This is where microcredit can help to overcome the instability problems and, more specifically, offer the opportunity of a self-starting business to immigrants;

- the presence of stable and well-established networks of relationships between members of specific ethnic groups or religions, which may allow the development of warranty institutions and able to ensure the smooth return of funds through the adoption of principles of social enforcement.

Immigrants privileged target	Foundation	Public Bodies	Enterprise	Onlus	Mag	Total
yes	2	1	3	3	1	10
no	2	1	1	1	4	9
Total	4	2	4	4	5	

Legend 25%<50%<75% ≥ 75% ≤ 25%

FIG.8: RELATIONAL MAP RESULT TO THE QUESTIONNAIRE (IMMIGRANTS AS A PRIVILEGED TARGET)

The last step is to understand the attitude of the operators to consider BCC (within the banking context) as intermediaries to implement new micro-credit projects and / or developing existing ones. The responses indicate a clear preponderance (73.68%) in favour of it. That statement means that the current operators of national microcredit are positive about the principles, objectives and achievements of the credit cooperation system in Italy (see Fig.9). This confirms the assumptions underlying the entire work and is demonstrated by the convergence of theoretical inspirations (identified by a critical analysis of scientific literature on the subject) and operational reality (that of micro-credit organizations in fact).

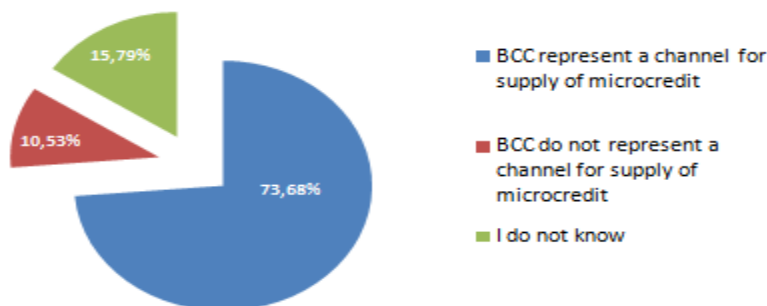


FIG.9: PERCENTAGE DISTRIBUTION OF INDIVIDUALS WHO CONSIDER BCC AS THE LEGITIMATE SUPPLIER OF MICROCREDIT

The recommendations can be summarized as follows: BCC could operate with the mentality and goals in line with the specific needs of applicants, in order to develop strong and positive micro-credit initiatives, working more effectively at proposal stage and with a greater presence in the network area (currently not fully covered by the structures of ethical finance). The nature of their work being inspired by principles of mutual aid, cooperatives and local authorities (at least on paper). Being banks as such they could then implement a standardized process to identify more beneficiaries, spread the risks and reduce costs.

Particular emphasis needs to be given to the answers offered by two operators who already work in concert with two different BCC and have affected the experience of the national microcredit positively. Specifically, we refer to the experience of 'Fondo Essere'(provision of social welfare) operating microcredit to the family and to cases of emergency, and Micro.bo, an ONLUS association founded to promote, knowledge and practice of microfinance in Bologna and its province (Quarta, Stefanizzi, 2008). From both responses it can be concluded that the partnership with the BCC give positive results both in economic and social terms to all the parties involved in the micro-credit relationship, in fact they are considered as best practice. The first representative of the organization has specifically stated that *"l'esperienza del rapporto con la Banca del Chianti Fiorentino (appartenente al circuito BCC) dimostra che è possibile coniugare le forme di tutela del sistema bancario con gli intenti solidaristici e di attenzione ai "non bancabili" del fondo di aiuto sociale Essere"*. The representative of the

second expressed the following: “l’esperienza di Micro.Bo è sicuramente un esempio in questo senso, infatti le banche che sin dall’inizio si sono dimostrate disponibili a collaborare con l’associazione sono due banche di credito cooperativo. Inoltre tali banche sono caratterizzate da un forte legame col territorio (caratteristica molto importante per il microcredito) e perseguono valori molto simili a quelli sottesi al microcredito stesso”.

Conclusions

The research showed that micro-credit in Italy is a rather recent phenomenon and is strictly related to the work of the Grameen Bank which aroused interest in the whole international arena. Moreover 2005 was recognized as the Year for International Microcredit. The establishment of RITMI, an association with great partnership potential in the cooperative credit system is growing in popularity and impact. This could increase the possibility to create a financial product with a high standardization that could be offered to a wider audience of unbanked individuals. There seems to be a positive relationship between MFI and public institutions, financial intermediaries and customers. Currently the target is very specific and initiatives are divided into specific area sectors. Since the turn of the century the phenomenon has evolved both in terms of number and volume of loans brokered. Its growth is similar to an exponential function, so the annual growth rates are very high.

While most of the initiatives were inspired by the work of Prof. Yunus, the principles that characterize most of the Grameen bank model have exerted little influence on the national operators. This is due to the breakdown of social relations typical of all developed countries and the scarcity of resources (both economic and personal) available to organizations. Consequently, the basis of the distinction between micro-credit and traditional banking lending has been found in the approach to the problem of inability to repay: basically the loaners communicate with the micro credit organizations in order to identify the causes that led to non-repayment and seek social and operational ways to overcome these, recurring to the forced return of the loan only as an extreme solution.

As a promotional channel the national microcredit organizations use regional / social associations and word of mouth as main communication tools. According to businesses and onlus organizations the immigrants represent a potential future target of micro-credit operations, whilst Mag have the opposite view. Finally, microcredit operators have given high recognition to the BCC to act as intermediaries within the banking context since they demonstrated to be highly capable to embrace the principles and pursue the goals of microcredit, thanks mainly to the positive experiences that can be regarded as best practice.

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End notes

¹ Other studies have been carried out in Italy, but just at a general level, since no specific topics have been discussed on this. See “Microcredito in Italia: la situazione in Italia e prospettive future”, IV International workshop of Ethical Finance, research carried out by Metamorfosi together with Lunaria e Associazione Finanza Etica (from which we found only a tiny excerpt on the internet: http://equonomia.it/articolo.asparticolo_codice=50).

² The paper on Microcredit, written by Borgomeo C. & Co and edited by Rubettino, reports that since 31/12/2003 103 programs have been surveyed, 77 of which are taking place. While gathering the statistic data, many of these have been grouped according to the organizational body, as it occurred for example to the Ethical Bank, various Mag, Fondazione Compagnia San Paolo Torino, Regione Lazio, etc.

³ Given a real scarcity of initiatives (both in terms of numbers and in terms of volumes), the difficulty to define “micro-credit initiative” and the complex work of collecting these data, the collective statistical corpus, constructed during the research, cannot be considered fully comprehensive.

⁴ In this case presenting the following limitations: abundance of the universe explored, little consideration given to the importance of statistical studies of persons belonging to different organizations, varied nature of the actors.

⁵ Caritas Reggiana, Comune di Torino, Comune di Venezia, ECIPAR Emilia Romagna, Fidi Toscana, Fondazione La casa, Fondazione Lucana Antiusura M. V. Cavalla, Fondazione San Carlo, Fondazione Toscana, Fondo essere - Quartiere 4 – Firenze, Mag 2 – Finance, Mag 4 Torino, Mag 6 - Emilia Romagna, Mag Roma, Mag Verona, Micro.bo, Microcredito di solidarietà, PerMicro.

⁶ In Italy, ethical finance focussed on so called unbanked found hitherto valid national operators in Banca Etica (which is not included in the sample considered, although it's response has been requested several times) and PerMicro.

⁷ MAG initiatives deal to raise money from shareholders in the form of social capital for economic self-managed fund initiatives providing opportunities for ethical and mutual funds, providing loans with interest rates favourable conditions return. An important objective is transparency in the internal management. Social participation is functional to people and not to the capital invested, for which every member has the right to vote and can participate in regular meetings as the meetings of the council. Often working in the cultural field also sponsoring and hosting of a socio-cultural projects at the local level. For more info, see the websites: <http://www.mag2.it/chi.htm>, <http://www.magvenezia.it>.

⁸ RITMI has recorded the different organizations into the following standard categories: financial intermediary, trust, no profit and public entities.

⁹ In this study we thought it was useful to consider “emergency credit” as a product offered by some organizations to address problems related to the loan shark practices. Although this problem often arises from financial difficulties of enterprises, the aim has been to support the individual rather than the company that he himself directed.

¹⁰ The internet website on the above mentioned financial support activities: <http://www.eif.org/jeremie> and <http://www.eif.org/attachments/about/JASMINE/JASMINE%20Flysheet.pdf>.

¹¹ In a nutshell credit risk is influenced by two components: the expected loss and unexpected loss, the latter resulting from the multiplication of EAD, PD and LGD (loss expected LGD = EAD * PD *), where EAD is the credit vulnerability at the time of insolvency, PD the probability of default, LGD rate of loss given default (equal to 1-RR, where RR stands for rate-recovery of the debt in default, positively influenced, as stated in the text, by the presence of guarantees).

Research on the Development of China's Carbon Finance

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Abstract

Global warming brought with it the rise of low-carbon economy. Carbon finance received wide attention as it's the key for the promotion of low-carbon economic development. Carbon finance refers to various financial institutional arrangements and financial transactions aiming at reducing GHG emission and transferring carbon trading risks, including not only the trade of carbon credit and its derivatives, investment and financing of the development of low-carbon programs, but also carbon insurance, carbon fund, and institutional arrangements of other relevant financial intermediation and the decision on the currency for carbon trade. Although China is a major supplier in global carbon trade, its carbon finance is still at the early stage due to the short period of development and lack of experience.

This paper analyzes the development of current international carbon finance, and finds out major problems in China's development of carbon finance by relating to the current situation, in order to make relevant suggestions based on our national conditions. The author hopes that the theory of finance could be enriched by analyzing and studying China's carbon finance market, and that this paper could serve as a reference for China's policy makers in practice, so as to promote the fast and sustained development of China's carbon finance market. Therefore, this study is of important theoretical and practical value.

Key words: carbon finance, carbon trade, financial innovation

Introduction

1.1 Background and meaning of this research

In recent years, developing low-carbon economy has gradually become an important strategic choice for countries in the world in pursuing economic recovery and sustainable development. While traditional financial service is facing many constraints and challenges, low-carbon economy is about to become a new profit point of financial industry. With the rapid growth of low-carbon economy, carbon finance—a relevant new type of finance—has also enjoyed fast development.

The rise of carbon finance originates from two important international conventions, namely the United Nations Framework Convention on Climate Change and the Kyoto Protocol. In order to cope with the threat brought by global warming, in June 1992, more than 150 countries formulated the UNFCCC, and set the target of reducing global GHG emission by 50% by the end of 2050. In December 1997, the Kyoto Protocol is a supplementary protocol to the UNFCCC and a concrete implementation guideline. It went into effect on February 16th 2005. Under the Protocol, developed countries (Annex countries) are required to meet the GHG emission reduction target within a certain period of time (2008-2012), that is to reduce their GHG emission by 5.2% from the 1990 level. In addition, the Kyoto Protocol set national targets for different countries, 8% for the EU, 7% for the U.S., 6% for Japan and Canada. The Protocol identified emission reduction obligations for its contracting parties, and defined three coordination mechanisms, namely Joint Implementation (JI), International Emission Trading (IET), and the Clean Development Mechanism (CDM) which is for trade between developing countries and developed countries. According to Joint Implementation, Annex countries could trade and transfer Emission Reduction Units (ERU), International Emission Trading allows Annex countries to trade their emissions (Assigned Amount Units, AAUs). Each country has its particular AAUs targets under the international convention, then they could trade the targets based on their own national conditions, in order to meet the emission standards. The Clean Development Mechanism allows trade between Annex countries and non-Annex countries, developed countries could acquire Certificated Emission Reductions (CER) by making project investment in developed countries or directing purchasing. The above mechanisms help all contracting countries to meet their emission reduction targets in a flexible way, thus giving birth to the booming global

carbon finance market. Countries are gradually building carbon finance policy supporting system, carbon finance market system and carbon finance organizational system.

At present, China's carbon financial market is still at the primary stage when people are not familiar with "low-carbon" and "carbon finance". Many people hold the view that rapid economic growth and the convenience of modern material life conflicts with environmental protection. As the largest GHG emitter and the biggest developing country, China will surely face more and more emission reduction pressure from the international community. Proactive energy conservation and emission reduction might cost more in the short term, but it will result in sustainable development in the long run. The development of carbon finance is receiving more attention from both China and the world at large. Carbon finance is the financial pillar for China's development of low-carbon economy. Developing carbon finance will not only help with China's transformation towards a low-carbon economy, it will also accelerate the economic restructuring. After China made its emission reduction commitment at the Copenhagen conference, different localities in China actively explored ways to develop the carbon emission and carbon trade market, and the banking industry actively studied and innovated low-carbon financial model, used green credit to promote the development of low-carbon economy and accelerated product innovation of the carbon finance market. We are more aware that developing carbon finance is a huge challenge as well as a historic opportunity for China's sustainable economic development and the development of the financial industry. However, China is still at the cognitive and primary stage, therefore, the development of carbon finance calls for the joint effort from all social sectors.

1.2 Literature review

The research and understanding of carbon finance is a gradual process. In 2007, the book *Carbon Finance: the Financial Implications of Climate Change* written by Sonia Labatt and White Rodney became the first book in the world that has a thorough description of carbon finance. In their view, the definition of carbon finance includes: a branch that represent environmental finance; exploration of financial risks and opportunities relating to carbon's restraint on society; expecting a market-based instrument for transferring environmental risks and accomplishing environmental goals. Starting from studying risks, they analyzed the regulatory risks and security risks of industries in coping with climate change, those of energy intensive industries in particular. That is, the carbon emission reduction regulatory policies for coping with climate change would bring corresponding challenges to these industries, thus bringing about image risks, legal risks and competitive risks for business. Carbon finance and services are invented to lower the above risks.

As carbon finance is becoming a hot topic around the world, China is doing more research on the issue of the development of carbon finance from different perspectives. At present, China's research on carbon finance is still at primary stage.

In *Carbon Finance: More Than An Opportunity* (2008), Yuan Ying introduced other relevant financial intermediary activities to enrich the concept of carbon finance. He pointed out that carbon finance refers all kinds of financial transactions relating to carbon emission, including the trade, investment and speculation activities of carbon credit and its derivatives, as well as investment and financing activities of the development of carbon energy program and other related activities such as guarantee and consultancy services.

In *China's Carbon Finance Development and Innovation Strategies of Carbon Finance Mechanisms* (2009), Wu Yuyu summarized four functions of carbon finance in coping with climate change, namely the cost-benefit transformation of emission reduction, the financing of transferring energy chain, management and transfer of climate risks and promotion of international trade and investment. He also pointed out in this paper that the main obstacles to China's carbon finance development lie in the following aspects: governments and domestic financial institutions lack adequate understanding of carbon finance, the intermediary market is not fully developed and there are many risks in the development of CDM projects. It is proposed in this paper that we should step up innovation of the financial market mechanism, including building a better trading platform, formulating effective incentive mechanism and actively promoting the internationalization of RMB.

In *A Bright Future for the Development "Carbon Finance" Commercial Banks* (2010), Ma Xiao pointed out that although domestic commercial banks adopted some actions in terms of carbon finance, they failed to reach the core. The banks lack deep understanding of CDM related professional knowledge, policies, laws and regulations. They are incompetent to carry out investment programs in this field. We have no mature regime, place and platform for carbon trade, no swap transactions, carbon securities, carbon futures, carbon funds and all

kinds of carbon finance derivatives of financial innovation, and no scientific and reasonable interest compensation mechanism. Therefore, China could not contend against international financial institutions, thus we are facing the severe challenge brought by global carbon finance and the lack of its pricing right. In his view, China's commercial banks should expand intermediary services and project development services, play the role of financial consultant and gain commission charges by providing consulting services. In the meantime, we should actively search for target customers suitable for the development of CDM project so as to greatly expand credit services on energy conservation and emission reduction.

The Current Development of China's Carbon Finance Market

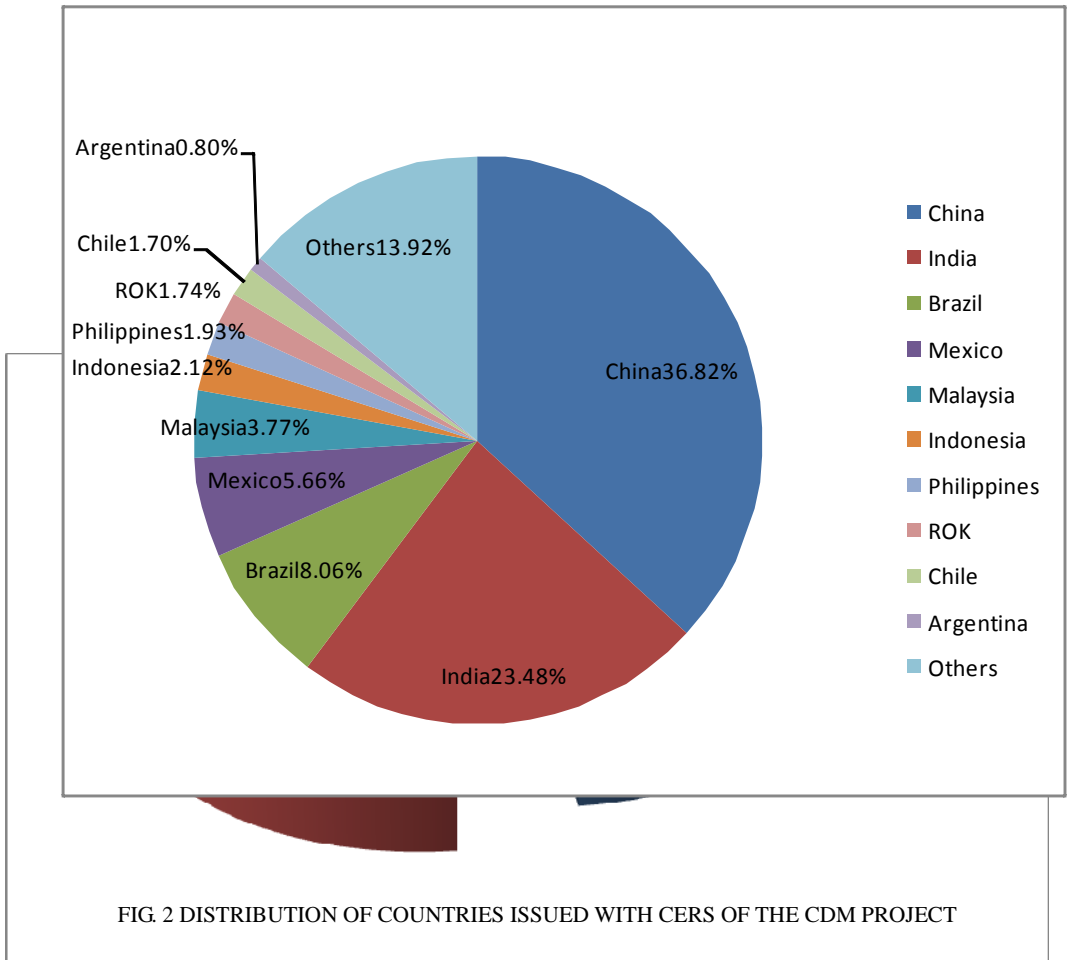
2.1 The CDM market is getting mature

At present, China's carbon finance activities mainly refer to financial activities relying on CDM. China has become one of the major countries dealing with CDM project trade. According to the statistics from the website of the UNFCCC (<http://www.unfccc.int>), as of March 31th 2010, 2121 CDM projects have been authorized registration globally; CERs issuance went up to 397 million tons of CO₂ equivalents. China successfully registered 781 projects (see Table 1), accounting for 36.82% of the total (see Fig. 1); China's CERs issuance was around 190 million tons of CO₂ equivalent, and the accumulated CERs issuance accounted for 48.21% of all the CDM projects (see Fig. 2). The International Energy Agency predicted that by 2020, China's potential CO₂ trade will reach 800 million tons, far outperformed other potential suppliers.

TABLE 1 REGISTERED CDM PROJECTS AND CERS ISSUANCE OF HOST COUNTRIES (AS OF MARCH 31TH 2010)

CDM country	host	Registered projects	CERs issuance (CO ₂ equivalent)
China		781	191424332
India		498	78086893
Brazil		171	39775445
Mexico		120	6253753
Malaysia		80	708028
Indonesia		45	325800
Philippines		41	95428
ROK		37	52666789
Chile		36	4702659
Argentina		17	3636822
Others		295	19422274
Total		2121	397089223

Fig. 1 distribution of registered CDM projects in host countries



In addition, in terms of the R&D of carbon structural products, Shenzhen Development Bank of China launched a wealth management product which pegs to CO₂ in both RMB and the US dollar in August 2007, and the basis asset was the CO₂ credit futures contract price of the EU's second commitment period. Beijing International Trust Co., Ltd. set up a low-carbon wealth and circular energy No. 1 collective fund trust plan, in which all the trust funds are used to provide loans to Erdos Tiankehua Energy Conservation Development Co., Ltd. Senior/subordinate structure was set in this trust plan, and various high return expectations were set according to different investment scales and financial management deadlines. In July 2009, Shanghai Pudong Development Bank took the lead in the domestic banking industry to have successfully introduced professional CDM development and trade institutions for two 70,000 kw hydropower programs in Shaanxi Province by using the exclusive financial consultant method. This brings annual extra carbon credit revenue of at least 1.6 million Euros for the owners of the program.

2.2 Trading platform are being built

Environment Exchanges have been built around China since 2008. China Beijing Environment Exchange,

Shanghai Environment & Energy Network and Tianjin Climate Exchange began to take shape, and they have actively explored new ways in terms of VER spot transaction. China Beijing Environment Exchange is a franchised entity whose establishment was approved by the Beijing Municipal Government. Its goal is to become a platform for value discovery and market trade of domestic and international environmental rights and interests. Since its inception, it has launched Panda Standard- the first VER standard in China, and VER trading market. It issued the first low carbon index in China, namely China Low Carbon Index (CLCI), and launched the first China contract energy management investment and financing trading platform in the world. Shanghai Environment & Energy Network is a professional equity capital market service platform which integrates the trading service of real right, bond, equity, IPR and other rights of the environment and energy field. It is committed to carry out broad exchanges and cooperation with abroad companies in terms of contract energy management and emission trading. It also actively built a CDM project information service platform and opened a South-South Global Environment & Energy Trading System. Tianjin Climate Exchange is located in the Binhai New Area of the City of Tianjin, it is the first national comprehensive emission trading institution under the requirement of the development of the CDM and emission trading market. It is committed to do works related to COD, GHG emission trading, energy trading and provide relative consulting service. It is an international trading platform that uses market forces and financial innovations to promote energy conservation and emission reduction.

Apart from these three major trading platforms, other environmental trading platform have also been put into place in other localities in China, such as Hangzhou Property Exchange, Jiaying Emission Conservation and Trading Center and Changsha Environment & Resource Exchange.

2.3 Carbon finance organizational service system is being built

China's carbon finance organizational service system is far from completion yet, however, over the past several years, domestic commercial banks began to develop carbon finance business, and they tried to participate in the carbon trading market. There has been some progress in this regard, mainly manifested in "green credit", CDM financial consultancy and the innovation of carbon finance wealth management products. In May 2006, Industrial Bank Co., Ltd. joined the Equator Principles, becoming the first bank to have implemented green credit service. As of September 30th 2009, 35 branches of Industrial Bank have handled 146 energy conservation and emission reduction loans, with a total value of 9.237 billion RMB Yuan, saving about 6 million tons of standard coal. Besides, China Merchants Bank, Shanghai Pudong Development Bank, China Minsheng Bank and other banks have launched many new green credit business models, mainly including project corporate financing model, financial leasing model, credit model under CDM, production increasing credit model for energy conservation and emission reduction equipment manufacturers, credit model for public service providers. In terms of the innovation of carbon finance wealth management products, Bank of China and Shenzhen Development Bank have made innovative breakthroughs in the wealth management products pegged to carbon emission credit, and issued wealth management products pegged to carbon emission trading. On July 20th 2007, China Green Carbon Fund was founded to promote afforestation activities for CO₂ fixation. This Fund is financed by multiple channels such as the government, multilateral institutions and private sectors. It participates in carbon emission trade and transactions. On November 9th 2007, China Clean Development Mechanism Fund was officially established. It is in charge of the collection, raising, management and use of the fund.

2.4 Policies on carbon finance are being mapped out

Policy support is an important pillar for the development of carbon finance. A policy supporting system for carbon finance should include carbon finance market policy, carbon finance organizational service policy, and carbon finance regulatory policy and so on. The Chinese government has issued pilot policy on national emission trading market and green financial policy for the banking industry. These policies are relatively scattered and lags behind the development of carbon finance, however, the state and local governments are working on the issuance of relative policies.

Major Problems for China's Carbon Finance Development

3.1 Problems in the carbon finance market

China's carbon finance development is still at the primary state. We don't have adequate understanding of the concept of "carbon finance". Many Chinese companies haven't realized the great business opportunities brought by it, and domestic financial institutions are not familiar with the value, operational model, project development and trading rules of carbon finance. At the same time, China's carbon finance trading bodies' bargaining ability is weak. Because Chinese companies don't have pricing rights when negotiating with international buyers, the knockdown price is usually far more less than the price of the international market. In addition, compared with other ordinary investment projects, CDM projects need more complicated procedure for examination and approval, which leads to longer development cycle, more risks and extra trading costs. The development of carbon finance still faces many risks, such as credit risks, market risks and operational risks. The lack of effective risk sharing and aversion mechanism also hampers the development of carbon finance.

3.2 Problems of carbon emission trading

In the past two years, exchange trading platforms have been set up across the country. Given China's current situation, the establishment of environment exchange platforms represents the performance of governments in developing low-carbon economy and potential local and governmental interests. With governmental support, some not qualified localities are also eager to have a try, and set up regional exchange platforms without considering the cost. Segmentation of exchange platforms has become a definite trend. Besides, comparing with the U.S. and the EU, the major Chinese exchange markets lag far behind in terms of both scale and function. The carbon trade carried out by China's environment exchanges has limited number and scale; it is the same with both CDM projects and VER trade. Take the exchanges in Beijing, Shanghai and Tianjin for example; they carried out only a few VER deals one year after establishment, which bear more symbolic meanings. China's carbon trade market is still in an exploratory stage on the whole, without giving full play to price discovery and serving as market trading platforms.

3.3 Problems in the carbon finance organizational service system

3.3.1 Insufficient participation of financial institutions

Although China's financial organizational service system has been well-built, there are still no carbon finance institutions such as carbon banks, carbon funds, carbon asset management companies, carbon brokerage companies and carbon rating companies. In the meantime, China's financial institutions participation in carbon finance is not profound and extensive enough, and the development is too slow. Commercial banks have few cases to consult or finance for corporate with the goal of developing carbon finance. There is almost no financial service in terms of direct financing for carbon emission reduction project, participating in international carbon trade and providing consulting services to corporate CDM projects' recognition of the UN. There are more blanks to fill in various financial derivatives and service support such as carbon swap trade, carbon securities and carbon fund.

3.3.2 Single carbon finance product

Although domestic financial industry has set foot on carbon finance, grasped financial innovation opportunities on climate change, and new achievements have been made in the formulation and implementation of green credit policies, the development of energy efficiency loans and products pegged to carbon emission, the current carbon finance is mainly focusing on developing credit with a small proportion of direct financing. There are rarely other forms of financing besides working capital loans and project loans. When it comes to the fostering of domestic emission trading market, China has already began to adopt domestic carbon trade and other varieties of emission trade, but it covers few varieties and the market scale is small. In particular, restrained by the pollution characteristics of emission trading varieties and the separate model of environmental management system, it is difficult to conduct trans-regional trade. The lack of a sound pollution discharge fee system led to the slow development of environmental trading market. On the whole, these carbon finance products and service innovation only have local significance, and they failed to match the potential of China's carbon market development in terms of depth, breadth and scale.

3.3.3 Incomplete development of intermediary market

Carbon credit under the CDM mechanism is a virtual commodity, which has strict trading rules, complex

development procedures and long contract period, and its sales contract involves overseas clients, therefore, non-professional institutions hardly have the ability to develop and execute such projects. In other countries, the evaluation of CDM projects and the purchase of emission credit is done mostly by intermediary institutions, but in China, since the domestic intermediary institutions are still in the infancy stage, it is difficult for them to develop or take in a large number of projects. Moreover, there is no professional technological consulting system to help financial institutions analyze, evaluate and evade project risks and trading risks.

3.3.4 Shortage of carbon finance talents

The effective promotion of carbon finance business needs those financial institutions with sound and sophisticated departments, so as to do all the necessary preparatory work such as the research and design of carbon finance products and the formulation of business process. Most domestic financial institutions don't have departments specialized in this regard. Compared with traditional financial business, carbon finance business relies heavily on interdisciplinary talents who have the professional knowledge of chemical industry, finance, law, foreign language, management and so on. These people should not only be familiar with basic financial knowledge and its operational rules, but also need to know well the state industry policy, energy policies and laws, energy-using equipment and features, industrial processing technique and technical regulations. Furthermore, they should be familiar with corporate energy audit, project engineering estimate and budget organization, corporate energy-saving projects or energy-saving consultation. At the moment, China doesn't have an adequate reserve and accumulation of such interdisciplinary talents, and the shortage of inner institutions and talents in the financial industry led to less momentum for the promotion of carbon finance business.

3.4 Lack of policy hampers the fast development of carbon finance

For the perspective of policy support, the major problems are as follows. First, in developing low-carbon economy and carbon finance, China faces huge external pressure and little internal dynamics. The promotion of the low-carbon concept in China is top-down, namely the state formulate policies to propel the participation of enterprises, local governments and the general public. However, different governmental agencies and governments at all levels don't pay equal attention to low-carbon economy and carbon finance, and many governmental agencies that provide policy support don't fully understand low-carbon economy and carbon finance. What's more, they don't know when to issue a policy or what kind of policy should be issued. Second, financial policies didn't play a guiding rule. For example, of the 4 trillion RMB yuan investment plan of the state, 210 billion is earmarked to low-carbon economy, only more than 5% of the total investment. As another example, many enterprises with registered CDM projects are asset-light technology service companies with little asset, small operating revenue, weak balance sheet and not no traditional security guarantee conditions. Because there is no relevant incentive policies, and that they couldn't get bank credit or other financing support, they lost development opportunities. Third, financial incentive policies are not in place. Many low-carbon projects are not qualified to get bank credit or investment from private equity or venture capital. To debottleneck the financial problems, the government should provide policy support and financial guarantee support to the tax reduction of relative low-carbon projects. The financial authority should take the lead to boost economic growth. Forth, the government didn't guide the use of public fund. At present, most governments haven't set up governmental guidance fund. The government should guide private capital to make investment in the low-carbon field by means of well-leveraged government mechanisms. Fifth, the government hasn't done research on the regulatory policies of carbon finance. The development of China's carbon finance market will to very fast. Like the development process of any market, a large number of carbon finance risks will be generated. To meet this challenge, the government needs to take precautions beforehand and do research on the regulatory polices of carbon finance as soon as possible.

Strategies and Suggestions on China's Development of Carbon Finance

4.1 Gradually improving CDM trading market and building international carbon trading system

Based on the current domestic carbon finance development, China should build a VER mechanism, vigorously develop domestic VER market, press ahead with emission reduction activities within the system and promote the full use of clean energy, so as to realize effective environmental protection and sustainable economic and

social development. We should first build VER platforms based on local exchanges, and carry out VER pilot to accumulate experience. Subsidies, tax preference, protective price and low interest loans should be given to the emitters voluntarily participated in emission reduction trade in order to low the cost for emission trade. All the qualified emitters could participate in the emission trading market. The vigorous development of the VER market will gather experience for China's transition towards a compulsory emission reduction market with limited total trade volume. In the meantime, China needs to gain more pricing rights in international carbon trade and learn from international carbon trade mechanism to further explore emission quota system and develop emission quota trading market. We should identify the function of price in financial market and adjust the interests of various economic bodies. We should encourage and guide the optimization and upgrade of industrial structure and the transformation of economic growth pattern. We also need to effectively distribute and use national environmental resources to better conserve energy, reduce emission and protect the environment.

4.2 Building trading platforms and integrating carbon trading market

China should build an integrated trading platform and trading mechanism to gradually unify the domestic carbon trading market, and prevent the worsening of the situation caused by exchanges. At the moment, on the basis of the establishment and development of China Beijing Environment Exchange, Shanghai Environment & Energy Network and Tianjin Climate Exchange, we could start to press ahead with the improvement of the exchange system and expand the scope of the participants.

4.3 Drawing on international experience to innovate the carbon finance organizational service system

China need to let banks play the central role to accelerate the development and innovation of carbon finance products. For example, banks could try to launch liquid fund that is pegged to low carbon consumption and environmentally friendly companies, so that investors could follow the performance of these companies in the market. The banking industry could also tray to provide "carbon banking" service to the VER market, which means banks start to register, entrust, clearing and settlement of carbon credit for the development of the VER market. China could draw upon successful experience from the EU, the U.S and other developed countries. We could develop series of financial derivatives to meet the market participants' need of hedging, thus realizing the transition from basic products to derivatives, such as guarantee business (like providing letter of guarantee) and arbitrage trading.

At the same time, China needs to strengthen the building of intermediary institutions and the cultivation of professional talents. On the one hand, the government needs to implement special policies to recruit top-level talents on carbon finance, and pledge to give priority to the introduction of top-level talents needed by carbon finance corporate. On the other hand, together with universities and other research institutions, the government should pay attention to the cultivation and training of carbon finance talents. For example, setting up carbon finance courses or defining research directions, special allocated training fund by the government, organizing professionals to give training courses to government officials, enterprise employees or staff of financial institutions on low-carbon economy and carbon finance. We need a number of comprehensive talents who not only know the operation of carbon finance but also know the Chinese market, in order to meet the needs of international financial institution for such talents in implementing localization strategies.

4.4 Building a supporting policy system for the development of carbon finance and effective stimulate the development of financial market.

The development of carbon finance needs matching legal arrangements, therefore, the government needs to set up a legal framework for the development of carbon finance, which includes full trading system of carbon emission, financial regulatory system and so on, so as to create a stable institutional environment for the development of carbon finance. In the meantime, effective incentive policies are necessary methods of the government to support the development of carbon finance. In terms of financial policies, we could interest subsidize interest payment of green loans for the development of low-carbon industry in need, it could also improve the economic intensity of the projects by reducing tax rate of carbon finance projects and prolong the tax holidays. In terms of monetary policies, we could adopt differentiated regulatory measures such as properly reducing or exempt reserve requirement within the loan limit of carbon finance project, giving more floating margin to the project loan rate and lowering the loan capital fund requirement of carbon finance project, in order

to make the business of financial institutions lean towards carbon finance. In terms of foreign exchange management policy, we should open a green channel for carbon finance, and enlist the free flow of cross-border carbon capital as an antecedent goal for the gradual realization of the convertibility of the capital project, thus to promote foreign capital to flow to low-carbon industry.

Conclusion

Low-carbon economy has become an irresistible trend of the times, and it is also a strategic direction for China to change economic development pattern and realize sustainable economic and social development. Under the framework of low-carbon economy, financial activities related to carbon emission are not only indispensable, but have also become a huge market. As the largest GHG emitter in the world, and with the improving overall national strength, China will eventually take on its due tasks to reduce GHG emission, and play a more important role in the global climate issue.

China's development of carbon finance just took off, and relevant theoretical researches just get to the start. There is a huge gap between us and the EU and the U.S. in terms of developing carbon trading market. To close this gap, Chinese commercial banks need to seize this precious opportunity, and use all kinds of measures to promote carbon finance practice and support low-carbon economic development. The academia needs to step up effort in research and provide great intellectual support for the development of low-carbon economy and carbon finance. What's more, the government needs to actively provide effective guidance, and use legal, economic and social methods to make the concept of low carbon and carbon finance fine their way into people's hearts. The government should also guide enterprises and individuals to be self-disciplined, so as to create a sound market environment for the development of carbon finance.

Carbon finance has become a competition battlefield for international financial institutions. Strengthening innovation of the carbon finance market mechanism is an inevitable trend. The author believe that as long as China focus on cooperation and all-win on the basis of its own economic condition, and form a domestic development strategy, it will surely promote the development of carbon finance, and China will gradually set up a carbon finance development model with Chinese characteristics.

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“Japanese knowledge management, culture, standardization and adaptation”

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Abstract

An important competitive advantage of multinational companies is their access to local knowledge through their subsidiaries. However, this advantage goes to waste if the multinational company is unable to coordinate knowledge transfers from the diverse cultures of the local subsidiaries. Cross-Cultural knowledge transfer promises fertile outcomes, yet MNCs need to decide whether to adapt to local knowledge management styles or standardize their knowledge management systems. This paper poses the question of standardization versus adaptation for a sample of Western MNC subsidiaries in Japan. The Japanese culture has been characterized as particularly complicated to match with Western culture regarding knowledge management. This research examines the practices of Western MNCs in Japan. The influence of Japanese knowledge management culture on Western MNCs, whether they adapt to it or introduce standardized mechanisms to avoid deviant methods, is analyzed by processing 40 interviews with employees of 7 Western MNCs in Japan.

1. Introduction

In knowledge management, culture is a fundamental issue. Cultural influences can foster its success or impede it. Although the assumption that national characteristics reflect on knowledge regimes of diverse cultures is not new (e.g. Jin, 2001: 164), there is no agreement about how exactly national cultures influence knowledge management (especially knowledge transfer). This paper aims at closing this knowledge gap to some extent. Ang and Massingham introduced a framework which enables multinational companies (MNCs) to make an informed decision about whether to adapt or standardize their knowledge management and thus improve competitive advantage (Ang & Massingham, 2007: 6). This framework will be applied to MNCs in Japan to analyze how knowledge transfers are influenced by cultural factors in this environment. The Japanese knowledge culture and its type of MNC knowledge transfer has been categorized as a “horizontal collectivistic culture” (Bhagat, Kedia, Harveston, & Triandis, 2002: 213-215). A qualitative study has been conducted with employees of 7 MNCs in Japan to shed light on their knowledge culture (40 interviews), as perceived by Japanese employees as well as non-Japanese employees. Their examples of knowledge transfers give insight into the strengths and weaknesses of the Japanese knowledge culture and how it is embedded in these foreign MNCs in Japan. A decision towards standardization versus adaptation of knowledge management in accord with national cultures is a complex problem. This study focuses on culture as one inhibiting or proffering factor of knowledge transfer in the Japanese context. The results reveal that culture influences knowledge management in various ways. The practices of the 7 MNCs in this study reveal that sharing and transferring of knowledge in Japan does not correspond with common stereotypes of Japanese knowledge styles (for example group/relationship orientation, importance of tacit knowledge).

2. Cross-cultural knowledge transfer, its merits and barriers and the case of Japan

The supposition that culture is an important influence on any action in an MNC is rather trivial. Examples for cross-cultural challenges are plenty (e.g. Nakata, 2009). What is culture in an organizational or MNC context? What does

culture mean for knowledge in MNCs? These questions lie at the bottom of any investigation into the topic of cross-cultural knowledge transfer and thus intra-MNC knowledge management. Indeed, knowledge management must not be restricted to a mere transmission of information, it potentially fulfils a mediating role in connecting organizational context and strategy with organizational effectiveness (Zheng, Yang, & McLean, 2010). Culture in the organization can mean either the organizational culture which has been developed by the MNC itself or the national culture, which influences the diverse subsidiaries of the MNCs. More precisely, one would have to speak of “multiple cultures”, considering the fragmentation and multiplicity of cultures in organizations (Moore, 2009: 201). The overall definition of culture can be phrased as follows: “Culture represents a core set of values” (Lucas, 2010: 423) employees have. But every employee also has a set of values which stem from the national culture. Obviously, multiple sets of values may collide in certain situations. “Culture” has been defined in many ways, stretching the term beyond values (e.g. Taras & Steel, 2009: 40). Culture has other dimensions such as human nature, relations to nature, activity orientation, human relationships, relations to time and space (Möller & Svahn, 2004: 222). The well-known studies of Hofstede have made a set of cultural dimensions popular in the business research canon (Hofstede, 1991). The surveys he and his colleagues carried out in the 1960’s and 1970’s with data from IBM were the first attempts to measure culture in an international business context. Other researchers have also developed cultural dimension typologies (e.g. Hall, Trompenaars), but the most prominent is Hofstede’s (Tipton, 2009: 147). The five cultural dimensions: small/large power distance, individualism/collectivism, masculinity/femininity, weak/strong uncertainty avoidance and short-term/long-term orientation (“Confucian dynamism”) have been used under many aspects in various research projects (for an overview see Fang, 2003). Although Hofstede’s National Culture Dimensions themselves and the research design have been criticized considerably (e.g. Fang, 2003; Tipton, 2009), the Hofstede terminology remains popular. Especially the distinction of individualist and collectivist cultures is well accepted in business literature today, thanks to its adaptability.

Many studies focus on one of the Hofstede dimensions, often in combination with the distinction of horizontal and vertical orientation. This construct originates from the social sciences and is mainly utilized as a pure dichotomy (Triandis & Gelfand, 1998: 118). While this distinction may be disputable (e.g. Kimmelmeier, et al., 2003), this study consents, for the sake of clarity, with the classical understanding of the terms. Societies which emphasize interdependence between the self and the group are described as “collectivist”, whereas societies in which the individual counts more than the interests of the group are “individualists”. “Horizontal” describes societies in which the emphasis on hierarchies is low (for example Australia, Denmark, Sweden), “vertical” describes societies in which hierarchies are very important (for example China, India, Japan) (see Bhagat, et al., 2002; Triandis, 1995). These two orientations combined with individualism/collectivism have resulted in the following typology:

<p>“VI” = Vertical Individualism (France, Germany, United Kingdom, United States)</p> <p>“VC” = Vertical Collectivism (China, India, Korea, Singapore)</p> <p>“HI” = Horizontal Individualism (Australia, Denmark, Sweden)</p> <p>“HC” = Horizontal Collectivism (Japan)</p>
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TAB. 1 THE VI/VC/HI/HC CATEGORY SYSTEM (SEE MÖLLER & SVAHN, 2004: 223, FIG. 2 CULTURAL PATTERNS)

Obviously, this typology should not be understood as a rigid determinism. The categories represent tendencies of the named societies. It would be mistaken to use these categories for any type of generalistic declarations. Nevertheless,

culture does matter and the VI/VC/HI/HC category system can be useful, especially where knowledge transfers are concerned. The cultural background influences a person's processing of information (Bhagat, et al., 2002: 208). Bhagat et. al. recognized this fact and drew the consequences for multinational businesses. Employees from different subsidiaries will treat knowledge in a culturally affected way. Different kinds of knowledge and information will be treated differently in varying countries. The relative emphasis of different facets of knowledge by people of the four different cultural patterns has been identified as:

Individualist cultures (VI, HI) = tendency towards independent, explicit knowledge
Collectivist cultures (VC, HC) = tendency towards systemic, tacit knowledge

TAB.2 THE VI/VC/HI/HC CATEGORIES AND KNOWLEDGE (BHAGAT, ET AL., 2002: 210-212)

In his study on sectoral patterns and national competitiveness of nations, Jin described these attitudes towards knowledge as “knowledge regimes” (Jin, 2001). The two mirror image nations regarding knowledge and information are the USA and Japan: “[...] because of its penchant for autonomy and independence, the USA values highly explicit, scientific, objective, quantitative, analytic, and professional knowledge. Antithetically, Japan prefers highly tacit, intuitive, inter-subjective, qualitative, synergetic, firm-specific, and relation-specific knowledge” (Jin, 2001: 56). These two antithetic views are the result of the two underlying philosophies. The dominance of separate knowing in Western societies is based on Western philosophy. It emphasizes the disembodiment of mind from body and thus the known from the knower (Jin, 2001: 81). Only independent, analytic, explicit knowledge is seen as valuable. On the other hand, Eastern philosophy legitimizes tacit, personal, contextual, and intuitive knowledge. Disconnected knowledge is not valuable, but rather “connectual” knowledge is emphasized (Jin, 2001: 86).

In an MNC, employees from different cultural backgrounds work together. Knowledge management is one, maybe the most significant function of an MNC, where cultural patterns surface. People from all four categories need to work with one another. Empirical evidence has shown that the compatibility of these cultural patterns varies drastically (Bhagat, et al., 2002: 210-215). Bhagat et al. have ranked the difficulty of cross-border transfers of organizational knowledge as follows:

1 (less difficult to transfer in either direction)	=	VI - HI, VC - HC
2 (more difficult to transfer in either direction)	=	VI - VC, HI - HC
3 (most difficult to transfer in either direction)	=	VI - HC, HI - VC

TAB. 3 THE VI/VC/HI/HC CATEGORY SYSTEM AND MUTUAL TRANSFER DIFFICULTY (SEE BHAGAT, ET AL., 2002: 212, FIG. 2 CROSS-BORDER TRANSFERS OF ORGANIZATIONAL KNOWLEDGE AMONG FOUR CULTURAL PATTERNS)

According to Bhagat et al., four of the couplings are less or moderately difficult. Two couplings are particularly problematic: knowledge transfers between VI-HC and HI-VC countries. These are: Germany/US – Japan and Australia/Denmark – China. This study will now focus on one of the particularly problematic couplings: Germany and Japan.

The emphasis on tacit knowledge in Japan has been confirmed by Japanese authors. Primarily Nonaka has dealt with the phenomenon (see Nonaka, 2004; Nonaka & Takeuchi, 1995; Nonaka & Teece, 2001; Nonaka & Toyama, 2004;

Nonaka, Toyama, & Hirata, 2008; Nonaka, Toyama, & Konno, 2001). Japan has been characterized as a “horizontal collectivist” (HC) country, the only national culture of this type. For a Western MNC, this means that the knowledge from the Japanese subsidiary will be very different from those from other subsidiaries. The potential merits of this knowledge source are palpable. Indeed, several booms of “learning from Japan” came and went in international business literature since the 1980s (e.g. Haghirian, 2010; Schaede, 2008). However, the transferability of this “unique” knowledge base remains doubtful (e.g. Recht & Wilderom, 1998). The question for MNCs in Japan is how to learn from the Japanese staff. Is a standardized system throughout the MNC better apt or should the MNC adapt its mechanisms to the local knowledge regime? When Germans and Japanese work together, a Western knowledge regime and an Eastern knowledge regime collide. Germans tend to emphasize explicit knowledge, such as hard facts. Meanwhile, Japanese tend to favor systemic and relational knowledge. The German style is characterized as “vertical individualism” (VI). They are most comfortable with knowledge which can be easily codified and which stands independently of its context. The Japanese, on the other hand, put emphasis on “ingroup goals and norms”. Consequently, the knowledge they usually transfer and share is interdependent and contextual (Bhagat, et al., 2002: 212). Transferring knowledge between the two groups of VI and HC hence becomes a challenge.

3. Strategies for cross-cultural knowledge transfers in MNCs, adaptation and standardization

MNCs have various means to control knowledge transfers. The knowledge management strategy of an MNC generally boils down to two options: adaptation or standardization of knowledge transfers. Ang and Massingham define the two terms: “Standardization refers to a common approach to business throughout the world, while adaptation requires a different approach in each market”(Ang & Massingham, 2007: 6). If the MNC sees itself as an interorganizational network (Ghoshal & Bartlett, 1990), the consequence will be that every subsidiary is free to adapt to its local market. But if the independence of an MNC subsidiary is taken too far, the connection to the rest of the organization may become loose. Then the whole of the MNC does not profit from the local knowledge this subsidiary has gathered anymore. This threat of separation from the rest of the MNC makes the opposite strategy of centralization and standardization of operations more appealing. Centralization of operations has many positive impacts like synergies and easier coordination. But the downside to centralization is a lowered willingness to share knowledge (e.g. Minbaeva & Michailova, 2004: 663). Subsidiaries may be unwilling to give knowledge to headquarters because they do not see an advantage in sharing for themselves. The adaptation versus standardization decision is important regarding the MNC organization itself (Bartlett & Ghoshal, 1998). But empirical research on this decision for MNC knowledge management is still limited (Ang & Massingham, 2007: 5). Ang and Massingham posed the question how this decision can be addressed effectively by MNCs. They developed a four-step model to identify appropriate decisions for adaptation versus standardization in international knowledge management (Ang & Massingham, 2007: 15). The decision process starts with the examination of local knowledge management activities. If they are effective, they are too valuable to replace with the standardized version. If they are not effective, they will be replaced. The factors affecting knowledge transfer in MNCs can be segmented into 11 categories: cultural factors, organizational factors, leadership, forms of ownership, strategic similarity, incentive based learning capacity, partner protectiveness, human resource management practices, organizational culture, individual factors (absorptive capacity) and knowledge transfer capacity (Ang & Massingham, 2007: 13). Focusing primarily on the cultural factor, a difference in knowledge management can be expected in the case at hand (of VI-HC transfers of knowledge). In either direction, the knowledge transfer is difficult, friction and barriers abound. A standardization or adaptation of the local knowledge management activities may ease the exchange. But which style should be adapted to? German headquarters’ VI-style (standardize) or the Japanese subsidiaries’ HC-style (adapt)? The difficulties of knowledge creation and knowledge transfer do not affect all national cultures in the same way (Ang & Massingham, 2007: 12),

therefore the decision for a whole MNCs can have four outcomes in the subsidiary units: adaptation and success, adaptation and failure or standardization and success, standardization and failure (Ang & Massingham, 2007: 17). Apparently, the combination of national cultures involved in the knowledge transfer is critical for a right decision. While in other business units such as marketing or strategy, this decision is measured by the amount of pressure to either reduce costs or be market responsive, this logic seems inappropriate in the case of international knowledge management. Cultural responsiveness of a national culture and scope economies are proposed by Ang and Massingham to capture the necessities for an international knowledge management decision. The dimension “scope economies” includes an approach to resolve barriers in knowledge management while “cultural responsiveness” addresses the cultural awareness needed. Appropriate and inappropriate adaptations can be analyzed in detail by reviewing the processes and sub-processes of knowledge management. Yet, the deciding parties will always have their personal cultural background influencing their decisions. Voices from practitioners will now be examined to elucidate the case of VI-HC international knowledge management activities.

4. Qualitative interview analysis of Western MNC subsidiaries in Japan

40 interviews are the source of this research. The 40 employees of Western MNCs have been interviewed in 2008 and 2009 in the course of a dissertation project on knowledge transfers in diverse MNCs. The interviewees responded to a semi-structured interview guideline with focus on knowledge management and knowledge transfers in their MNCs (Wilhelmy, 2010). The issue of culture and cultural differences was addressed frequently, especially in connection with knowledge sourcing from headquarters and other subsidiaries. Because the MNCs did not want the interviews to be recorded, the interviewer made handwritten notes. These notes have been entered into the qualitative research software NVivo8 and coded systematically. The following codes have been used:

<p>Japanese knowledge management and culture</p> <p>Japanese KM, Learning from Japan, Japanese Marketing and Market, Working in Japan</p> <p>Non-Japanese knowledge management and culture</p> <p>German KM, U.S. KM, Working with Westerners in Japan</p>
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TAB.4 FREE NODES USED IN NVIVO8

The interviewees are mainly German (19). But Japanese (16) and other nationalities (5) have also added their views to the topic. The interviews on the topic of knowledge transfers within the MNC in general and specifically in the Japanese subsidiary of a German or U.S. have been analyzed concerning the adaptation or standardization decision and whether this decision was appropriate for this subsidiary or not. In Ang and Massingham terms, the appropriateness of this decision is measured by assessing whether “scope economies” pressures or “cultural responsiveness” pressures are more prevalent. The aim of this research is to show how the VI-HC works, which factor are inhibiting and which factors are positive for knowledge transfers and sharing. In addition, the advantages and disadvantages of the Japanese knowledge management style for Western companies will be identified to finally produce deciding factors for an adaptation or standardization decision. The major observations made in the interviews will now be portrayed with examples.

The general attitude towards knowledge management can be described as a demand from headquarters. The “exchange” of knowledge really is headquarters demanding knowledge in the form of market information, sales reports and other data which subsidiaries have to deliver. Not only Western, but also Japanese and other nationalities mentioned this data delivery as the form of knowledge management which they are most familiar with. In more positive words, this common ground of an identification of the subsidiary colleagues can be interpreted as a step towards a feeling of togetherness enabling knowledge exchange between VI-HC cultures. Especially Western interviewees often described the knowledge headquarters want to source from them as a burden, causing a lot of work. They did not see the reports they have to make for headquarters as beneficial to themselves, only as additional work with no benefits. “Knowledge management” was therefore often viewed negatively, because no benefits of this work were communicated to the subsidiaries.

Relationships and group thinking were characterized as being special about Japan and the Japanese style of knowledge management. Winning the trust of the coworkers was seen as fundamental before one can expect to exchange knowledge with the Japanese workers. This estimation corresponds with the style of knowledge management as described in business literature on the subject. Group thinking and relationship focus in Japanese companies have been identified as features which make Japanese knowledge management superior (e.g. Albach, Görtzen, & Zobel, 1999; Richter, 2000). But in a Japanese subsidiary of a foreign MNC, the affiliation to a group does not happen automatically. The non-Japanese employees described it as a prerequisite of getting any information to win trust and build relationships. After a while, one will be integrated and become part of the in-group in which knowledge is shared. Trust always is an important factor in knowledge transfer (Minbaeva & Michailova, 2004: 667). It is not an exclusively Japanese demand for the transfer and sharing knowledge. However, owing to the group thinking mentality, the issue of trust was mentioned exceedingly regarding the interaction of non-Japanese and Japanese coworkers.

Another big issue and thus important necessary qualification is the Japanese language. Without Japanese language skills, one will be left out of the Japanese in-group. This was not described as a willful ostracism, but rather a consequence of the given situation. Consequently, Japanese coworkers who do not have English skills cannot “climb the corporate ladder”. All higher positions demand a command of English. An interviewee from a U.S. company observed that this and other factors which discern Western MNCs from Japanese MNCs make them less attractive for the classical Japanese work force. Western companies need to turn this disadvantage around and communicate that they are very attractive for Japanese employees who seek to work in a “different” work environment. For example Japanese women in the interviews stated that they liked the special atmosphere in the Western MNCs. Their career options are much more diverse and the chance to work abroad was seen positively. This example has shown that Western MNCs often do not employ a “classical Japanese work staff” in Japan. In terms of their appeal to “non-classical” Japanese workers, knowledge management behavior as expected from business literature must not be expected in these Western MNCs in Japan. The Western MNCs have introduced so called “sandwich” job positions for bilingual staff. This staff acts as intermediates between the only-Japanese and only-English speaking coworkers. Many of the non-Japanese interviewees speak Japanese very well. They hold these “sandwich” positions and claimed to be able to communicate with all staff members. But the typical expatriates do not take the challenge to learn Japanese because they know that they will only stay for a limited time and then move on to another foreign country before eventually returning to German or U.S. headquarters. Oftentimes the so called “third country locals” fulfill these sandwich positions because they are bilingual (English and Japanese). They have been living in Japan for a longer time and are recruited locally.

A German interviewee observed that knowledge management in Japan takes place in “teacher-student”-relationships. As mentioned before, the relationship is at the base of knowledge exchange in Japan. The teaching and learning approach in Japan sometimes collides with the egalitarian knowledge management understanding of the Western staff. Employees are supposed to share interesting information they have for the good of the company. But the Japanese interviewees stated that they are rather uneasy with the idea of inserting information into a database. They were unsure what exactly was expected and how they would discern information which is important and valuable for the knowledge management system from uninteresting information. They wanted to avoid making mistakes and damaging themselves by transferring wrong or unimportant information, so many chose not to transfer anything at all via databases. The headquarters’ idea to encourage knowledge sharing in a very broad sense obviously does not fit to the Japanese attitude towards knowledge. They rather want to talk with a coworker and discuss ideas in groups. The anonymous knowledge database would need to be communicated much better in the Japanese subsidiaries in order to be used properly. The Japanese as “horizontal” are used to sharing knowledge and information on one hierarchy level (Triandis, 1995). It is important that sender and receiver are on the same level. This was not given with the data bases. If the knowledge sharing is supposed to cross group borders, it would probably be effective to enhance the teacher-student relationships outside the groups. The discomfort which Japanese employees described to use the knowledge data bases of the company implies that a standardization decision at this point is inappropriate. Instead, knowledge transfer needs to be encouraged with group activities focusing on concrete topics. This type of activity would match the Japanese knowledge management style. Apparently, regarding knowledge management systems, the pressure to be culturally responsive is high. Western MNCs need to respond to the knowledge management culture of Japanese employees adequately if they expect frugal inputs from them.

Apart from that, the working style of Japanese employees was not always described as one would expect from literature. Although the personal communication was mentioned a lot, Japanese work staff was not described as overlapping their duties. Indeed, one interviewee described Japanese workers as “not looking left or right” from their own work space. It is not easy to imagine an atmosphere of agile intercommunication if workers only focus on their confined field of work. Many Japanese employees do not want to know what is going on around them. They like to focus on their work exclusively. The behavior, as some interviewees described it, could even be called ignorant. The researcher was astonished to hear about such an attitude, which is so contrary to the popular cliché of Japanese workers. An ignorant attitude could rather be expected from Westerners who are usually characterized as less sociable and more individual. But the issue of Japanese staff demanding very detailed information for their work assignment recurred in many interviews. This behavior can be explained with uncertainty avoidance, which has been described by Hofstede as common in the Japanese culture (Hofstede, 1991). The surprising fact was that it expresses itself in the way it did here: that Japanese workers were described as confining to themselves instead of being sociable and taking interest in everything the others are doing. Indeed, the opposite seemed to be the case. Especially German interviewees saw the main difference between Japanese and Germans in dealing with knowledge and information that Japanese like to know as many details as possible to avoid errors and uncertainty. But the Japanese do not take much interest in the work others are doing. This becomes apparent when one worker is missing and nobody can fulfill his duties. The coworkers then admit that they do not know much about what he is doing.

The importance Japanese ascribe to the avoidance of uncertainty and errors also manifests itself in the high quality expectations of Japanese customers. A lot of research which was done in the Japanese subsidiaries had to do with perfecting the products. Safety and quality were recurring motives in the interviews. These aspects have been named as being the most important ones for any kind of production in Japan. “Perfectionism” was brought up frequently. “Everything takes longer in Japan” was claimed by Western interviewees, but also confirmed by their

Japanese colleagues. The long processes were explained by the tendency to include many people into activities. But the perfect outcome justified any extra lengths or costs. Westerners explained that they approve of working with abstract, general concepts and finding the rest “as you go”, Japanese cannot work this way. The “obsession” with high quality was so extreme that interviewees of all nationalities doubted that sharing knowledge of product development and improvement in Japan could be of value in other countries. Most interviewees agreed that the Japanese market is somehow “unique”, that Japan and the Japanese are “different”. As a result, knowledge about successes a Japanese subsidiary had on the Japanese market was seen as uninteresting for other subsidiaries or headquarters. Sharing knowledge like this takes place in international meetings, but even there it is not always helpful for other country managers.

Another deviant factor persisting in the interviews was that tacit or implicit knowledge was not mentioned at all. The interviewees never talked about tacit knowledge creation or sharing. The researcher expected tacit knowledge to be a major source of knowledge in Japan. The literature on tacit knowledge sharing and Japan’s supremacy in the field (Nonaka & Takeuchi, 1995) gives the impression that Japanese employees bring this skill with them. But Japanese interviewees had as little experience with tacit knowledge sharing as their Western colleagues. This does not mean that tacit knowledge sharing does not take place. Its most important characteristic is its unconsciousness (Polanyi, 1966). But it is surprising that the interviewees never mentioned it at all. One would expect the topic to transpire in a country so famous for tacit knowledge sharing. Even when asked for examples of it or experiences with it, the interviewees could not contribute anything. In this regard, the interview data collected in Japan does not correspond with common stereotypes of Japanese knowledge styles. Japanese interviewees gave examples for knowledge management successes, but they were never typically Japanese in any sense. They gave examples for activities where hard facts were sought and found and how those were intellectually transformed into successful products for the Japanese markets. Admittedly, these activities could have taken place in any subsidiary anywhere.

Asking for Japanese strengths, all interviewees agreed that customer relations were exemplary in Japan. Not only in B2B industries, but also in consumer industries, Japanese companies claimed to be very close to their customers. Collecting knowledge and information from their customers was named as a major function of knowledge management. Whereas in the West, many MNCs are only starting to realize the value of marketing knowledge and especially customer knowledge, Japanese employees viewed the customer as the most important source of knowledge. While some German interviewees doubted that a customer can know anything valuable for the development of new products, Japanese interviewees were proud to be in close relationships with their customers. The information from customers was seen as very useful. For example, talking about problems customers had in farming with vermin led to the development of appropriate pesticides. This simple example shows how the customer can inspire a new product development without any technical knowledge. The customer phrases a need, giving the company the possibility to deliver a solution. Simplicity in marketing is what German and U.S. interviewees found as proving Japanese laggardness in the subject. But their successes prove that the Japanese low-tech, non-abstract view of marketing (above all customer relationships) has its advantages, too (high customer loyalty).

5. Discussion and future research

Recapitulating the analysis, it has become apparent that knowledge management in MNCs where VI-HC cultures coincide is possible, but certainly not unproblematic. The verticals and horizontals will be better able to work together if they are trained for cultural awareness (Triandis, 1995: 145-165). This includes knowledge management

attitudes and behavior. Cultural awareness needs to be fostered on both sides. The major pressing issue for the standardization/adaptation decision of knowledge management in a Japanese subsidiary is the knowledge management system. If the MNC insists on using anonymous data bases, it may be disappointed with the results from Japan. The Japanese interviewees claimed to be willing and able to talk to other MNC members. But entering data into an anonymous data base was seen skeptically. The problem lies in the horizontal orientation. It will be much more effective to encourage knowledge sharing and transfer with peers. Some of the MNCs in the survey did this by means of workshops where managers from many subsidiaries get together and present ideas and projects to each other. This more intricate knowledge management seems excessive or extreme (because of its complex planning and high costs). But the results will be much more useful than what can be expected from data bases.

The survey of 40 Western MNCs in Japan has generated interesting results. To some extent, they correspond with the expectations from literature. The Japanese preference to share knowledge in groups of the same hierarchical level corresponds with the characterization of the Japanese culture as “horizontal”. The pressure to adapt to be culturally responsive here is very high for the Western MNCs. The cultural trait of uncertainty avoidance could also be confirmed by the descriptions of both Japanese and Western colleagues. Perfectionism was the key term which describes this phenomenon. The Japanese were described as “detail freaks” which makes working together hard for Westerners. Westerners are satisfied with general concepts and find the search for details in Japan arduous. On the other hand, they are impressed by the high level of Japanese knowledge (for example technical knowledge). Also, the key matter of “relationships” surfaced repeatedly. Especially in connection with customers, both, Japanese and Western interviewees stressed the good work the subsidiary does. Customer ideas and knowledge are always taken seriously. Japanese colleagues maintain relationships with customers in a time-consuming way, but they are rewarded with loyalty. The customer relations and the transfer of their ideas are exemplary. MNCs with a subsidiary in Japan should consider adaptation in the realm of customer and marketing knowledge management. The value of knowledge about the Japanese market does not lie in the details (which are often so special that they are not applicable on other markets). In lieu of trying to collect pieces of information, the Japanese subsidiaries’ real contribution could be the exemplary attitude towards customers. In marketing knowledge, Western MNCs have a lot to learn from Japan.

Two points the analysis brought about are quite unanticipated. First of all, tacit knowledge was not important to any of the interviewees. The researcher expected the Japanese interviewees to be familiar with this concept, since it is well-known in Japan. Apparently, tacit knowledge transfer is just as unconscious for the Japanese workers as for the Westerners. Second, the fact that Japanese workers were described as working alone, confining themselves from the others. This was very astonishing and deserves further exploration. A possible explanation is that Japanese workers did feel as belonging to their group and did their share of work in it. But from the perspective of a foreigner, they appeared as loners, because the Westerners did not interact as in-group members with them.

Future research on the standardization/adaptation decision for international knowledge management should consider the role of Japan in customer and marketing knowledge management and develop techniques for HC-VI cultures to work together more effectively.

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Evaluation of Methodologies As Applied To Knowledge Management in a Business Setting

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Abstract

This paper addresses the issues of knowledge management from practitioner perspectives. In this paper “knowledge management” is defined as: a process that promote identify, capture, processing and transmit knowledge within a company. We consider, from the start, the need for a methodological approach that will allow its application in a practical setting. The authors proposed a methodology using a case study approach to analyze knowledge management in an industry setting.

Keywords: Methodology, knowledge management, systematization of practice

Theoretical considerations

Knowledge Management defined is a discipline that promotes the full use of a process for identification, capture, processing, transmission and evolution of knowledge within a company (Breedt, 1999), the knowledge was introduced to the world of business to help companies create, share and use knowledge effectively (Davenport, 2000). Within our society and at present, knowledge is considered a key resource (Szyperki, 2000). Increasingly, companies are becoming aware of the importance of knowledge in their daily activities, this daily practice has become the largest new form of capital and, as stated by many authors it is the only source of sustainable competitive advantage in the global market (Drucker, 1992).

Most companies that leverage their knowledge do not have to repeat the tasks, or waste time in realizing them; they are ready to show their profitability, to share and not hoard knowledge in the organization (Nieves, 2001), a good application of the model will result in high productivity in various processes and over all, the manager will be able to make a transfer from the traditional capital model to the intellectual capital of the members of an organization (Arteche, 2003), therefore activities that are formerly reserved for staff with many years of experience can be performed without much difficulty by those with little or no experience in the field (Cabins, 2003).

Among all the items that cover knowledge management, intellectual capital is the most important because the knowledge that is transformed into intellectual capital is, along with information theory and the network model, the central structural element of civilization (Vicario, 2006), when these two concepts converge, we say that the organization becomes a learning organization. These theoretical models become a task from individual ideas and knowledge in pure capital, highly exploitable by firms (Boisot, 1995). The need for organizations to maintain and develop in environments that are subject to constant change have been the main concern of theorists of organizational learning (Basque, 2000) the close relationship between knowledge management and intellectual capital makes the main features easily recognizable.

The key differences between knowledge management and intellectual capital are summarized in only three, however, more than differences that mutually exclude concepts, differences that include the benefits of both crops to learning organizations are considered. Nevertheless, saying that the two are linked as a whole, is undeniable, one must also recognize that the processes are independent and that for obvious reasons must be implemented at key moments.

Table 1: Differences in Knowledge Management and Intellectual Capital

Intellectual Capital Knowledge Management	Capital Intellectual
<p>Tries to formalize and systematize the processes of identifying, managing and controlling knowledge.</p> <p>It is a process of organizational management</p> <p>It involves two variables</p> <p>Hard: hard and formalized aspects of management. Includes formal communication systems and computer systems.</p> <p>Soft: soft or less formalized aspects of management, talent identification, formalization of best practices and standardization of skills.</p>	<p>The intellectual capital defines the set of non-material inputs that in the information era are seen as the main asset of companies in the third millennium.</p> <p>Represents the organization's intangible assets (human capital, structural capital and relational capital).</p> <p>It is a soft variable of Knowledge Management: knowledge treasured in the brains of employees, product of experiential learning.</p>

Source: Gopal, G., & Gagnon, J. (1995). Knowledge, Information, Learning and the IS Manager. *Computerworld*, 5 (1), 1-7.

We propose that, knowledge management (KM) will facilitate the generation of intellectual capital, and in turn intellectual capital will intervene in management knowledge control. Thus, the process will become an endless circle that would generate new knowledge as applied to the organization.

In order for all this knowledge to work in an appropriate way, a three area division must be done for the efficient administration (Gopal, 1995), the first area is KM, the second, Information Management and the third Learning Management, this concept is applied in pair with the six-step method for the cohesion of individuals (Nonaka, 1995): construction of auto regulated equipment, increase individual knowledge through knowledge sharing, convert tacit knowledge into explicit, transform the knowledge of a product or system, creating new concepts and integrate new concepts in the knowledge base. These steps permit that the individual reinforce his knowledge through team works and to develop the mind skills to get theoretical knowledge into practical knowledge in order to obtain new concepts, ideas and development of products.

Methodology and Knowledge Management

When one examine the knowledge is acquired, or when trying to find new knowledge, it is possible to come and different approaches used to resolve those issues become a part of the Methodology field.

It will be difficult to define the term “methodology” without alluding to a context to the problem.

This paper is addressing methodological issues from two perspectives: one that addresses how the scholars organize research related to knowledge management, and a second perspective based on a method than links the application of this methodology accepted by the scientific community.

KM involves the identification and analysis of the available and needed knowledge, as well as the subsequent planning and control of actions oriented to develop knowledge assets and as a consequence to meet organizational goals (Kim 2000). For Darroch(2003) Knowledge management is defined as the process that creates or locates knowledge and manages the distribution and usage of knowledge within and between organizations.

There is a new form of Knowledge Management, which is based on the approach to customer; it focuses in the achievement of better results, seeking the increasing of company's revenues. In this sense, KM refers to the process of organization that handles the creation, storage, retrieval and application of knowledge (Alavi and Leidner, 2001).

A Framework of the methodology for systematization of the practice

Briefly stated. A method is a set of procedures that allow the achievement of a particular purpose.

The methodologies proposed by several author are presented in Table 2.

TABLE 2: METHODOLOGY OF KM PROPOSED BY AUTHORS

Relevant Criteria	Identify	Capture	Organize	Apply	Combine	Create	Develop	Distribute
METHODOLOGY (1998) LIEBOWITZ/ BECKMAN	Skills, strategies and knowledge	Formalize existing knowledge	Evaluate relevant knowledge with precision and value	Retrieve and use knowledge to make decisions, solve problems, automating work		Discovering new knowledge through research, experiments and creative thinking	Develop and promote new knowledge	Distribute knowledge automatically to users
METHODOLOGY (1996) MARQUARDT	Acquire knowledge					Create and develop	Use it	Transfer it
METHODOLOGY (1993) WIIG						Knowledge	Develop it	Develop it
METHODOLOGY (1993) VAN DER SPEK AND SPIJKERVET				Develop knowledge	Combine it			Distribute it
METHODOLOGY (1993) RUGGLES		Capture and represent				Creation, acquisition synthesis, fusion, adaptation		Transfer it
METHODOLOGY (1997) HOLSAPPLE AND JOSHI	Extract, Interpret, Transfer	Locate, recover, transfer	Evaluate, deposit object	Apply it		Monitor it, Evaluate it, Produce it, Transfer it		Set goals, produce and transfer it
METHODOLOGY (1998) DATAWARE TECHNOLOGIES	Change issues	Prepare for change	Integrate knowledge management team Show:	Do audits and analysis		Define solution options	Put knowledge together	
METHODOLOGY (1998) VAN DER SPEK AND DE HOOG	Conceptualize: Make an existing knowledge inventory. Analyze		Decide on required improvements Make plans to improve processes		Assure and combine		Develop it	Distribute it

	weaknesses and strengths.							
METHODOLOGY (1996) O'DELL	Conceptualize: Make an existing knowledge inventory. Analyze weaknesses and strengths.	Recollect and adapt	Organize it	Apply it		Create it		Share it
METHODOLOG (2000) LIEBOWITZ	Identify and verify it	Capture and assure knowledge	Organize it	Recover and apply it	Combine it	Create it	Knowledge information	Distribute it

Source: Authors

Based on the framework of methodology presented in figure 1, this paper examines knowledge management using the following criteria:

1. Identify - skills, strategies and knowledge.
2. Capture - formalize existing knowledge.
3. Select - assessing value-relevant knowledge and precision.
4. Store - a repository of knowledge.
5. Share - distributing knowledge automatically to users.
6. Apply - retrieve and use knowledge to make decisions, solve problems, automating or supporting work.
7. Create - discovering new knowledge through research, experimentation and creative thinking.
8. Sell - develop and promote new knowledge.

Research method as applied to the private sector

For this research, the authors have used proposed by Liebowitz (2000) and that of O'Dell (1996) and the approaches used to define the steps to be taken in order to reach or establish an organizational culture where knowledge can be shared.

In order to go on with “identifying and recollecting knowledge”, this case examined a series of characteristics of one or more people in the Systems area of a manufacturing company,. In order to add more realism to this study the data gathered were analyzed and compared with stored data and the study ensured the information gathered synchronizes with the organizational culture.

With the “field study” application, the following survey was performed with a sample of 40% sample of the executive population of a firm used in case study. Knowledge Management survey instrument used in the study is presented below:

KNOWLEDGE MANAGEMENT

1.	Have you ever heard the term Knowledge Management? If so, please describe the concept.
2.	Have you received orientation about places, sites, data bases, etc. where you can consult information necessary to do your job? Explain briefly the way you received it.
3.	Mention at least three specific sources of information/knowledge that you constantly consult and that you consider useful in your job. (Assign priority, 1 first, 3 least).
4.	When having an issue, how do you identify who can help you resolve it? Mention how long you have been working for the company.
5.	In practical terms, what helps you more when you need help? In practical terms, what works better for you? Select your opinions assigning them priority (considering 1 as your primary source, and so on until the one that has the least priority)
	A) Web Pages _____
	B) Books/manuals _____
	C) Intranet _____
	D) Co-workers _____
	E) Data Bases _____
	F) Chat _____
	F) Others: _____
6.	Is information exchange within departments and work teams motivated? Briefly explain.
7.	In new activities, what percentage of your time a week do you dedicate to search information to perform your tasks (requirements, documentation, processes, etc.)
8.	How do you share your knowledge with others? Select your options assigning priority to them.
	Verbally _____
	By e-mail _____
	By chat _____
	Using a forum _____
	Giving a class _____
	Using Data Bases _____
	Other: _____
9.	What kind of technologies, procedures or methodologies do you suggest for the efficient knowledge flow in the organization?

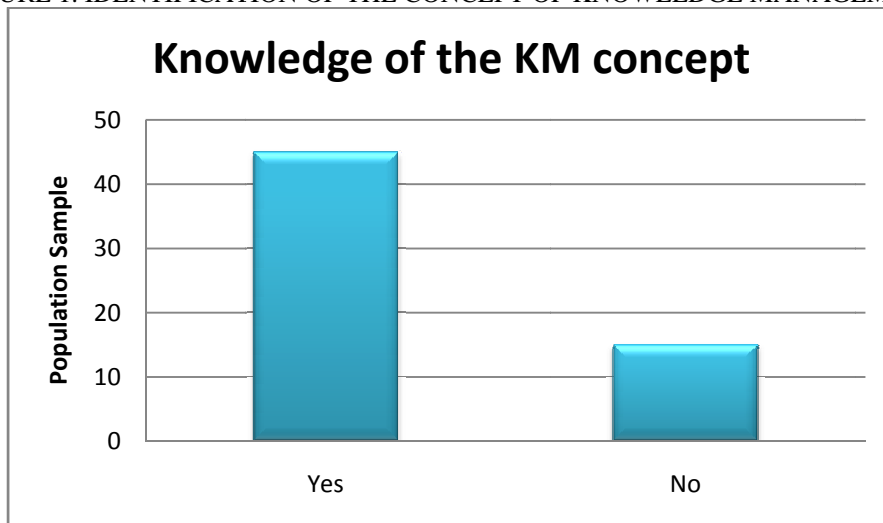
Analysis of the Results of the Surveys

This section presents the results obtained for the questions used in the survey and an in depth discussion of the results will be presented in a later part of the paper.

1. - Have you heard of management and/or Knowledge Management? If yes, please describe the concept.

YES	NO	TOTAL
45	15	60

FIGURE 1. IDENTIFICATION OF THE CONCEPT OF KNOWLEDGE MANAGEMENT.



Source: Authors

As shown in Figure 1 above, the sample of 75% of the population indicated that they were familiar with the concept of knowledge management and also if they were able to give a clear definition of this concept, while the other 15 people said they did not know the concept.

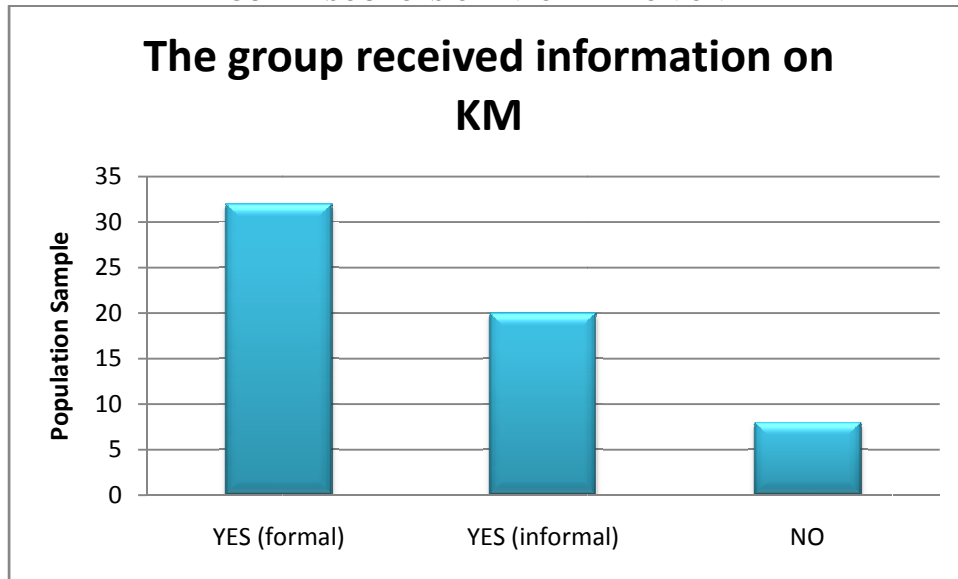
- ✚ The sample's response indicate lack of familiarity about knowledge management and this require better dissemination of information on knowledge management among the employees.

2.- Have you received guidance about the places, sites, databases, etc., where you can check the necessary information to do your work? Briefly explain how.

From the responses to the above question, it noted that some of the respondents received some formal guidance, while others received it informally, which is why the results were classified for the type of "yes" as formal and informal guidance, as shown in Figure 2.

YES (formal)	YES (informal)	NO	TOTAL
32	20	8	60

FIGURE 2 SOURCES OF INFORMATION ON KM



Source: Authors

As it can be seen, a good percentage of sample population received informal guidance on the sources of information they need to do their job: it is important to strengthen this process so that it can gradually become a more formal process within the area and that way we can reach out to those who do not receive guidance.

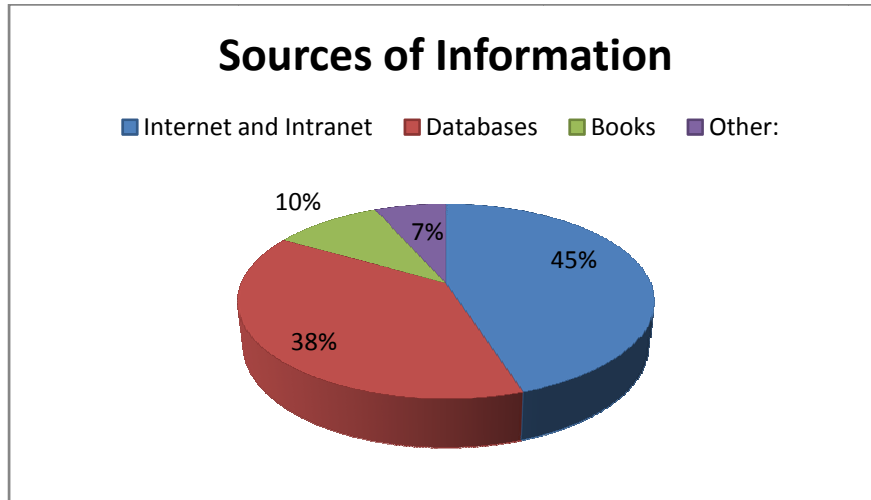
3.- Mention at least three specific sources of information / knowledge often consulted which you consider are useful for your work (assign priority 1- most used, 3- less used).

Information Sources	Sample population
Internet and Intranet	27
Databases	23
Books	6
Other:	4
Sample Total	60

Based on the obtained data, it is shown that the main source of information is the Internet, where there is information available on any topic, and intranet, where you can find specific information that only applies to the organization and its competence.

In the category of "other" forums and communities of practice were mentioned; these concepts are reinforced later in this case study, shown in Figure 3.

FIGURE 3. INFORMATION SOURCES IDENTIFIED IN THE AREA OF SYSTEMS

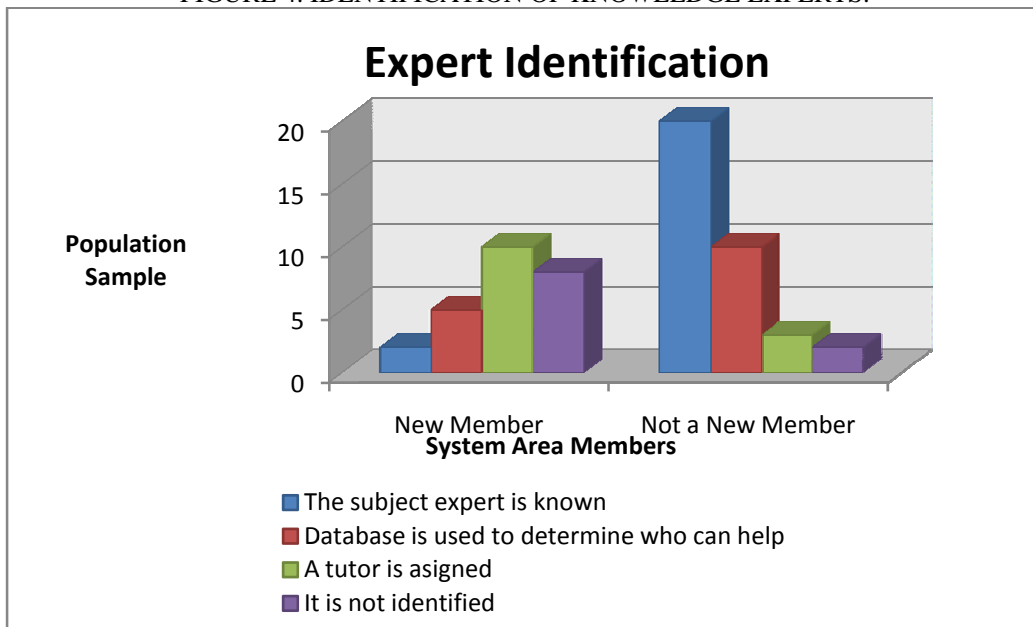


Source: Authors

4.- When you have a problem, how do you identify the people who can help you solve it? Mention how long you have been working for the company.

Options	New Member	Non New Member	Sample Total
The expert on the subject is known.	2	20	22
The database is used to identify who can help.	5	10	15
A tutor is assigned.	10	3	13
Cannot identify who can help	8	2	10
Total	25	35	60

FIGURE 4. IDENTIFICATION OF KNOWLEDGE EXPERTS.

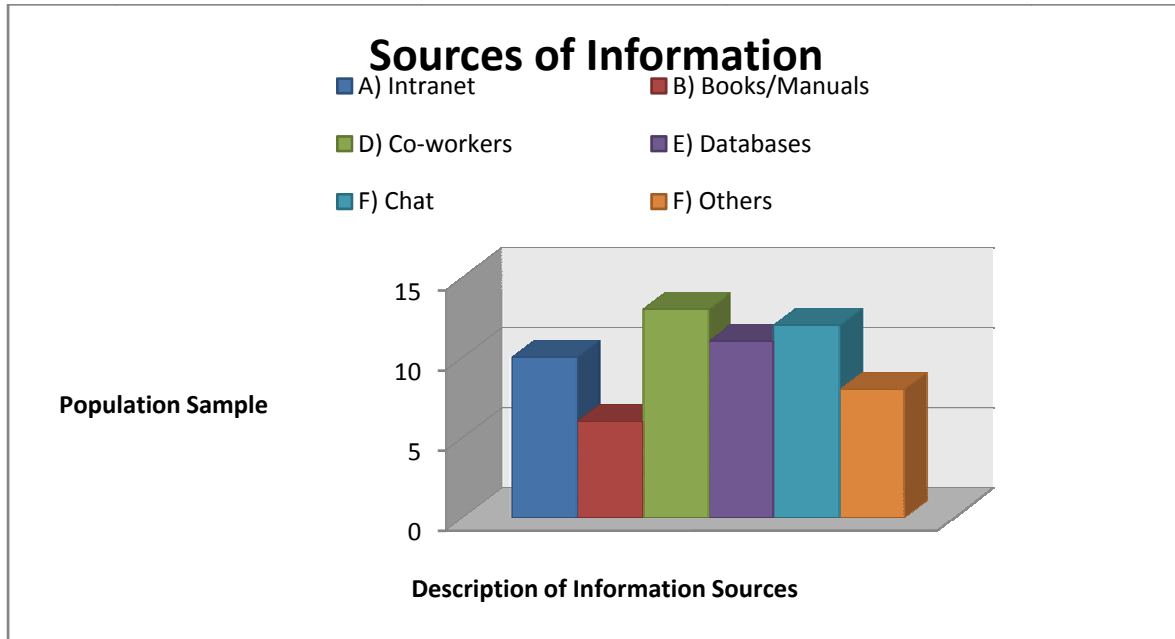


Source: Authors

The result of Figure 4 indicates that new members in the area, in most cases, did not identify the experts in the area, but they are assigned a tutor who will help them in their integration process. On the other hand, the senior members in the organization, mostly identify who can help them solve the problem for which they are seeking or needing an expert on the subject.

5.- In practical terms, what works best when you need help? Select your options assigning a PRIORITY (consider as 1 your first source and so on until the lowest priority).

FIGURE 5. INFORMATION SOURCES



Source: Authors

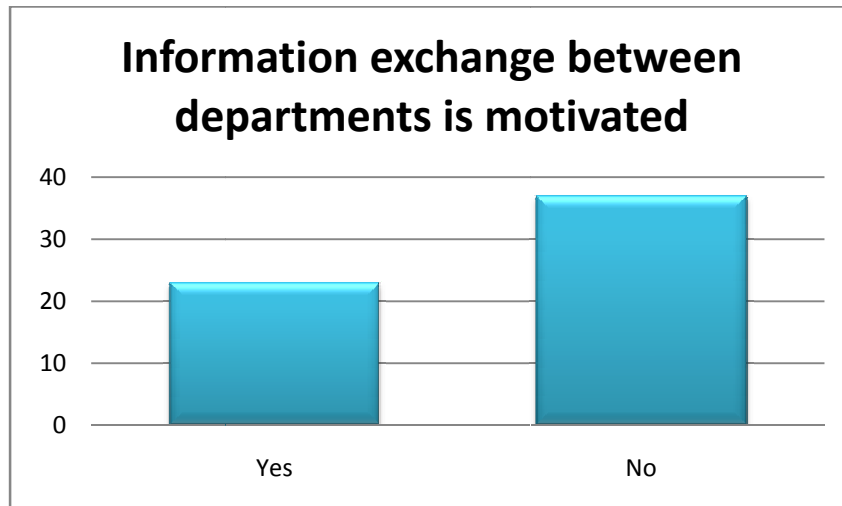
Figure 5 shows the main sources of information which happen to be the direct contact with people either face to face or through a chat that allows the establishment of direct contact. On the other hand, when time-saving for problem solving is a primary issue in the workplace, we can see that books are being consulted less often in cases where people know that someone in the organization has faced a similar problem and already has found the same solution helps in saving time and avoids unnecessary mistakes.

Within the “other” response, the following sources were identified:

- Tools or applications.
- Magazines
- Certifications and/or courses
- Personal notes, and
- Forums

6.- Is the information exchange within departments and working teams motivated?

FIGURE 6. INFORMATION EXCHANGE WITHIN DEPARTMENTS AND WORKING TEAMS.



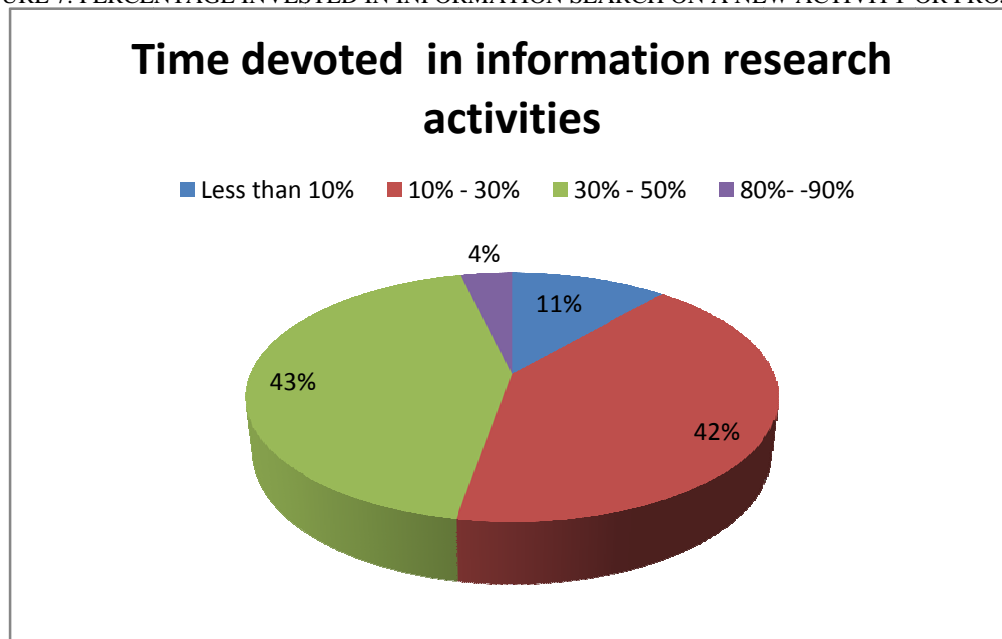
Source: Authors

The result of Figure 6 indicates that the exchange of information between departments, for some reason do not reach everyone and, perhaps only certain information is shared between departments or between teams working in the same systems area.

- ✚ This approach will search the way information can flow within the department, as well as within departments.

7.- In new activities, what approximate percentage of your time do you spend weekly **looking for information** to do your work (requirements, documentation, processes, etc.)?

FIGURE 7. PERCENTAGE INVESTED IN INFORMATION SEARCH ON A NEW ACTIVITY OR PROJECT.



Source: Authors

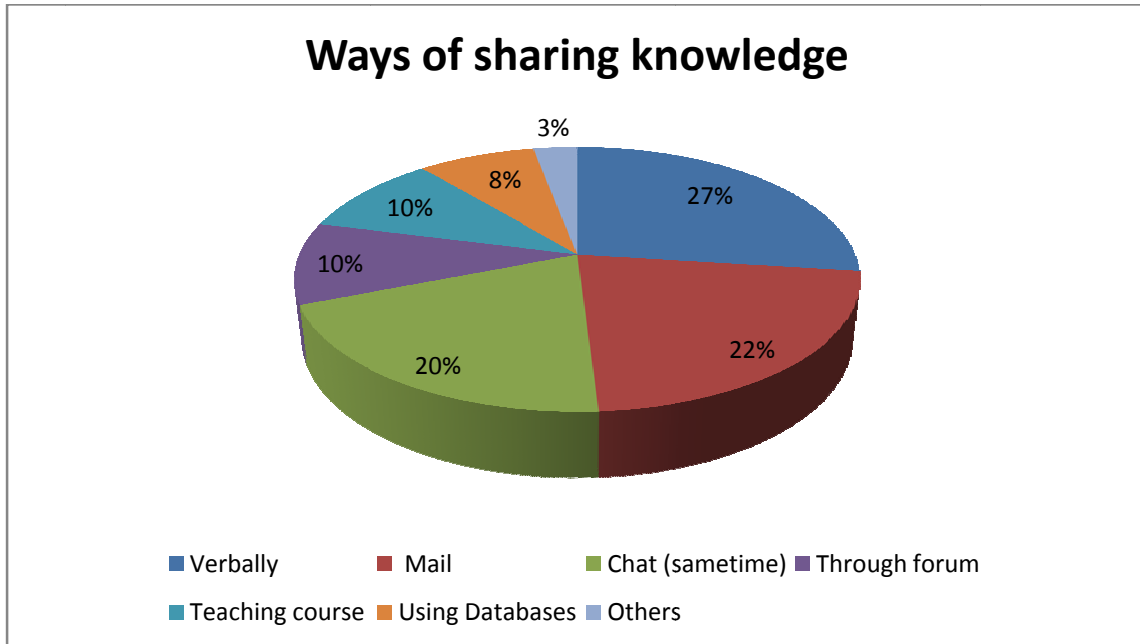
Study Percentage	People
Less than 10%	6
10% - 30%	22
30% - 50%	23
80%- -90%	2

Figure 7 shows that within new activities or projects, people provides between 30% and 50% of their time to seek or receive information to help them carry out new tasks. What makes the other 6 people to only use 10% of their time? Perhaps, they know where to find information more quickly or have identified experts who can help them with their tasks; these, and some other questions are issues for the research analysis.

- ✚ Propose how can new people invest less time in searching or obtaining information for the realization of their tasks.

8.- How do you share your knowledge with your co-workers? Select your options assigning a **PRIORITY**.

FIGURE 8. WAYS OF SHARING KNOWLEDGE WITHIN THE SYSTEMS AREA.



Source: Authors

Figure 8 confirms that the best way of sharing knowledge is verbal and face to face communication.

Within the “other” option, creation of educational CD’s and telephone meetings with all the members involved in the Project – indicate the importance of contact with the experts.

9.- What kind of technologies, procedures or methodologies do you suggest for the efficient Knowledge Management within the organization?

Here the answer was a little more open as to avoid influencing the respondent about the options he/she had. Based on the results, these tools were preferred for effective knowledge management:

- Databases
- Forums
- Teleconferences
- Chat
- Practice communities
- Conferences between business units

Once referred to the results of the case study case in the area of systems, more details about each point of interest in knowledge management will be discussed in the subsequent sections of this paper

TABLE 3 STRENGTHS, WEAKNESSES AND IMPROVEMENT PROPOSALS IN TERMS OF KNOWLEDGE MANAGEMENT

QUESTION	STRENGTHS	WEAKNESS	IMPROVEMENT PROPOSALS
Have you ever heard the term Knowledge Management?		The results show that there is a point to watch as 25% of the sample proved to have little or no knowledge about the concept and all activities that come with handling an efficient knowledge management approach	<ul style="list-style-type: none"> Establish courses and training in the systems area to introduce every aspect involving knowledge management before it is formally institutionalized in the area. To bring experts in the field, whether inside or outside of the organization, to speak about their experiences and all the benefits they have found within an efficient knowledge management.
Have you received orientation about places, sites, databases, etc., where you can consult information necessary to do your job?	The response showed that the majority of the population was given guidance to do their jobs either formally or informally.	It is important to approach the part of the sample who feels isolated from the information needed to perform their tasks more efficiently, as well as to analyze the 34% who are receiving informal guidance, and verify if this information is properly received and how to encourage for it be transferred through one channel, and for it to be measurable for the organization.	Establish an education plan so that the area can be aware on where they can find the information needed to do their work (databases, links, etc.) as well as procedures, methods, best practices, etc.. Assist them in their work. These points will be addressed in detail later.
In the applied survey questions number three and five, it was intended to identify the information sources used constantly in the area, identifying the following as strengths and weaknesses:	<ul style="list-style-type: none"> When people identify that they need help to carry out their tasks, its main source of information used is direct contact with people: <ul style="list-style-type: none"> Seeking help in the co-workers. They have fully identified the expert on the subject and rely on their advice. If they need a far knowledge transfer, they draw upon the use of Chats, notes, teleconferences or directly via telephone. The organization has not only Internet, but also has its own intranet where all information pertaining to each organization can be found and it is very useful when members of the organization are looking for specific topics or tasks that are being performed. There are several query databases to locate specific information to help with different tasks and those who do not know how to exploit this information from them. 	The Practice Communities and the Forums are not institutionalized, so as it has been discussed, is important to identify the information being managed in these groups as well as continue to motivate more people to participate in these activities and tools, but in a way so that the area can take control of the running knowledge.	<ul style="list-style-type: none"> To be certain that the community has a purpose. Setting the resources of the company within a company aligned community. Make it easy for members to remain engaged and involved, and to attract new members to participate. Using known technology easy to use for everyone. Accommodate technology to tasks, i.e. to know when it is more effective making a call rather than holding a meeting. Making an easy entry and exit to the community and their responsibilities and required skills. Help participants understand which of their tasks have responsibilities. Keeping facilitators aware of the efforts of the community to achieve an identity between them and other communities within the company. Make it easy for prospective participants, not only to store information but for anyone who likes to participate and has an understanding of the problems.
When having an issue, how do you identify who can help you resolve it?	<ul style="list-style-type: none"> Members who already have some time working in the area fully identify the subject experts and seek it directly when in need of help. If within the area they do not identify the expert who can help them solve a problem, they know they can make use of the databases or search on the Intranet for an expert that can be reached. 		<ul style="list-style-type: none"> Setting "Home Plans" at the time of incorporation of a new person in an organization means recording many of the keys to the future behavior. A good host plan must determine the values and culture of the organization and achieve shortening of the adaptation period. Encourage experts to share knowledge,

	<ul style="list-style-type: none"> • Include performance factors on the knowledge implementation as part of an annual project, reviewing reports and providing structure recognition to motivate employees to share what they know. • It was identified that there is a Mentari program focused on new members, with this the old master-apprentice relationship is recovered, and it is one of the best ways of transferring tacit knowledge. Similarly, this program does not exclude any member of the area who wants or needs to participate in it. 		<p>not only informally as they currently do, but in a more measurable way for the organization so that it can be profitable for the experts to share their knowledge.</p> <ul style="list-style-type: none"> ○ Institutional awards and recognition programs to demonstrate what the behavior of sharing knowledge brings to the company. ○ To evaluate the behavior of knowledge sharing as part of employee evaluations. ○ Develop internal leaders to share knowledge within a team or individually. <ul style="list-style-type: none"> • Establish a database for general access to all areas and departments within the organization, curriculum staff, so, based on a keyword, the tool may yield the names of those mentioned have that knowledge.
<p>In information exchange within department and work teams motivated?</p>	<ul style="list-style-type: none"> • Most respondents replied that there is no motivation for the exchange of information between departments. 		<p>Put an end to the cultural factors that inhibit knowledge transfer. These inhibitors also called frictions due to the delay or possibly prevention of the knowledge transfer as it tries to progress within the organization. The following proposals are intended precisely to overcome those frictions.</p> <ul style="list-style-type: none"> • Often the sharing of knowledge does not happen because of a lack of confidence; an important thing here is to establish trust relationships between areas and departments so that it can be so easy to share knowledge. These meetings can be called "Knowledge Meetings" where teams talk about what is done in their areas and thus the other groups identify which knowledge can be transferred. • Create a common interest between departments through training, dialogue, publications, work (cross-functional teams) working for the same purpose, job rotation, etc. • Establish times and places for knowledge transfer fairs, break rooms, conference reports. • Evaluate performance and provide incentives based on the sharing attitude. • Educate employees for flexibility; provide time for learning. • Establish within each department someone who will receive education from communities of practice, best practices, lessons learned, etc. and that individual will be responsible for raising the information in his area to other levels so that the information can be shared.

			<ul style="list-style-type: none"> • The area managers will have to submit basic routines as presenting tutors or tutorials and tips for their areas, about the findings and identified information when shared up to another level. • Establish a knowledge sharing team management, in knowledge businesses, self-organizing teams are an essential part of the working method.
<p>In new activities, what percentage of your time a week do you dedicate to search information to perform your tasks (requirements, documentation, processes, etc.)</p> <p>The result obtained here was also dispersed, since people who work or are assigned on a new project, spend most of their time looking for information that helps them in their tasks, while people who already have been working a longer time in the same project, know how and where to locate information quickly to accomplish the tasks.</p>		<ul style="list-style-type: none"> • The staff spends much time looking for information to do their job. 	<ul style="list-style-type: none"> • Establish courses to guide people on the knowledge technologies that exist in the area and that can help them in their activities. • Ensure that every employee has the necessary technology to access these knowledge management systems. • Plan and structure the knowledge in the area, establishing a knowledge map or a database, which are a simple guide and not a repository of knowledge itself. In this map users can search by subject or keyword, making it simpler for the comparison and location of possible sources of knowledge. • Start to develop the Intranet tools for knowledge management systems, which include: lessons learned, knowledge maps, proper documentation of processes, case studies, expertise location, etc. • Establish a portal for "Knowledge Management" in the area, which allows access to all the generated knowledge in other departments and the organization as such. • Be aware that every member of the area has a complete manual of the current processes either via Web, or that can be accessed through the databases where this information is stored. <p>This knowledge portal will be created Intranet / Web so that it can have an entry point for all the different aspects of the knowledge sought, including the location of experts, communities of practices, lessons learned, best practices and eventually technical aspects of the final product deliverables of the organization.</p>
<p>How do you share you knowledge with others?</p>	<ul style="list-style-type: none"> • There are multiple channels for sharing and accessing the knowledge of the organization, mentioning some: the forums, communities of practice, databases, etc. 		<ul style="list-style-type: none"> • Establish rewards and recognition policies. Rewards and recognitions are weapons that have a decisive influence on the behavior of individuals, for example, rewarding teams, not individuals sends a strong a message, as well as surveys by willingness to share knowledge. • Set bonuses and incentives for contributions and participation in forums, communities of practice,

			contributing to best practices and lessons learned, etc.. • Creating career plans within the organization is one of the best ways to retain valuable people, giving important stability to themselves and the organization.
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Source: Authors

Measurement of the factors that are being used in Knowledge Management

If it is wanted for the high management to get involved in the process of Knowledge Management, it is important to generate measurable data results that reflect how much knowledge management contributes to achieving organizational objectives in a more structured, higher quality, efficient and effective way to create both a knowledge value chain inside and outside the organization.

The way in which achievements are measured, as well as the errors, leads to a decisive impulse to the people. The indicators themselves are pivotal to a change. The elements that comprise knowledge management are rather intangible items or measurements difficult to measure, but it is important to find a measurable factor that can be shown to the management.

One way to provide the measurement of intangible assets to manage them is an important way to explicit the value-generating business. If traditional accounting reflects it, the selection of some indicators would be a healthy organizational exercise.

Some proposals about intangible considerations (Arbonies, 2001) include:

- Identify individual learning
- Identify team learning.
- Identify learning by tutoring.
- Organizational and Cultural Learning
- People Management
- Identification of information systems.
- Identification of knowledge technologies
- Identifying communities of practice

Some indicators for human capital to consider mentioned by the same author might be:

- Middle sized jobs
- Middle graduates and seniors
- Indirect people
- Training hours
- Fidelity jobs
- Performance evaluation
- People satisfaction
- Improvement suggestions.

Customer Satisfaction Measurement

Measuring customer satisfaction besides surveys must enable segmentation, determination of the most valued attributes within each segment and consequently the design of adequate products and services, customer retention and loyalty. Customer knowledge capabilities can awaken many capabilities within the company and break inertia in the organization.

Some identified measurements that can be used based on this study case are:

- ✚ Measuring the success of the program where there has been shared knowledge in the area and use the metric system to gain support of the organization.
- ✚ Measure the time that people spend accessing the databases in search for information.
- ✚ Measure the number of times that a mentor is assigned to the members of the area.

Conclusions for the Knowledge Management applied to the Organization

Based on the case study presented in this paper, we can conclude that knowledge management is not only an important area of research, but businesses are actively involved in implementing knowledge management in an informal and implicit way so that all the people within the organization, at any level in any organization who function, at different levels in an organization may contribute their best to the firm. Firms recognize how important it is to focus, so that it will enrich the intellectual capital of the company.

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Types of foreign R&D activity: A transaction-specific costs perspective

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Abstract

Emerging markets and the growing dispersion and mobility of knowledge have seen multinational enterprises (MNEs) setting up foreign research and development (R&D) centers in more and more locations around the world (Tellis et al., 2009). Foreign subsidiaries perform various types of R&D activity to exploit market opportunities and explore differentiated knowledge resources. But what guides the decision to carry out different types of R&D activity in foreign locations? This paper argues that transaction-specific costs determine the type of foreign R&D activity. Whether foreign subsidiaries conduct R&D in the format of *knowledge incubation*, *technology licensing*, *knowledge transfer*, or *R&D collaboration*, is dependent on the relative efficiency of the different market allocations of proprietary MNE knowledge and complementary local assets.

Introduction

It is widely understood that the *raison d'être* of foreign research and development (R&D) subsidiaries of multinational enterprises (MNEs) is first, to augment home-base R&D by tapping distinctive local sources of knowledge, and second, to exploit home-base R&D by adapting products and processes according to local tastes and resource capabilities (Kuemmerle, 1997). But what remains unclear is a characterization of the specific types of R&D activity that foreign subsidiaries are tasked with, and more importantly, the underlying logic guiding the type of foreign R&D activity, which this paper attempts to elucidate.

Previous literature suggests that the type of foreign R&D activity is determined by subsidiary characteristics (Birkinshaw et al., 1998) in relation to MNE and locational factors (Almeida & Phene, 2004; Cantwell & Mudambi, 2005). But this view is incomplete. The focus on the subsidiary as a unit of analysis detracts from the contributory role of each specific type of foreign R&D activity itself, and does not take into account the reality that knowledge assets in the host country are not freely accessible. For a given type of foreign R&D activity, knowledge exchange between the MNE and local entity incurs costs for both parties. Therefore, we explicitly consider the transaction-specific costs in combining the proprietary knowledge held by MNEs with the complementary assets owned by local entities. The transaction approach provides a microanalysis of the types of foreign R&D activity which need to be internalized, those which do not, and other hybrid governance structures.

Some scholars view the mode of foreign entry as an equilibrium outcome, in which the combination of local assets with MNE assets maximizes the welfare of the stakeholders (e.g., Chen, 2005; Hennart, 1989; 2000; 2009; Mirius & Yeung, 2010). Building on this literature, we developed a framework of the optimal mode of foreign R&D. We show that because the internationalization of different corporate R&D objectives have different transactional requirements for combining MNE and local assets, firms engage in a particular type(s) of foreign R&D activity to minimize costs.

Analysis of the transaction-specific costs of different types of foreign R&D activity offers a fresh insight into the internationalization of R&D, distinct from general notions of home-based augmentation and home-based exploitation (e.g., Archibugi & Iammarino, 1999; Kuemmerle, 1999; Lehrer & Asakawa, 2002). This perspective provides for unequivocal normative criteria for business and public policy pertinent to the internationalization of R&D.

We begin this paper by reviewing the literature on the transaction cost economics of foreign entry modes. Then we integrate insights drawn from this body of work into a matrix model of the optimal types of foreign R&D

activity. We conclude by discussing the policy implications of the model, in particular with respect to the impact of institutional contexts on foreign R&D.

Transaction-specific costs and modes of foreign entry

Transaction cost economics suggests three critical factors—uncertainty, frequency of recurring transactions, and asset specificity determine the alternative use of markets, contracts, or hierarchy (firm) for economic organization, in order to minimize the costs of business transactions over time. The most important investment criterion is the extent to which transaction-specific expenses will be incurred (Williamson, 1979). Because an asset specific to a given transaction has higher value than in its next best use, it gives rise to problems of ‘lock-in’ and opportunism (transaction costs). When transaction-specific costs due to a market or contractual arrangement are higher than coordination costs associated with hierarchy, it explains for the nature of the firm (Coase, 1937).

Extended to the multinational firm, asset specificity is central to the understanding of foreign market entry modes because by definition, the MNE (foreign direct investment) is driven by unique knowledge assets and to a lesser degree, monopoly power (Caves, 1971; Hymer, 1976). The MNE represents a “semi-strong form” of technological determinacy of economic organization (Williamson, 1988). The theory suggests that a firm’s choice of foreign market entry is either a wholly-owned subsidiary or licensing contract in the host country. The decision to establish a licensing contract with local partners versus a wholly owned subsidiary is determined by their relative cost efficiency for transferring competitive assets in the form of proprietary technology and/or tacit know-how into the foreign location (Buckley & Casson, 1976; Dunning, 1980; Hennart, 1982; Rugman, 1981). Where the MNE opts to internalize rather than contract, there are different transaction cost considerations with respect to horizontal and vertical integration (Hennart, 1982; Teece, 1986a). A horizontally-integrated MNE internalizes a demand market for final products that are difficult-to-trade to avoid overhead and bargaining. On the other hand, a vertically-integrated MNE internalizes a supply market for intermediate products with idiosyncratic properties to remove resource dependency.

Chen (2005) extends this classic market versus hierarchy analysis by arguing that licensing is not the only market institution relevant to governing international technology transfer. He presents two alternative market arrangements—co-marketing and contractual manufacture that each combines the MNE’s technology with local manufacturing. In the same vein, joint venture has also been proposed as an optional governance structure for the MNE (Anderson & Gatignon, 1986; Hennart, 1988). The purpose of a joint venture is to combine complementary assets held by the MNE and local owners. The qualification for this mode of foreign entry is when two sides possess transaction-specific assets that are non-marketable (Hennart, 2000). Put differently, a joint venture arises when local assets involved are difficult to replicate internally by the MNE and cannot be procured externally through market contracts (Chi, 1994).

In sum, asset specificity frequently create transaction costs, which discourage market contracting, and leave firms with the decision between collaborative ventures and wholly-owned subsidiaries (Buckley & Casson, 1998; Ingham & Thompson, 1994). Integration is considered more efficient than equity and contractual joint ventures because it allows firms to exert maximum control over the products and marketing processes, in order to combat free-riding and opportunism (Anderson & Gatignon, 1986). Still, local owners do not give up indigenous assets for free, and will attempt to seek reciprocal obligations for some or all of the components of the foreign direct investment (FDI) package through sophisticated contracts (e.g., technology licensing, loan financing, labor hiring and marketing services) (Hennart, 1989). Therefore, in each mode of foreign entry—wholly owned subsidiary, contract and joint venture, because the bundling of assets is necessary, a stable equilibrium is achieved if the welfare of the local owners as well as the MNE is maximized (Hennart, 2009). Given the right set of mutual incentives, it is possible to observe all three types of international operations at the same time and in the same location (Miriuis & Yeung, 2010).

Transaction cost analysis of foreign entry provides a framework for discriminating between cross-border activities which need to be internalized and those which do not. However, existing models, while offering indications of the internationalization behavior of MNEs when they enter foreign markets, do not specifically

address the activity of R&D. They discuss MNE behavior with the underlying assumption that subsidiaries are engaged in fairly invariant foreign production (manufacturing) work. On the other hand, R&D activities have differentiating characteristics that warrant separate and additional considerations. Production and R&D activities both involve assets and the resultant organizational structures or contracts may involve MNE and local firm assets. The difference lies in the nature of the assets and the role that they play. It could be argued that both sets of activities, production and R&D, involve knowledge assets. When MNEs enter foreign markets with the view to manufacture or distribute their products, the type of knowledge assets involved are at the end of the continuum associated with the term 'technology'. These assets are to be used by the local firms. R&D activities could involve less well-defined assets in codified sense and could be in the realm of science. Further, in manufacturing, the assets are usually deployed in the production or provision of services. In the service arena, when a mascot and other trimmings of brand image are licensed for use, the local firms are not expected to work on the assets (as in 'improve') but are to work with them (as in 'use'). R&D activities could involve changes to the knowledge assets with the expected roles of the local firms varying in degrees of active engagement with the assets. The local firms engaged in production activities with the MNEs have a passive knowledge asset role. In R&D activities, their role is active. Accordingly, the transaction costs considerations for R&D activities also differ.

Without taking into account varying knowledge roles of "overseas centers of excellence" which have extensive R&D expertise and capabilities (Birkinshaw et al., 1998), these models do not adequately shed light on the basis for choice between the options when engaging in foreign R&D. A more complete vision must consider individually, the transactional weights associated with subsidiary strategies and mandates to carry out distinct types of R&D activity that exploit and/or augment existing MNE knowledge. This framework should suggest the rationale for each of the R&D activity types.

A framework for types of foreign R&D activity

There are transaction costs on both sides associated with the R&D activities engaged by MNEs in the host country. Extending from the preceding discussion, we develop a 2 x 2 matrix (Figure 1) to address the key considerations of a MNE's R&D unit in a host country and the possible (optimal) types of R&D activities it could engage in that arise from the interaction of the asset factors. We make the assumption that MNEs seek to undertake value-adding R&D activities in foreign markets, and which 'knowledge pertinent to R&D' (knowledge hereon) is the core country-specific advantage that MNEs seek to leverage. We also adopt a broad definition of knowledge, which includes raw ideas, scientific theories, information of various kinds, innovation methodologies, new business models, and new technology products and technology-driven processes.

We begin by developing the basic relationship between the market for the services of knowledge assets and the market for knowledge assets in and of themselves. Interactions between the MNE and local owners for R&D are embedded in two market contexts, either for the services of knowledge assets or for the knowledge assets in and of themselves. First, a MNE can sell knowledge asset services on the market, by licensing a local firm and providing technical support. Second, it can source the market for knowledge assets, by combining its own R&D know-how directly with a variety of local complementary assets available for purchase (e.g., highly-skilled labor, esoteric knowledge, proprietary information), either in whole or part, and integrating all of these into final products and services customized to local tastes or targeted for global markets. Correspondingly, a local entity (firms and public institutions) can sell knowledge asset services which are needed by a MNE, or sell ownership of the assets. MNEs engaging in R&D activities in a foreign country can operate in either markets, or both markets simultaneously, which is common for overseas centers of excellence. However, there are associated transaction costs incurred in selling MNE R&D assets and complementary local assets in the markets, which are represented by the axes in Figure 1. Economic agents on both sides alternate between markets according to the relative costs of transacting. When one market is subject to high transaction costs, agents may switch to the other. Therefore, the type of foreign R&D activity performed in MNE subsidiaries is efficient, insofar that both the MNE and local owners would have higher payoffs than if they would to act unilaterally.

		MNE R&D assets	
		Low costs	High costs
Local complementary assets	High costs	3. Knowledge incubation	2. R&D collaboration
	Low costs	4. Technology licensing	1. Knowledge transfer

FIGURE 1: OPTIMAL TYPE OF FOREIGN R&D ACTIVITY

MNE R&D assets and local complementary assets

The columns in Figure 1 refer to the costs (low and high) of transferring R&D assets from MNE subsidiaries to owners of local complementary assets using various market arrangements. R&D comprises of different knowledge components (activities). Technical knowledge can be patented and made available on the licensing market for others to use when transaction costs are low. Some kinds of knowledge, such as specific drug formulae can be easily transmitted through this mechanism because there is little room for ambiguity and can be efficiently protected by a patent. On the other hand, it is difficult to implement licensing for knowledge assets like general-purpose technologies (e.g., information and computer technologies) or technologies that are in the early adoption stage. In such a case when transaction costs are high for the MNE, specialized and clinical skills required for R&D work can be sourced from the market by directly hiring personnel. Project management skills are also critically needed to design procedures for cross-border R&D, such as workflows, progress monitoring, budget planning and knowledge sharing in order to manage “organizational tension” (Asakawa, 2001) and other coordination issues critical to globally distributed work. Best-practices can be bought from professional management consulting companies, and which the advantages of project management outsourcing include the flexibility to control costs according to the needs and timeline of the project, objectivity and exposure to outside knowledge, and the possibility to negotiate between service providers. However, outsourcing certain auxiliary R&D activities potentially creates vulnerability for sensitive technical data and proprietary knowledge to leak out to competitors that are serviced by the same provider (i.e. high transaction costs). Although access can be restricted, it requires defining the necessary access levels and providing the appropriate permissions, which incurs overhead. Further, outsourcing stymies the development of interpersonal relationships among the scientists, engineers and administrative staff, and more generally, organizational culture, which is crucial to overall R&D success. In sum, there are different channels in which the MNE’s R&D assets can be traded, and the efficiency of its transfer varies significantly according to the nature of the knowledge exchanged.

However, the columns in the matrix have only accounted for the MNE’s perspective. The framework is not complete without considering another perspective—that of the local owners. The point of view from the MNE alone excludes the influence of foreign institutional environments that is derived from availability of high-skilled labor, auxiliary and management services, financing and high quality intellectual property. These complementary local assets are represented by the rows in Figure 1. Contrary to the prior assumptions of OLI and internalization theories (Buckley & Casson, 1976; Dunning, 1980; Hennart, 1982; Rugman, 1981), as discussed in the previous section, local complementary assets that are needed by the foreign MNE subsidiary to carry out R&D are not necessarily freely accessible to MNEs. While contracting for some of these local services and assets themselves is viable option,

others can incur high transaction costs. For example, a public institution like a university can license a particular technology to the MNE, if there is no interest from the inventor to develop it further. The inventor can also provide his expert services by availing herself to the MNE for hire. However, in a situation when a local entity owns knowledge assets that has high scientific significance and innovation potential, it may not be willing to sell it wholly on the market, with the expectation of charging higher economic rents through membership in the R&D process (e.g., partial ownership, knowledge exchange). Therefore, a joint examination of the transactional characteristics of both MNE and local complementary assets is needed to explain the specific type of foreign R&D activity. In a given market transaction, the optimal type of foreign R&D activity is determined by weighing both the MNE's and the local owners' relative costs. We discuss these relative costs considerations in the ensuing paragraphs presenting the cells in the matrix, using the 'voice' of the MNE.

Relative costs of the types of foreign R&D activity

Each cell in Figure 1 reflects the costs MNEs must incur in order to gain access to local complementary assets necessary for incorporating proprietary knowledge into a particular exploratory or exploitative R&D activity, relative to the costs local owners may impose in facilitating this activity. The reasonable assumption is that MNEs will attempt to minimize knowledge spillover and maximize local learning for their R&D activities, and *quid pro quo* local owners will seek the best possible contracts for all the activity markets. Further, if both parties are cognizant of each other's individual strategies and therefore have no incentive to act unilaterally, then the type of foreign R&D activity chosen will be an optimal outcome. Figure 1 shows four clear possibilities.

Consistent with the assumption that the preference of the MNE is to minimize knowledge spillover and maximize local learning, we begin with the bottom right cell (the cell labeled "1. Knowledge transfer"). Where the transaction-specific cost of selling proprietary knowledge held by the MNE is higher than that of acquiring complementary local assets on efficient markets, then the MNE is in a stronger position than the local owner to negotiate. The solution that maximizes the total payoff from the combination of assets is for the MNE to carry out exploitative R&D activity, in the form of *knowledge transfer* (Cell 1), and purchase the complementary assets that support this activity in-house. The central lab at headquarters transfers proprietary knowledge to the foreign site, and R&D is conducted to adapt products and services for local and immediate markets. Production will be transferred to the MNE's wholly-owned plant and supported by the foreign lab in terms of technical knowledge. Marketing and distribution services may be contracted with local firms.

When the MNE possesses R&D assets that can be combined with the local complementary assets, the relative costs of transferring the knowledge assets are high taking into account the similar situation occurring on the part of the local prospective partner. Both parties would have the desire to protect their assets and at the same ensure that any fruits of the transaction would accrue to themselves. In such instances of high MNE and high local partner costs, the R&D activity that is likely to ensue is some form of collaboration, such as a joint venture or contractual co-development with agreement on the ownership of the joint R&D activities. Hence for the top right quadrant (Cell 2), we identify *R&D collaboration* as the R&D activity.

In the top left quadrant (Cell 3), the relative transaction costs are higher on the part of the local partner. Here the MNE may not have the assets it so desires. The local partner with the asset would desire to exploit its knowledge assets. In this quadrant, the foreign MNE finds itself in a diametrically opposite position to that in Cell 1 where it was transferring out. Here it would be the local partner who would be transferring its technology to the foreign MNE and employing its complementary knowledge assets. If the local partner is so willing, the R&D activity that could emerge from the MNE's perspective is *knowledge incubation*. Where the prospective local partner, say a research institute, finds the relative transaction costs unfavorable and chooses not to transfer, other R&D activities are possible on the part of the foreign MNEs. These activities can range from the recruitment of staff from the local research institute, employment of scientists trained by the research institute (which would be possible if the local partner is a research institute at a university), to the sponsorship of research students, personnel or activities at the research institute. This type of R&D activity is closely associated with applied research, which is defined as original investigation undertaken in order to acquire new knowledge, through access and use of some part of accumulated theories, knowledge, methods, and techniques, but which is directed primarily towards a long-term practical target, such as the development of future product technologies (Hamilton, 1992; OECD, 2002). Knowledge

incubation enables the foreign R&D center to over time, acquire new knowledge and R&D know-how, and to augment the MNE's knowledge base at home.

In the final quadrant (Cell 4), the situation may appear to be a reflection of Cell 2, except where Cell 2 covers the 'high, high' transaction costs situation, the parties in Cell 4 are in the 'low, low' situation. While it would be tempting to say that the R&D activity in this quadrant is the same as that in Cell 2, it would be presumptuous. The motivations of the parties in the 'low, low' scenario differ. The parties in Cell 2 face higher transaction costs of transferring their knowledge assets because their assets may be considered to have a higher value due to complexity of multiple embedded technologies or have an esoteric nature, and thereby difficult to implement a licensing structure. The knowledge assets associated with the parties in Cell 4 have a less idiosyncratic nature and lower value, so that the MNE or local owner have the confidence to license for others' use with minimal liabilities and costs. For example, they may be sophisticated process related knowledge assets that are fairly generic, such as innovation management techniques. R&D collaboration between the foreign MNE and the local prospective partner is less likely in this quadrant. It is difficult to imagine two 'weak' parties, here using 'weak' in a comparative sense to the parties in Cell 2, collaborating on a higher order R&D unless there is a strong incentive. As such, the type of R&D activity that arises in Cell 4 is *technology licensing*. This is reasonable because in practice, corporations typically license out more mature technologies or ones which are less significant to them (i.e. low transaction costs). Despite the continuous push to develop institutions for intellectual property protection both within nations and internationally, the significance of IP protection and implementation of laws vary significantly across countries. Further, patents and copyrights are highly subject to technical ambiguity (due to obsolescence) and legal nuance. Even in the patent tripartite bloc of the U.S., Europe and Japan, there are frequently lawsuits disputing intellectual property rights. Nevertheless, here is the quadrant where some policy initiatives to jumpstart technology-driven entrepreneurship, by partnering companies together with university-based student start-ups have borne fruit in some countries, such as Singapore.

Conclusion

We have attempted in this paper to shed light on how different types of R&D activity are carried out by MNE R&D subsidiaries in foreign locations all over the world. We submitted a view that foreign R&D activity is a function of transaction-specific costs incurred by the MNE as well as local owners in transferring knowledge assets related to R&D. Toward international R&D collaboration, host country institutions play a crucial role in attracting inward R&D FDI by MNEs that maximizes net value creation in terms of technology, innovation and enterprise.

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Difference between AFHH and DP option values under strategic interactions

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Abstract

This paper considers the Arrow-Fisher-Henry-Hanemann (AFHH) value and Dixit-Pindyck (DP) option value under strategic interactions. The AFHH option value has some difficulty under strategic interactions. Then, the expected value of information should be considered under such situations. In a contrast, the DP option value is recently shown to be decomposable as the AFHH option value and the decomposed as the AFHH option value and the pure postponement value by Mensink and Requate (2005, *Resource and Energy Economics*). This paper considers the DP option value under strategic interactions, and discusses the relationship between the AFHH and DP option value. We find that the decomposability à la Mensink-Requate has different meaning under the interactions and show an action value on the information loss.

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Introduction

Irreversibility is one of the most fundamental characteristics of the environmental problems we are currently facing. Extinction of an endangered species is one obvious example. Because (at least as of yet) we cannot restore a species that has become extinct, the action that entails a loss of species can be considered irreversible. In the remainder of this paper, we say that an action is irreversible when it is impossible or prohibitively expensive to undo the action.

Because it is expensive or impossible to undo an action, it may appear that an irreversible action should always be avoided. However, in the standard framework of the cost-benefit analysis, such a conclusion is clearly wrong. Irreversible actions may affect future states and possible future actions. However, that alone does not affect the basic principle of project evaluation; even if a species is lost, an action can be justified if there is a sufficiently large gain from that action. When there is uncertainty about future states, project evaluation requires a careful assessment of information as it becomes available. For example, species that have not previously been described might be discovered and found to be economically valuable. If a project drives such species to extinction by, say, clear-cutting a forest, opportunity cost arises due to the loss of that species. However, the economic value of the extinction of an unknown species is typically ignored in project evaluation because of the lack of information about the species at the time of evaluation.

One can appropriately account for the potential loss of species by taking into consideration the quasi-option value (QOV), or the Arrow-Fisher-Hanemann-Henry (AFHH) option value due to Arrow & Fisher (1974), Henry (1974), Fisher & Hanemann (1987), and Hanemann (1989). The quasi-option value can be viewed as the value associated with the mere prospect of obtaining better information in the future. This concept is related to the (unconditional) expected value of information (EVI) but is generally different from it (Conrad, 1980, Hanemann, 1989).

Fujii & Ishikawa (2011) recently consider the AFHH option value in strategic interactions. They highlight some conceptual difficulties with the QOV under strategic interactions. Furthermore, they investigate the potential importance of information-induced inefficiency, and show that everyone could be hurt if everyone knows that everyone will know more in the future. In cases where this applies, the regulator should carefully disseminate information. In particular, they show that sending information about the state asymmetrically across players may be useful for achieving a socially efficient outcome.

In the similar line, Dixit & Pindyck (1994) also propose another option value for investment under uncertainty (henceforth the DP option value). While Fisher (2000) argued that the AFHH value is equivalent to the DP option value, though Mensink & Requate (2005) showed that they are different by the postponement value irrespective of uncertainty. However, when investment faces in a strategic interaction, it is not clear to appear such a difference.

The purpose of this paper is to investigate the deference between the AFHH option value and the DP option value under strategic interactions. The AFHH option value under strategic interactions is considered in Fujii and Ishikawa (2011) in a general strategic setting. They point out some difficulty to consider the value under strategic interactions. Instead, they define the social expected value of information (EVI) under the interactions. This paper also uses that setting, and considers the DP option value under such situation. We relate with the social EVI and the postponement value irrespective of uncertainty.

This paper is organized as follows. In Section 2, we introduce strategic interactions following Fujii and Ishikawa (2011). We revisit the AFHH option value and EVI under the strategic interactions to discuss the conceptual difficulty with the AFHH and to show some result on the EVI. In Section 3, we consider the DP option value under strategic interactions, and decompose it in a different way from Mensink & Requate. Section 4 provides some discussions.

AFHH option values under strategic interactions

Basic setting

We assume that there are two time periods, of which period 1 is the current period and period 2 is the future period. In line with the standard model, we consider the following situation: A forest can be developed in each period. The forest may contain biological resources that will be lost if the forest is developed (clear-cut). A key assumption in the previous QOV literature and in this study is that development is irreversible; forest that has been developed in period 1 cannot be reversed to the original state in period 2 (*i.e.*, the lost biological resources cannot be recovered).

We shall denote by $S \equiv \{s_1, s_2\}$ the set of all possible states; s_1 represents the state in which there are no biological resources, and s_2 is the state in which biological resources exist. Hence, opportunity cost due to the loss of biological resources arises only when the state is s_2 . In period 1, the state is not known. However, it is known *ex ante* that s_1 and s_2 occur with probability π and $1-\pi$, respectively. In period 2, the state may be known before an action is taken because of, for example, (exogenous) scientific research. To keep the model simple, we shall only consider independent learning. That is, the state is learned in period 2 regardless of the actions taken in period 1.

An important difference between this study and previous QOV studies is that we incorporate strategic interactions. We assume that the society has two risk-neutral players, α and β . The value of π is common knowledge to the players. The two players in this setup may be thought of as forest loggers or private land developers.

In each period $t \in \{1, 2\}$, each player $i \in \{\alpha, \beta\}$ chooses an action $d_t^i \in \{0, 1\}$ where 0 represents conservation and 1 represents development. We assume that conservation is always chosen when the decision-maker is indifferent between conservation and development. Because the action to develop is irreversible, we must have $d_1^i \leq d_2^i$. Let us denote $d^i = (d_1^i, d_2^i)$. Notice that modeling the choice between conservation and development as a discrete choice is not as restrictive as it may appear because a corner solution almost always arises when there is a constant return to development, as shown by Arrow & Fisher (1974). Hence, our analysis can readily be extended to a case of continuous development on a unit interval. In this study, we use a discrete-choice model to avoid unnecessary complications.

We make the following assumptions about the distribution of the payoffs from development: When both players choose to develop at the same time, they share the payoffs from development equally. If one player chooses to develop in period 1 and the other in period 2, then the leader in development (*i.e.*, the player who develops in period 1) takes all of the per-period payoffs from development in period 1 and a share $k \in (0, 1)$ in period 2. The follower (*i.e.*, the player who develops in period 2) receives no payoff in period 1 and a share $(1-k)$ of the payoff from development in period 2. We assume that the value of k is common knowledge. The interpretation of the parameter k will be presented subsequently.

We normalize the payoffs so that the per-period payoff from conservation is equal to zero. Further, we assume that the total payoff from development to the society in period 1 is positive. If not, it is always best for the society to wait until period 2 to develop and the problem is not interesting. For a similar reason, we assume the per-period payoff from development in period 2 is negative in one state and positive in the other. Given these assumptions, we can permit the total per-period payoff from development to the society be equal to a in period 1, b in

period 2 if the state s_1 and $-c$ in period 2 if the state s_2 , where a , b , and c are positive constant expressed in present value. We present the per-period payoff matrices in Tables 1 and 2.

AFHH option values and EVI under strategic interactions

Fujii & Ishikawa (2011) discuss some difficulty to define the AFHH option value under strategic interactions. Let us revisit the concepts of the AFHH option value and the expected value of information (henceforth, EVI) following Conrad (1980) and Hanemann (1989). In the literatures, two kinds of information flow are considered: (1) When the state in period 2 is revealed before the beginning of period 2, and (2) when the state is not revealed before the beginning. The standard AFHH option value measures the difference in the payoff of conservation relative to development between the above two scenarios with and without information about the state in period 2. Therefore, to obtain the AFHH option value well as EVI, we evaluate the total payoffs when players take actions 0 and 1 for each scenarios. Then, Fujii and Ishikawa (2011) point out that the AFHH option value is not meaningful under strategic interactions. This is because a pair of players' actions may be supported as an equilibrium.

TABLE 1: The per-period payoff matrix in period 1

	$d_1^\beta = 0$	$d_1^\beta = 1$
$d_1^\alpha = 0$	(0,0)	(0, a)
$d_1^\alpha = 1$	(a , 0)	($\frac{a}{2}$, $\frac{a}{2}$)

TABLE 2: The per-period payoff matrices in period 2 when $s = s_1$ (top) and $s = s_2$ (bottom)

$s = s_1$	$d^\beta = (0, 0)$	$d^\beta = (0, 1)$	$d^\beta = (1, 1)$
$d^\alpha = (0, 0)$	(0, 0)	(0, b)	(0, b)
$d^\alpha = (0, 1)$	(b , 0)	($\frac{b}{2}$, $\frac{b}{2}$)	(($1-k$) b , kb)
$d^\alpha = (1, 1)$	(b , 0)	(kb , ($1-k$) b)	($\frac{b}{2}$, $\frac{b}{2}$)
$s = s_2$	$d^\beta = (0, 0)$	$d^\beta = (0, 1)$	$d^\beta = (1, 1)$
$d^\alpha = (0, 0)$	(0, 0)	(0, $-c$)	(0, c)
$d^\alpha = (0, 1)$	($-c$, 0)	($-\frac{c}{2}$, $-\frac{c}{2}$)	($-(1-k)c$, $-kc$)
$d^\alpha = (1, 1)$	($-c$, 0)	($-kc$, $-(1-k)c$)	($-\frac{c}{2}$, $-\frac{c}{2}$)

Fujii and Ishikawa (2011) therefore consider EVI under strategic interactions. They evaluate the subgame perfect Nash equilibrium under the above two scenarios following Tables 1 & 2 (See Fujii and Ishikawa, 2011, for the details). EVI is defined as the difference between the two scenarios. They obtain the following proposition:

Proposition 1 (Fujii and Ishikawa, 2011): *The (social) EVI under strategic interactions is negative if and only if*
 $k < 1/2$, $a > (1-\pi)c$, & $\frac{2(a-(1-\pi)c)}{1-2k} < \pi b < (1-\pi)c + \frac{2a}{1-2k}$.

When $k < 1/2$, we have a situation where a larger share of the benefits (and costs) will be obtained if the player is a follower in development. Therefore, if $B \equiv \pi b > (1-\pi)c \equiv C$, each player has the incentive to hold back development until period 2 so that he does not have to suffer from the leader disadvantage. Obviously, this point must be weighed against the opportunity cost (a) of conservation in period 1.

When $(1-\pi)c < a$ holds, it is efficient for the society to develop in period 1 because the opportunity cost of conservation in period 1 is large relative to the potential gains from information (C is the expected loss that could be avoided by utilizing the information in period 2). This efficient outcome is achieved in the absence of information in period 2 if development is sufficiently attractive but B is not large enough for the players to try to be followers in development. This occurs when $0 < \pi b < (1-\pi)c + \frac{2a}{1-2k}$. Therefore, the upper bound on πb in the above last condition reflects the condition for the efficient outcome in the absence of information.

DP option value under strategic interactions

Basic scenario

For the DP option value, the basic setting is common to the AFHH option value. The scenario is slightly different because the DP option value is that for irreversible investment decisions. For instance, Pindyck (1991) illustrates the capital investment with large sunk cost by firm or industry specific. In our framework, action 0 is considered as *not to invest*, and action 1 is *to invest* in the previous setting.

Mensink and Requate (2005) pointed out the equivalent result between the AFHH and DP option value by Fisher (2000), and decomposed the DP option value to the AFHH option value and the postponement value. They assume that the default value is equal to zero when a player takes action 0 at both the periods. The DP option value is defined as

$$OV^{DP} := \max \{ \hat{V}(0), \hat{V}(1) \} - \max \{ V^*(1), 0 \},$$

where the arguments in \hat{V} and V^* are a player's action in period 1, $\hat{V}(\cdot)$ is her payoff when information is revealed before period 2, and $V^*(\cdot)$ is her payoff when information is not revealed. Note that $\hat{V}(1) = V^*(1)$ in one-person decision making because she is *locked in* with her decision when taking action 1 in period 1.

Mensink and Requate (2005) assume $\hat{V}(0) > \hat{V}(1)$ and $V^*(1) > 0$ as an interesting case. Then, the DP option value is:

$$\begin{aligned} OV^{DP} &= \hat{V}(0) - V^*(1) = \hat{V}(0) - V^*(1) + [V^*(0) - V^*(0)] \\ &= [\hat{V}(0) - V^*(0)] + [V^*(0) - V^*(1)]. \end{aligned} \quad (*)$$

The first term corresponds to the AFHH option value and the second term was defined as the *pure postponement value* in their paper.

We now extend Mensink-Requate's concept to our case of strategic interactions. Following the payoffs in Tables 1 and 2, we consider the subgame perfect Nash equilibria under the two scenarios. Fujii-Ishikawa show all the equilibria under those scenarios (See Fujii and Ishikawa (2011, p. 28)). Based on those equilibria, we now define the DP option value under strategic interactions as follows:

Definition 1: The DP option value OV^{DPG} under strategic interactions (or *games*) is the difference of total payoffs over the players between (i) when information of the state 2 is available before period 2 and (ii) when no information is available.

The above definition implies that the social EVI in Fujii and Ishikawa is used for the evaluations. By the use of the social EVI, we can avoid conceptual difficulty under strategic interactions as discussed in their paper. That is we need not consider the actions which is not supported in the equilibrium.

Here we consider the similar cases to Mensink and Requate. That is, the equilibrium action is that both the players take action 0 if the information of the state in period 2 is available, and otherwise the equilibrium action is 0. Due to Fujii and Ishikawa, those two equilibria are achieved if and only if either of the following cases is satisfied in the payoffs: (1) $k = 1/2$, $a < C < a + B$, (2) $k > 1/2$, $a + (2k-1)B < C < a + B$, (3) $k < 1/2$, $B - a/(1-2k) < C$, $a - (1/2-k)B < C$, $a + B > C$, where πb and $(1-\pi)c$ are denoted by B and C , respectively. In our definition, OV^{DPG} is obtained in the same manner as (*). Following the definition, we show what range the DP option value is negative in:

Proposition 2: Assume the subgame perfect Nash equilibrium action is 1 when information is available, and the action is 0 otherwise. *The DP option value OV^{DPG} is negative if and only if*

$$k < 1/2, \quad a > C \quad \& \quad \frac{2(a-C)}{1-2k} < \pi b < C + \frac{2a}{1-2k}$$

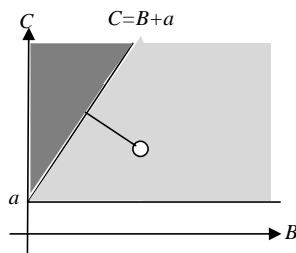
Basically this result is due to the negative social EVI. That is, the prospect of future information induces a prisoner's

dilemma situation. The difference of the range between Propositions 1 and 2 is due to the restriction to the equilibrium for comparison with Mensink and Requate. This result shows that the DP option value can be negative under strategic interactions and it is equivalent to the social EVI à la Fujii-Ishikawa.

Moreover, we consider the pure postponement value in our setting as well. As seen in (*), Mensink and Requate use the value obtained by action 0 when no information is available before period 2. In our above analysis, we assumed that the equilibrium action is action 1 under no information case. Then, that action 0 is considered under the case means players' deviation from the equilibrium actions. However, what does this deviation mean? In fact we are facing the same difficulty as Fujii and Ishikawa. That is, such deviation is not supported by equilibrium.

Here we try to consider another approach, a *counterfactual approach*. First of all, we consider the parameter range that action 0 with and without information is supported by equilibrium action for both the players. The condition for any k can be show as $a + B < C$ where B and C represent πb and $(1-\pi)c$, respectively. Given Tables 1 & 2 with fixing parameters a , b , and c , we consider the minimum Euclidean norm between the equilibrium supporting actions 0 and 1, respectively. For instance, look at the graph below.

GRAPH: Parameter combination when $k = 1/2$



The light gray is the range that equilibrium action is 1 with no information, and the heavy gray is the range that the equilibrium action 0 with no information. Let a white dot be the given parameters' values. The minimum Euclidean norm is just a length of the line perpendicular to line $C = B + a$.

What does the length mean? It means the value supporting the equilibrium action as action 1. If it at least changes by the length, the equilibrium also changes. The length is corresponding $[V^*(0) - V^*(1)]$ in (*). We can say this value by *an action value on information loss*. Since $[\hat{V}(0) - V^*(0)]$ in (*) is the value of information, the DP option value under strategic interactions consists of the value of information plus to an action value on information loss. The negative or positive value decides the largeness of information value and loss in our counterfactual approach.

Discussions

This paper revisits the AFHH option value à la Fujii and Ishikawa (2011), and defines the DP option value under strategic interactions. We face a conceptual difficulty when considering the DP option value as well as the AHFF value under the interactions. However, we show another decomposition of the DP option value and show an action value on information loss. In our analysis, we focus on an interesting case that action is taken without information. Then, our analysis concentrates on the coordination equilibrium that both the players take the same action. As further research, we need investigate the DP option value when the equilibrium is achieved by different actions of the players.

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Implementing Information System Innovations to Manage Biosecurity Issues in Australian Food NetChains

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Abstract

Tracking and tracing systems are being demanded by customers such as the major Australian supermarket chains, superior food service chains and globally in export markets such as the European Union and Asia. This includes the ability to track products as they move to downstream customers and to traceback where products have been sourced for feedback and to resolve problems. To continue to access these global premium priced markets Australian food organisations need to ensure they meet changing customer requirements.

Traditionally information communication technologies to provide tracking and tracing systems have been set up for larger businesses and industry sectors that warrant the costs of development. Small business cannot always afford to invest in the infrastructure to establish through chain and industry wide netchain based systems. This problem is compounded where businesses are fragmented and spread over large geographical areas even if they have similar requirements.

An action learning approach was taken to identify what is needed in setting up tracking and tracing systems to address biosecurity issues in three small business based netchains (livestock 'A' and fruits 'B' and 'C'). In the livestock 'A' sector fears of a global pandemic has heightened the need for tracking and traceability processes, combined with preventative actions and rigorous bio-security protocols (e.g. traceability of traffic movements around production areas, contaminants from the wild animals and activities on neighbouring properties). For fruit 'B' and 'C' movements of produce across state and national borders requires phytosanitary certification to provide assurance to minimize or eradicate the spread of diseases and pests. Concerns or delays in tracking and tracing can result in perishable produce becoming unsalable.

A system was identified to suit small businesses and those in niche market industries. The system was based on deployment through the internet. The system had to link in with existing business information systems and business methods, be reliable, able to be tailored to address biosecurity issues and effective in meeting customer requirements.

Results presented compare the use of the tracking and tracing system across the three different sectors (animal and horticultural products) and states of Australia. Findings are presented on what was learnt in the process including: identifying business in chains and networks to work collaboratively with; catalysts needed to get commitment to change; and support systems needed for successful implementation across multiple small businesses linked in netchains.

Introduction

Tracking and tracing systems are demanded by customers such as major Australian supermarket chains, superior food service chains and globally in export markets such as the European Union and Asia. This includes the ability to track products as they move to downstream customers and traceback to where products have been sourced for feedback and to resolve problems (Ra, 'bade, and Alfaro 2006, Smyth and Phillips 2002). Three factors are likely to 'influence the demand for tracability: risk assessment and management; product differentiation ; and productivity gains (Canesis 2006). To continue to access global premium priced markets Australian food organisations need to ensure they meet changing customer requirements.

Traditionally information communication technologies to enable tracking and tracing systems have been established for larger businesses and industry sectors that warrant the costs of development. A recent

Australian Department of Agriculture Forestry and Fisheries (DAFF) study by the researchers (Batt, Noonan and Kenyon 2006) identified that small scale efficient technologies are needed by food industry for food safety systems. Small to medium enterprises (SME's) can't always afford to invest in the infrastructure to establish chain and industry wide netchain (horizontal network links between similar organisations as well as vertical chain links with customers and suppliers) systems. This problem is worse where businesses are fragmented and spread over large geographical areas: even if they have similar requirements.

Australia has a strong record in managing biosecurity and quarantine issues (Nairn, Allen, Inglis and Tanner 1996) and has a multiagency / mutli organization focus on maintaining this status. The ability to track and track via a range of mechanisms – electronic and paper based - has historically been a central component of Australia's capacity to maintain such an enviable position of managing biosecurity issues.

The main aims of the research were to set-up and evaluate the use of emerging technology in track and trace systems for several SME based netchains. The research objectives are specifically to:

1. Identify the issues affecting the uptake of tracking & tracing technologies
2. Trial tracking & tracing systems in several industries
3. Evaluate the systems trialed
4. Determine the problems faced in adopting tracking & tracing technologies
5. Identify possible solutions including support needed initially and on an ongoing basis

Research Methods

Identifying Industries, Organisations and Participants

The first step was to identify organisations to participate in the project. They had to be small to medium sized food organisations where perishability and biosecurity concerns that would provide the motivation to participate. In addition, they needed to be connected in industry netchains. Owners and managers of the business were targeted to participate in the project. Ultimately three netchains have been investigated from three sectors or industries.

In the first industry, livestock 'A' sector, recent fears of a global pandemic heightened the need for tracking and traceability processes, combined with preventative actions and rigid biosecurity protocols. These concerns introduce new areas to trace (beyond normal, through chain considerations), such as traffic movements around production areas (for example, carrying chemicals and stock feeds), contaminants from the wild (e.g. native species and escapees) and activities on neighbouring properties.

In the 'B' and 'C' fruit industries, movement of produce across state and national borders requires phytosanitary certificates to ensure diseases are not spread. Delays in producing phytosanitary certificates to track produce can result in perishable produce like fruit 'B' and 'C' becoming unsalable.

The industries and associated netchains were selected on the basis of advice received from the commissioning research funder, the experience of the research team and contacts within of the netchains.

In addition to the three netchains reported here, honey bee and rambutan netchains were approached for inclusion in the study: due to a range of factors these netchains were not included.

The livestock 'A' netchain is characterized by a group of approximately 20 small, somewhat interconnected and dependent businesses, ranging from breeder and grower operations through to processors and marketers. The direct chain actors form a cluster that operates in concert with a number of infrastructure providers and State and Local Government agencies. There are strong business to business relationships through and within the netchain, with looser arrangements across the netchain. The netchain is primarily based in a temperate Mediterranean type climatic zone in South Central Victoria which is subjected to few major weather related natural events that can compromise biosecurity.

Fruit 'B' is grown in Northern, Central and Southern Queensland (48 identified growers). The sector is characterized by a strong alignment of the growers with a marketing association and its marketer (the principle marketing agent), which is the dominant mechanism by which fruit 'B' is exported interstate and beyond Australia. There appear to be strong symbiotic relationships and cooperation between growers and the

marketing association. It appears that the marketing association and the marketer have a strong interdependent relationship within the netchain. Production is spread across a range of climactic and agro-geographic zones from Tropical to Sub-tropical and has been subjected to more frequent weather related natural events (Tropical Cyclones) that can compromise biosecurity.

Fruit 'C' is grown in Queensland (19 growers) and New South Wales (23 growers) and there are two major market agents. Production is spread across a range of climactic and agro-geographic zones from Sub-tropical to Warm Temperate and has been subjected to less frequent weather related natural events that can compromise biosecurity.

There are some 23 independent wholesalers who service either or both of the 'B' and 'C' fruit industries that were contacted in some way by the project. Business and marketing arrangements are more fragmented and opportunistic in this sector: there appear to be fewer strong inter business relationships in comparison to fruit 'B' and livestock 'A'.

Action Learning to Develop and Evaluate Tracking & Tracing Systems

An action learning research approach was taken where the needs of the industry were identified and systems developed to address these needs at each stage of the research. Industry participants were involved in identifying and evaluating solutions through the research.

Initially, industry members were consulted to determine their requirements for a tracking and tracing system. Part of this stage was the mapping of organisations involved in the chain and how product and information flows between each organisation. The business rules used and biosecurity issues to be addressed were identified as well as the outcomes required. Industry members were then consulted about a proposed tracking and tracing system. During and after implementation feedback was sought with a formal evaluation made after the system had been used.

The netchain management systems deployed for each commercial group had to be customised to the industries requirements and address priority biosecurity issues. The system used needed to fit efficiently into current business methods, as well as be reliable and effective in meeting customer requirements. Technology was found that had been developed by the web based track and trace system provider that suited SME's and those in niche market industries. The system linked existing legacy computer systems across multiple organisations in netchains through the internet. It was able to be developed to address biosecurity issues and link with existing business information systems and business methods.

The specific steps in the system design and evaluation included:

1. Document the chain. Identifying at each point in the chain: all the roles played, interfaces, reporting loops and relationships;
2. Document the physical processes and information flows within the chain;
3. Document the outcomes that are required and the points in the chain that need to have data to make decisions and/or build workflow processes;
4. Prepare a functional specification for the chain - services (data capture by electronic forms and data files, and reports), profile data, roles, business and chain transparency rules (who can see what), data dictionary etc;
5. Netchain to confirm acceptance of proposed system;
6. Build solution;
7. Progressive rollout to each industry netchain - user documentation, training, continuous fine-tuning done as required; and
8. Evaluation

This paper reports on the in-depth interviews conducted with participants in the program after the system installation and the researcher team's interpretations over the period of the project on the implications for implementation in other industries. A total of 29 interviews were conducted - 8 in the livestock 'A' industry; 14 in fruit 'B'; and 7 in the fruit 'C' industry. All businesses were categorised as micro or small business, with an average of 3.4 employees ranging from none to 10 employees for a fruit 'C' grower and 15 for a livestock 'A' meat processor. Employee numbers were stable with only the livestock 'A' growers

increasing staff with increased production and two fruit 'C' growers reducing staff due to poor fruit harvest or removal of trees.

Results

Results presented compare the use of the tracking and tracing system across these different industry sectors (horticultural and animal products) and states of Australia. Findings are presented on what has been learnt in the process including: identifying business in chains and networks to work collaboratively with; catalysts needed to get commitment to change; and support systems needed for successful implementation across multiple small businesses linked in netchains.

The research through the trial and evaluation of tracking and tracing systems across several industry sectors and in several states of Australia provides examples of what is possible for others. Across chain principles can be derived, as well as differences required for horticultural and animal products. It can also facilitate the subsequent adoption by other industry sectors and regions. In addition, the process of businesses working together may facilitate learning in other areas such as joint problem solving.

Livestock 'A' Netchain

In October 2007 a preliminary workshop was conducted with eight industry members representing a breeder, a nursery farmer, growers and processors. A preliminary scoping document outlining the proposed tracking and tracing system was circulated to industry in February 2008. However the scope of the system and participants continued to change until May 2009. The system was developed with pilot roll out and training conducted in August 2009. Only one grower and one processor participated in the training and trialing. Note: it was originally expected to design and trial the prototype system in February 2008 with a revised expanded system trialed in May 2008 and rolled out to others in the industry by August 2008.

Initially the tracking and tracing system was designed for exotic meat animals only. With the sole main stream supplier having concerns about information being shared with customers, it was decided to remove the breeder stage and start the system from the breeders through to customers (retailers or food service). To improve the potential take up by others in the sector, the system was then expanded to add the mainstream grower netchains (finishing meat animals) with potentially 40 growers with three or four facilities each. The expansion however added complexity in trying to link into a larger number of existing systems. Some of the businesses were larger (40 businesses employ 1,412 full time and part time employees) and had well developed systems. There were delays in exchanging details of existing systems with the system developers even when done 'commercial in confidence' (workflow processes, business rules and documentation used). In August 2008 it was suggested the group was not clear on the competitive and collaborative advantages and where competitive information may be passed to others in the industry. In addition, there was not clear target date to get decisions finalised by. Forms and the scope boundaries of the system was not finalised until May 2009.

Concerns were raised by growers that the pilot system did not do all the things they had expected, such as tracking animal growth rates daily and weekly. With the extensive discussion period and changes in system specifications it would seem expectations were not well managed. It is recommended that there needs to be clear communication about compromises made in the final system scoped with details provided of what could potentially be added in the future.

A clear commercial or technical imperative for the system is apparently lacking. It is hypothesised that this may be due to the biosecurity risk of a particularly contagious virulent virus not eventuating as expected. It was suggested this lower perception of risk may be due to the fact that during the same time period humans dealt with the so called 'swine flu' (H1N1) pandemic and the Australian horse industry dealt with equine influenza without the sensational impacts the media had warned of.

The system was narrowed down to focus on the game processor who by the time it was trailed was only operating a day or two per week. As a small business operation that had traditionally operated based on 'memory' the lower volume of production may have meant the system was not seen as necessary.

It is noted that organisations need a clear commercial imperative to set up tracking and tracing systems as well as sufficient volume to make it worth the effort to do so.

Fruit 'B' Netchain

A meeting was held with the fruit 'B' marketer and fruit 'B' growers in November 2007. Training of fruit 'B' growers on how to use the system was then run in North Queensland and then in central Queensland. The training day planned in Southern Queensland did not eventuate. Training was attended by 17 of the 47 growers. With a change in the Board of Directors of the fruit 'B' grower group, support for implementation of the system by most growers was extinguished. The loss of support can in part be attributed to: the role of key influence members in the netchain (gatekeepers – Rogers and Kincaid 1975. and Brown, Malecki and Spector 1976); a desire to protect commercial in confidence information; and information that could be used to extract market intelligence; and the presence of a preexisting information management system.

Fruit 'C' Netchain

After a meeting with the fruit 'C' marketer a prototype system was designed and set up in February 2008. Training was provided to the marketer in March 2008 who provided further training and support for its fruit 'C' grower suppliers. A short time frame was involved to get the system up and working before the season started in March. Some growers had used a similar system for other crops grown in the previous year. Since the roll out in 2008 all growers used the system.

The system provides tracking and tracing of fruit 'C' from growers properties to the marketer and to downstream customers (exporter quality assurance assessors, importers, retailers, food service businesses). In 2009 the system was expanded to generate 'recipient created tax invoices' and payment documents to assist in linkages with financial recording systems. In addition it was expanded to provide reporting of wholesale prices paid to comply with the new Horticulture Code about price communication. In 2010 the system was expanded to provide electronic phytosanitary 'plant health' certificates to give assurances the fruit will not have biosecurity risk such as fruit fly. The electronic plant health certificates ensures there are no delays in accessing other markets such as Victoria, South Australia and Western Australia.

The lessons learnt from the fruit 'C' netchain would be that strong leadership and support by a key customer is needed for successful implementation. There were clear commercial imperatives to participate through system development to solve business problems.

Characteristics of In-depth Interview Respondents

All interviewees had considerable experience working in their current role (average 14 years – fruit 'B' 14 years, fruit 'C' 11 years and livestock 'A' 20 years), in the current organisation (average 16 years – fruit 'B' 17 years, fruit 'C' 14 years and livestock 'A' 20 years) and in the industry more generally (average 15 years – fruit 'B' 14 years, fruit 'C' 10 years and livestock 'A' 24 years). The nature of their experience in the industry was more varied. All had experience as growers although in livestock 'A' they may have been involved in growing breeder animals (3 respondents), conventional growers (5), or game (3). Fewer had experience in marketing (9 respondents), supplying inputs to growers (8), distribution (6), exporting (6), wholesaling (5), processing (4) and retailing (4).

Experience with Quality Assurance, Environmental Management Systems (EMS) and Traceback

Most respondents (22 – 75%) had a quality assurance (QA) system in place although it was more common in the fruit companies (fruit 'C' s 7 – 88%; fruit 'B' 12 – 86%) than in the livestock 'A' companies (3 – 43%). Mostly Freshcare™ for those involved with fruit 'B' and 'C' and Primesafe for those in livestock 'A' - game. In the fruit 'B' organisations three used the marketers QA system, two used ICA13 (EMS), one used SQF2000^{CM} and one used a standalone HACCP certification.

The reasons for using the systems were for customer reassurance or market requirements and traceability. Those that commented on why they did not have QA or EMS said they were setting up their systems in new businesses. The one livestock 'A' organisation that said they were 'too busy' was the owner of a business and had been in working in it 30 years.

QA systems had been operational for an average of 8.3 years but this ranged from two to 20 years. Each industry had organisations with QA systems operational for over ten years (fruit 'B' – 2 for 12 years and 1 for 20 years; livestock 'A' 1 for 10 years and 1 for 13 years; fruit 'C' – 2 for 10 years and 1 for 15 years).

The time to develop QA systems averaged 4.3 months but ranged from 1 to 60 months. The longest time was 12 and 60 months to set up QA systems in the fruit 'B' industry. On the premise that primary producers are often Bayesian (that is accumulators and processors of information over time) (Lindner 1987) in their approach to the acquisition and application of information about new technologies (Noonan and Gordard 1995), that there are a range of factors in the dictate of the time taken to understand and implement new technologies (Marsh 2010), and that there are a number of steps, stages or 'time lags' in the process of adoption of a technology by primary producers (Lindner, Pardey and Jarrett 1982); then the time taken to assess, setup and trial management systems are consistent with a Bayesian model of behavior. The assurance certification approaches used are also consistent with other studies (Batt, Noonan and Kenyon 2006).

Over half (11 – 55%) had experience in setting up information, quality assurance or EMS's with more experience in the fruit 'C' organisations (6 – 75%) than the livestock 'A' organisations (4 – 57%) or fruit 'B' organisations (2 – 14%). Mostly it was Freshcare™ (fruit 'B' and 'C') or HACCP (Hazard Assessment Critical Control Points) with one each involved in setting up Interstate Certification Accreditation (ICA13), ISO9000, export accreditation and livestock 'A' processing licensing systems. All systems were certified against a standard such as State Government and Industry systems like Freshcare™ and Primesafe as well as HACCP (5 organisations), Woolworths QA (4 organisations), SQF2000^{CM} (2 organisations) and ISO 9000 (1 organisation).

While the QA systems in the 'B' and 'C' fruit industries were stable with no changes in the last 12 months, three of the four organisations in the livestock 'A' industry had changed their QA systems. For one a HACCP review resulted in changes in system procedures. For another there was increased customer feedback with a new product. For the other there were new processes to comply with ISO 9001:2008. It would seem that the livestock 'A' industry was undergoing much change in existing QA systems and in the process of setting up QA systems.

Biosecurity Issues

Definitions of term Biosecurity varied depending on the organisation (fruit 'B' organisations were not asked this question). For the livestock 'A' organisations it was mostly about reducing the risk of spreading disease while for fruit 'C' organisations it was more about the control of insects and pest movement and for fewer about the spread of disease. One organisation defined biosecurity in terms of 'biological or chemical hazards to humans and domestic/wild animals' and another as 'disease contamination and interaction with non complying species or environments'. Biosecurity was defined by another as 'chemical and biological safety of food'.

Five organisations said their understanding of the term Biosecurity had changed as a result of involvement in the project. Two changed their understanding due to the 'more in-depth look at inputs' and 'greater observation of the fruit supply chain'. Another saw how 'sensitive certain areas are to foreign insects'. One did not know the meaning before the project.

While two thirds (10 – 67%) had systems in place that complied with biosecurity requirements, there were more biosecurity systems in the fruit 'C' organisations (6 – 75%) compared to the livestock 'A' organisations (3 – 43%). Fruit 'C' biosecurity systems were known as ICA (01, 02, 18 or 21). Livestock 'A' biosecurity systems included the Victorian 'A' code, 'A' bio-security guidelines (Victorian Dept of Primary Industries), Australian Quarantine Inspection Service registered premises and livestock declaration forms.

All fruit organisations had biosecurity systems in place to access interstate markets (Western Australia, Victoria, South Australia, Queensland). Livestock 'A' organisations had biosecurity systems to 'determine where produce originates' and to 'process livestock for export'.

Nearly half the organisations sales (45%) were to interstate markets. Interstate markets were more important for fruit 'B' (62%) and fruit 'C' (52%) than livestock 'A' organisations (10%). The main market for livestock 'A' organisations was local state sales (89%) with it being 100% of sales for some organisations (4/7 livestock 'A', 2/12 fruit 'B' and 2/7 fruit 'C'). International markets were less important (9% – fruit 'B' 17%, fruit 'C' 4%, livestock 'A' 1%).

Attributes Sought by Customers and Consumers

Respondents were asked unprompted what they thought final end consumers and their direct customers were looking for in their products. They thought fruit consumers were looking for taste/ripeness (7/14 fruit 'B' organisation and all 8 fruit 'C' organisations) and appearance (6 fruit 'B' organisation and 4 fruit 'C' organisations) followed by quality more generally (5 fruit 'B' organisation and 4 fruit 'C' organisations). By comparison respondents thought livestock 'A' meat consumers were looking for safe and reliable meat (3/7 livestock 'A' organisations) or quality more generally (2 livestock 'A' organisations) and price/value for money (2 livestock 'A' organisations). Only one fruit 'B' organisation thought consumers wanted quality assured fruit.

Different attributes were sought by direct customers. Fruit 'C' organisations said customers looked for taste/ripeness (3), commitments to supply consistent fruit (3), appearance / presentation (2) and consistent quality (2). Fruit 'B' organisations thought customers looked for appearance, presentation and colour (6 / 8 organisations), quality generally (2) and a long shelf life (2) but there was no mention of taste thought important for consumers. Livestock 'A' organisations thought customers looked for safe / reliable products / clean shed (3 organisations), appearance (2) and general quality (2).

To compare how different issues for customers and consumers were rated, organisations were asked structured questions and rated them on a 1 to 7 scale with 1 not at all important through to 7 very important. The most important issues overall were food safety for final end consumers (mean 6.6) and customers (mean 6.5) followed by company profit margins (6.3), tracking and tracing so customers can manage biosecurity issues (6.1), profit margins for customers (6.0) and the amount of food waste for customers (6.0). Lesser important issues were environmental stewardship for consumers (5.2) and customers (5.4).

There were some differences between the industries, although the small sample size meant statistical significance of differences could not be calculated so care is needed in relying on these results. Compared to organisations in the other industries, fruit 'B' organisations saw food safety being more important for final end consumers (mean 7.0) and customers (6.9) and tracking and tracing so customers can manage biosecurity issues. Livestock 'A' organisations had higher importance ratings on tracking and tracing so consumers can manage biosecurity issues (mean 6.2), competitive prices for consumers (6.1) and environmental stewardship for final end consumers and customers (5.7). The fruit 'C' organisations had higher importance on profit margins for the companies (mean 6.6), amount of chemical or fertiliser run off (6.6) and less importance on tracking and tracing so consumers can manage biosecurity issues (5.0).

When asked how they identified what customer requirements were most got their feedback directly from customers although one livestock 'A' organisation got website statistics, a fruit 'C' organisation got data from industry marketing exercises, a fruit 'B' organisation did research and another fruit 'B' organisation got feedback through quality assurance.

The main organisation influencing product specifications was different for each type of industry. For the fruit 'B' organisations all thought product specifications were influenced by the marketer (13 of the 13 organisations) with one saying there was influence by retailers and another that exporters and their customers were influential. For fruit 'C' organisations there were a range of down stream customers who were influential including the wholesalers (3 of 8 organisations), marketer (2), retailers (2) and other parties (1). For livestock 'A' game meat organisations the most dominant influencer on product specifications was the processor (4 of 7 organisations) as well as the marketer (1), food service (1) and other parties (1).

None of the customers were seen to have changed their product specifications or expectations in the last 12 months with the exception of one livestock 'A' game meat customer wanting higher volumes.

Experience with Tacking and Trace back

All organisations said they could trace their fruit and livestock products back from customers if there was needed with the exception of one fruit 'B' organisation (no response to this question from three fruit 'B' and one livestock 'A' organisation). This was done through identification on cartons, batch codes, serial numbers and delivery documents.

Fewer were able to track all inputs used back to suppliers (18 with two saying no and nine not answering the question). Most not answering the question were in the fruit 'B' organisations (8/9). Tracking of input supplies was done through batch numbers, delivery records, supplier declarations and certification. On average it took fruit 'C' organisations 1.3 hours to track sources of inputs and livestock organisations 35 hours (one organisation said greater than 7 days). The one fruit 'B' organisation who could track sources of inputs said it would take approximately 14 hours and one organisation said they had not been required to do so. There had not been any changes in the systems or time taken in the last 12 months.

One key fruit 'B' respondent was able to cite how at an industry / exporter level a rapid capability to demonstrate compliance with importer country requirements for irradiation of fruit could be demonstrated when live but 'irradiation sterilized' insects were found in a consignment at the receiving port.

Expected Impact of Biosecurity Issues on Business and Industry

Organisations were asked what biosecurity issues they thought may affect their organisation. While few of the fruit 'B' organisations expected any biosecurity issues (4/14 organisations), threats were seen from pests, imports of inferior standard fruit, fruit temperature in transport. One fruit 'C' organisation saw potential biosecurity issues from fruit spotting, bug bites and peach moth grubs. Another was concerned about imported fruit that did not adhere to same systems of pest management and recording/traceability. One livestock 'A' organisation was concerned about introduction of disease from food or new animals. Another was concerned about non-conforming product and being able to prove health history.

When asked to give examples of biosecurity issues that have experienced in the business, only one fruit 'B' and one fruit 'C' organisation could provide an example. They were problems with soft fruit and fruit not arriving in the condition expected. Respondents were able to give more examples of biosecurity issues they had heard of in the industry. One livestock 'A' grower cited a species specific disease closing down production in a region. One fruit 'C' organisation cited poor packing of fruit and another fruit fly in Victoria. Six fruit 'B' organisations had biosecurity examples including: errors in post harvest treatments, heat damage during transport, quality control with imports and issues with exports to China in 2006/07.

Some miss-interpreted the biosecurity issues question thinking it was about the new tracking and tracing system. One fruit 'B' organisation thought the tracking system would make the industry more accountable. One fruit 'C' organisation was concerned about the time taken and duplication of records. A livestock 'A' organisation was concerned about ease of use of the new system.

Organisations were asked what impact the tracking and tracing for biosecurity system may have on their businesses. Most fruit 'B' organisations did not respond to this question (9/14 organisations) and half the fruit 'C' organisations (4/8) did not respond or not able to respond to this question. One fruit 'B' organisation said it would provide a better price due to reliability and another thought it would make growers more accountable for quality assurance of their product. One fruit 'B' organisation thought it would suppress prices and grower returns. Two fruit 'C' organisations thought it would increase costs while another thought it could save time and paper as well as improve record keeping. More livestock 'A' organisations answered this question (6/7) and more positively. Livestock 'A' organisations thought it would provide end user confidence, provide better feedback so problems could be fixed, improve the product so it was safer and there was less risk, secure business continuity and ensure business could continue in the case of biosecurity outbreaks occurred elsewhere. The positive expectations of the livestock 'A' organisations may be due to early stages of QA system implementation.

Organisations were asked what benefits they expected from setting up the new tracking and tracing system. Five fruit 'B' organisations commented on more ease in tracing fruit, getting fruit into China, potentially helping with costing and profit, increased transparency and getting ownership of defects to assist improvements. One organisation only saw data in a digital rather than hard copy format.

Fruit 'B' organisations were further asked what benefits they expected for the industry from setting up the new tracking and tracing system. The seven organisations that saw benefits suggested it would provide better prices, better access to markets, customer satisfaction, helping with marketing estimates and ensuring all growers monitor things like spray programs.

To get a broader picture of the expected reasons for implementing a tracking and tracing biosecurity system organisations were asked to agree or disagree with a range of potential benefits on a scale of 1 to 7 with 1 being strongly disagree to 7 strongly agree (Table 9). There was the strongest agreement that the system would reduce the risk of litigation (mean 6.1), better meet customer needs (6.1), improve performance and profitability (5.9), better understand customers and suppliers (5.9) and to remain competitive (5.9).

Fruit 'B' organisations were then asked what were expected problems and challenges in setting up the new tracking and tracing biosecurity system. Responses varied from poor industry compliance, people not giving all information resulting in missing links, potential conflict with quality assurance systems already in place, computer glitches, lack of broadband internet connections and data entry errors when done by those not doing the task. With only one fruit 'C' grower on a 'dial up' internet connection and everyone else having broadband (ADSL) the internet connection was not expected to be an extensive problem.

Response to the Tracking and Tracing System Trialed

Ten organisations had trialed the new tracking and tracing system – one fruit 'B' organisation, three livestock 'A' organisations and six fruit 'C' organisations. The trial users of the system were asked to agree or disagree their response to the new system on a 1 to 7 scale with 1 being strongly agree to 7 being strongly disagree. There was strongest agreement that the system provided continued access to markets when a biosecurity incident would quarantine other businesses (mean 6.5), enable more equitable sharing of risks and rewards (6.4), reduced the risk of litigation (6.3), enabled secure sharing of confidential information (6.2), reduced time delays (6.1), reduced time to respond to correction action requests (6.1) and improved information flows (5.9). All the negative effects of the system were on the disagree side of the scale including requiring a lot of time to learn (mean 3.8), additional software (3.8), frustration with insufficient training (3.6), distraction from production and marketing activities (3.4), frustration with complicated system (3.2), extra workload (3.1) and additional computer equipment (2.9).

Key Comparisons Between Netchains

The three netchains examined have quite markedly varied adoption and diffusion patterns (Lindner 1987) for the specific tools that they have utilized to enable them to track and trace.

Trial users were asked to assess the future benefits to industry more widely of on-line tracking and tracing systems on biosecurity issue. Livestock 'A' users suggested benefits may include greater security (financial, safe food, well managed), improved information (livestock numbers, areas to start or expand farms) and improved processes (quality, reduced mortality). Fruit 'C' users suggested benefits may include better record keeping, performance pressure, efficiency, uniformity and more reliable product to consumers.

All trial users recommended similar businesses use an on-line track and trace system. Reasons given included benefits already mentioned such as: financial security; improved quality; safer products; risk assessment and easier paperwork; being made to think outside the business; and develop further/better data entry systems. One fruit 'C' organisation commented on getting immediate notification of financial returns on the market and another getting crop analysis data.

The role of gatekeepers (Rogers and Kincaid 1975) in each of the netchains influenced the establishment of working relationships and are key to the success of the adoption and diffusion of track and trace technologies. In one instance a key gatekeeper was instrumental in quickly shifting attitudes of participants away from further participation in the trial.

Conclusions and Recommendations

Across the three networks there is:

- varied ability to respond and provide information to chain partners and stakeholders;
- variable understanding of the need for and role of 'biosecurity'
- a range in capacity and propensity to use electronic systems for track and trace in
- recognition of track and trace capability as critical for ongoing ability to trade at both a domestic and export level and
- recognition that track and trace capability has led to 'biosecurity' 'barriers to trade' being circumvented.

The role of Gatekeepers and the 'Bayesian learning' style of most primary producers must be taken into account when establishing the deployment mechanisms for the roll out of web based integrated information systems. Such systems have the potential to conflict with more conservative approaches of some actors in sharing information and in tightly bound business to business and group relationships.

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Education and Entrepreneurship

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Abstract

In the era of globalization and new global type of competitiveness one of the important driving forces is education. Education itself changes its own mission and content and its target includes improvement of skills and building competencies in entrepreneurship. Increased emphasis on education, on entrepreneurial sector has taken place due to two major developments:: the recent problems associated with global economy and economic liberalization and opening up of markets have created more opportunities entrepreneurial pursuits. Therefore education. and business world are working in collaborative manner to nurture entrepreneurial pursuits..

This paper will focus on the cooperation between business and universities from the perspectives of employability, entrepreneurship and innovations.

1. Introduction

In the era of a globalized environment a new type of competitiveness and expectations are forcing higher education to become more relevant to its stakeholders. Therefore education itself is making changes in its own mission and content in response to the change. Liberalized economies and its knowledge based societies demand more expertises and information and also excellence. It is something like acceptance of third mission in education - education starts to play a new role in society. Increased stakeholder involvement and external demand bring new strategic choice- they are creating multiple networks and alliances with multiple actors on various educational levels. These changes bring also new transformation at universities.

2. Universities and New Type of Education

Universities change their production and productivity. Universities lose their monopoly for obtaining knowledge - they start to have more effective position in triple helix, where helices are industry, university and government. - they change the social networking .It starts to be more and more important that type of networking, which changes very often the context of knowledge. One of the possibilities of this case is international networking- the networking of higher education institutions based on notions of learning societies , which are losing its national character, transform themselves into trans-national networks or international organizations providing special research. This social networking accelerates also its own dynamics. And it is linked with the slogan that universities are engines of economic productivity and competitiveness. Universities in this sense develop new training facilities and pedagogical practices.

Their position underpinning competitiveness is also in link with neoliberal theory and support of individualism- “your privileges are your own achievement”- they support also social mobility embracing opportunities to access to middle-ranging position in society as well as to elites. It promotes civic values and develops “meritocratic” selection system, where people can achieve social status by using their own abilities . This social movement reflects very high level of social mobility mediating the relationship between ability and opportunity and systematically prepare pupils for their differentiated position in society.

High education enhances also productivity of society and stirr disparities in society. We need to distinguish between horizontal or functional differentiation and vertical or hierarchical differentiation. Vertical differentiation is very much anchoring in Anglo-American educational systems pointing very strong power of markets[Nelson, Phelps, 1996]. Greater state control is connected with more flattered hierarchies and differentiation in terms of the social and economic roles of different institutional types or sectors. There is also variation of different qualifications regarding obtaining new knowledge.

One of the dangers in this type of education is losing its autonomy from the state higher education system and this is seen vulnerable to , producer dominated interest groups (here academics and scientists) :

government may also face special situations –may exercise countervailing power to champion powerless consumers. From this perspective ,higher education is no different from other publicly funded services (health care etc.) There is a tendency nowadays to shrink public sector and public sphere and that what will have a tremendous impact also on high education vice versa.

Speaking generally knowledge nowadays is characterized by heterogeneity- and it is not exclusivity of universities to offer education and knowledge- it is possible to receive education through other type of education institutions.

3. Enterprise University

We may speak nowadays about universities as about entrepreneurial universities. Different theoretical assumptions characterize higher education institutions as hybrid institutions. A number of universities are trying to organize universities along the lines of enterprises.

The new form of Enterprise University may be described as follows: it has a strategically centralized leadership highly responsive to the external setting, the wide use of corporate and business forms, employing not only academic people. New stakeholders obtain the power to influence the whole education organization in working out cost-conscious operating principles. On the other hand it is necessary to solve the problem of legitimacy of stakeholders with the organization. This legitimacy of their position is connected also with the urgency of the stakeholder's claim for immediate action within the frame of education organization. Those stakeholders create also special mission of education institutions which fulfill community engagement, what is very important for regional policy.

The third mission of high education therefore consists of a knowledge transfer function community engagement function. and supporting local economic growth..

4. Entrepreneurship and Education

Education changes not only due enormous impact of entrepreneurship.

Entrepreneurship is a lively, adjustable, innovative and creative economic branch, which boosts the biggest number of jobs, creates new values, invests money in new products and services. From this point of view is important to include entrepreneurship, academic community ,businessmen, managers, consultants and practitioners in the field of entrepreneurship and understand them as important stakeholders unified with the same interest.

The target is permanent education and improvement of skills and competencies in entrepreneurship. One of the prerequisites how to organize such type of education is a creation of enterprise centres. The centres are envisaged to act as real economic promotion centres in the future - actually connecting academia, the state and business together providing exchange of information.

The orientation of education on entrepreneurial sector is reaction on two substantial problems overwhelming the economic atmosphere in recent global economy and also in economy in the Slovak Republic. First reason represents a need reflecting economic and social change in skills and education- more and more important starts to be permanent education and lifelong learning. It is necessary to upgrade during the whole productive life skills and education of employed people - and for this reason it is necessary to be more entrepreneurial and innovative in education system as such. Second reason is represented by necessity to promote education in technical fields and entrepreneurial sector, because according statistical data there is visible sinking tendency in studying technical issues at universities . There is a decline in studying technical issues at universities- only 27 % of students attended technical schools and universities in 2007 in Slovak Republic as compared to 33% of students attending technical schools and universities in 2000 in Slovak Republic (if we compare this situation with situation of students attending social sciences and humanities- it is a much higher number).

5. New Type of Education

It is necessary to analyze entrepreneurship and new venture technology and innovations. One of such experiments using this approach is University Business Forum.

University-Business Forum represents a physical and virtual platform at European level to promote a dialogue between the different stakeholders, including other levels of education and training, stakeholders from countries outside the EU and specific sectors within higher education. Its purpose is, to disseminate the findings of different entrepreneurial platforms and facilitate access to and the sharing of examples of good practice. In this sense it is important to find cooperation among different stakeholders.

One of the possibilities how to promote this education experiment is through European Credit and Transfer System for Vocational Education and Training.

Recent European Credit System lacks communication and cooperation - it is necessary to find balance between education and training system. It also lacks transparency and portability of qualifications. From this point of view it is important to eliminate barriers between lifelong learning and mobility and promote better match between the needs of labour market and education and training provision.

On the one side, greater awareness of trends in the labour market can help to make learning more responsive to future needs and increase student motivation by providing a clear context for learning. On the other side, collaboration with education and training institutions may help to maintain or foster greater awareness of cultural, ethical, social and environmental issues within the business world. More concretely, such collaboration can also help employers to carry out the increasingly essential task of updating skills and ensuring the professional development of their staff

6. SMEs and Universities

Learning outcomes of this new type of education are new knowledge, skills and competence. The most important is button up relationship between SMEs and university (may be it is more important than relation vice versa between university and businesses).

SMEs and their relationship with universities are influenced by different issues which can also negatively influence their mutual cooperation concerning management, bureaucracy and also an organizational gap and technology and management skills.

The cooperation between business and universities could be focused on different scenarios, focusing on employability and entrepreneurship and innovations. At some universities are funds beings attached to universities which support different type of teaching courses promoting entrepreneurship. Universities can build also business design, measure and document the social and business impact of their strategic efforts.

7. Lifelong Learning

The other important thing in education is lifelong learning, which supportrs education, skills and training. Lifelong learning has become a policy priority in reforms in education, and in training systems in Member States. It aims to increase investment in human capital, facilitate innovation and promote a more entrepreneurial culture

Lifelong learning is important also for adults- increasing the number of participants from 12,5% to 15% by 2020, because only two thirds of EU population have high education and only one third of population has elementary education- from this point of view it is necessary to increase education and mission for adults- it means lifelong learning. The Commission predicts that by 2020, 16 million more jobs will need high education and four million more jobs will need medium qualifications, while 12 million fewer jobs will require low qualifications, points out that by 2015 a large majority of jobs across sectors will require ICT skills and lifelong learning [Report].

From 2007 the proposed new Community Integrated Programme on Lifelong Learning will support innovative projects with a European dimension, aiming to foster entrepreneurial attitudes and skills and promote links between educational establishments and enterprises. The European Social Fund will continue to support initiatives at European, national and local level

The lifelong learning is also promoted by other different type of education as is for instance

- _ Partnership agreements between schools and businesses
- _ Courses in working life knowledge and entrepreneurship (training of teachers)
- _ Intensive courses for potential entrepreneurs

This lifelong learning influenced by different changes in education has direct impact on new organization of work. One of these consequences is appearance of flexicurity in labour market.

8. Lifelong Learning and Flexicurity

How is combined lifelong learning with flexisecurity?ⁱ - first of all with the possibility to offer especially for disadvantage group of employees new education courses- not only courses for requalification, but also for upgrading general knowledge. In this sense are important activated and education measures – motivation for seeking employment and qualification on labour market.

In labour market there starts to be important also negotiating not only wages and working hours, security of employees need not longer to be sought in income security, but also in good position in labour market (e.g. in terms of training, employability, flexible organisation of work etc.).

What concerns labour market policy, important is also active policy of labour market- which relates to legislation, lifelong learning and social system. In this sense are important active and education measures- motivations for seeking employment and jobs and adequate qualification for jobs and qualification for labour market

In Slovak Republic such type of measures are missing - education is understood as requalification. This tendency is accompanied by weak support of active labour market policy and education policy.

9. New Jobs and New Skills

European Commission unified different organisations working together on issues of new jobs and new skills, which are needed in new modern period. One of such organisations is European Centre for the Development of Vocational Training. The Centre provides research results, analyses, policy advice and comparative information.

New skills are linked with incentives, investments, challenges and risks reflecting transition of labour market. This transition of labour market is very important, because it is based on new ideas – for instance on flexicurity. that stresses flexibility and worker's codetermination, and importance of training and education offered to workers by companies and sectors.- this change reflects the shift from jobs security towards employment security. There exist many measures how to strengthen future importance of education as for instance:

-to have provisions of education leave in every collective labour agreement. These provisions are gradually extended. It is to be ensured that all employees –flex workers and part-time workers included- are entitled to education

-to promote a shift from job-related to career-related education

-to conclude agreements of saving time and money for extended educational leave [Wilthagen,1998].

10. Conclusions

As we see education changes also its own mission and forms its new strategies, the importance of new skills related to modern intellectualization of work. It must be understood as new dimension accompanying new character of jobs and new relationship of employed people to their skills (there start to be important not only long-term qualifications, but short-terms skills.)

Education starts to be compulsory engagement obligatory not only for students at schools, but also for many employees in different economic and social sectors. Education itself changes its exclusivity and starts

to have deep contact with social and economical changes.in different sectors of social and economic life. We need to accept these changes and be prepared for them to cope with them too.

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Endnotes

ⁱ Flexicurity is defined as a policy strategy that attempts, synchronically and in a deliberate way the flexibility of labour markets, the work organisation and labour relations on the one hand, and to enhance the security - employment security and social security .This combination is very important and is based on work legislation, lifelong learning and social system.

Section 8
International Marketing

Managing International B2B Relationships and Interorganizational Networks: An Empirical Analysis of Tour Operators

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Introduction

The creation of strong and dynamic business networks together with a successful management of relationships have become essential elements for the success of any company aiming to compete in the turbulent and rapid changing international environment. Therefore, collaboration among networked businesses is the new strategy that companies are using in order to differentiate themselves from others and to create a competitive advantage in a global market. For this reason, academic researchers have been constantly attracted to investigate innovative ways to improve the business relationships and networks.

The TOs are essential actors in the international tourism industry and their main task is to get together the components that form a “Holiday Package” and make them available to the retailers, usually called travel agencies (TA). These components are usually a flight on a charter airline, accommodation in a hotel chain, a car from a rental company, and the services of a local representative. Consequently, for the achievement of this purpose, the TO relies on the networks and business relationships that creates with the different set of suppliers who provide the necessary services. The TO manages mainly five different networks, one with each type of suppliers and an additional with the TAs. Additionally, these network participants tend to be embedded in different countries and economically independent. These aspects of the network make its management a very complex task for the TO and object of study for the researchers.

The RTAs are considered a very important participant in the TOs network since they are in charge of “taking care” of the customers, by being the local representatives of the TO in the destinations. They face directly the customers and spend relatively more time with them than any other supplier. A close relationship with the RTAs will give the TO a good knowledge about the services and the abilities of the RTAs. Thus, the quality of the services delivered by the RTAs will directly affect the satisfaction level of the customers. These reasons motivated the election to analyze the TO’s network and business relationships with the RTAs, over the other TO’s suppliers.

Research Methodology

The study is conducted using the *case study* approach. There are two different typologies of case studies, the first is composed by exploratory, explanatory, and descriptive case studies; and the second is composed by single or multiple case studies. Multiple case studies design recommends advantages such as being more compelling and robust (Yin, 2003). The study use the *multiple case studies* strategy because this could better help us to clearly define and understand the existing problem, and provide us with a greater in-depth analysis. This study is also an *exploratory research* since the TO’s executives were interviewed using *qualitative methods* in order to examine how the companies are managing their business networks and relationships.

The type of selection of case companies followed in this research is called *convenience sampling*: based on resources, location, and availability of respondents, among others (Merriam, 1998). The study selected the case companies on the basis of our needs to gather empirical information and answer research questions. Since these questions were about the TO’s business relationships and network with the RTAs, then needed to get information from these type of businesses. Companies involved in these businesses were contacted and requested information about the way they manage their business relationships in the network formed by the TO and the RTAs.

Two TAs from New Zealand, “Flight Centre” and “House of Travel”; and two TOs from Italy, “Hotelplan Italia” and “Alidays”; were willing to cooperate; regrettably none of the RTAs showed interest. The first two companies showed a low level of interest, moderating their cooperation towards the study; the latter two were more interested and willing to cooperate actively, since the research problem was currently concerning them. The interviews with the Travel Agencies of these two companies helped to understand one part of the TO’s network concerning their role viewed from their own perspective. Further, the interviews with the TOs offered a deeper insight about their processes, business relationships, and networks, which helped us to complement the understanding of how the business works in reality. After gathering the needed information, we decided to consider Alidays our main case company since they provided more information that helped us to complete the analysis.

The study conducted interviews in order to better understand the problems existing in the management of the business relationships and the network between TOs and RTAs. These interviews were complementary to each other and each of them had a specific topic to investigate; together they showed the specific problem that needs to be solved by this research. Face to face interviews were conducted with the interviewees. Also open-ended questions were used to look more closely at the company’s operations and to obtain the own ideas of the interviewees. The structure of the interview was such that the interviewees could freely talk about their opinion and arguments about the topics and research problems. Three interviews were conducted at Alidays and the interviewee was Davide Catania. The first interview was conducted to gain ideas about the management of relationships of Alidays specifically with RTAs. The second interview was conducted with an objective of getting detailed information about the different approaches of relationships that the Alidays follows. And the third formal interview was conducted on with the purpose of gathering information about the information technology systems used to communicate and carry the business with the partner companies. The lastly Alberto Alberi, who is in charge of managing the business relationships with the Chinese RTAs, was interviewed from Hotelplan Italia. This interview of benchmarking company gave us the insight about the way they are creating and maintaining their relationships with its international suppliers. Throughout the whole interview process, we tried to achieve the interviewees’ suggestions about the further development of their business processes through the enhancement of the relationship management.

Theoretical Framework

Interorganizational Networks Theory

Interorganizational Networks has become a central issue in the strategic organizational arena because of the clear understanding of the actual business organizations. Networking in business is an essential element because it enables businesses to perform and many times it becomes the reason for their existence in the economic system; in particular, this facilitates the companies to become leaner, innovative and responsive to meet today’s organizational challenges (Yanell and Peterson, 1993). Interorganizational networking can be seen as a cluster of business units held together in network approach by market mechanisms (Zeffane, 1994). The perspective used in this study the understanding of the complexity of the networks and its coordination; this will provide a view through which the reader will be able to understand how the TO is linked and working with other independent organizations.

The complexity of the system

A firm is just one player in a complex system composed by networked networks; these networks are shaped in many different ways as many types of businesses exist in the market. An individual network’s design must solve both: satisfying each participant’s needs and requiring each participant’s collaboration for the well functioning of the system; this means that each organization must fulfill unique obligations placed on them as well as benefits. Therefore, every organization is expected to work beyond its organizational boundaries with other different organizations for its adherence to the system and a proper exchange of assets. Simultaneously an organization must

posses certain knowledge about the other organizations before interacting directly with them because each organization has its own background and socioeconomic environment (Pfeffer, 1972).

An example of an interorganizational network is a multinational company (MNC), which is compelled to work with different organizations located in different countries. These foreign organizations are embedded at the same time in different external networks composed mainly by customers, suppliers and regulators among others. Furthermore, these organizations, besides being embedded in other external networks, are embedded in a different culture, different language and doing business in a different way than the networks located in a single region or country (Tatiana, 1997).

Therefore, a MNC has a difficult task when performing within the network because it must interact and manage its relationships with the other organizations in its business. These relationships are mainly started for economical reasons but through the process of interaction and business performance, the well management of the business relationships would create a different face of the relation, meaning that even if the relation starts been mainly economical, the development of it will make the emotional side more important each time. This is seen when companies have suppliers for years and even if a new supplier comes with a better offer of price and/or product, the company usually stays with the actual one, this being regarded as a non-rational behaviour.

The coordination of the network

The integration and coordination of a network is an essential task for the well performance and competitiveness of the organizations involved. The coordination of a network can only be improved by understanding the process by which each of the participants get involved in the network through relationships. The tracking of how these networks are created, grow, and dissolve over time could provide the necessary insight to understand and begin managing a business network (Van de Ven and Walker, 1984). Also the understanding of the main purpose of the network and the role of each participant empowers the organization to take advantage of this knowledge and pull “triggers” for its own benefit and the benefit of the network. The coordination in the network will be heavily influenced by the relative importance of its participants, there will be leaders and there will be followers; a good relationship with the leaders could represent an asset for any organization working within the network.

Relationships

Conceptualization

In 1990s, the function of relationships was accepted as a marketing strategy in a majority of businesses. Many researchers from different disciplines are showing interest in relationships in businesses and believing that a general shift is taking place within the marketing field focusing now on ‘Relationship Marketing’ (Holmlund and Törnroos, 1997). Academics have faced difficulties trying to define what relationship means, some of them have defined it as mutually oriented interaction between two reciprocally committed parties; it may arise for various reasons between two parties but it mainly occurs because of the interdependence in the desired outcomes (Håkansson and Snehota, 1995). In order to be able to identify how to create, maintain and enhance relationships, it needs to follow the evolution of a relationship and to analyze different stages in that process. Each of the stages should indicate a major transition in how the parties involved are connected to each other and how relationship moves gradually through the exchange process from one phase to another, which depends on parties dealing and behavior of each other (Zineldin, 2002). Thus relationship evolutionary pattern offers a life-cycle model for creating and enhancing a strong relationship. In the relationship cycle, first an infant relationship is born and then it progress through various stages of development, growth, maturity, decline and demise (Zineldin, 2000).

According to stages theory, relationship passes through different phases where the resource-dependent and the inter-dependence are enhanced and which is influence by the above life-cycle model. But this theory questions whether a relationship moves forward in the exact order as shown in life-cycle model. It also criticized that this model does not explain clearly what scenario occurs in the transition period from one phase to another phase. On the other hand, the stages theory explains that relationship is a complex issue and exists and occurs in different states of

initiation, establishment, development, maintenance, dormant and termination. So, it does not progress through a structured way but develops through the environments and opportunities of a specific circumstance (Zineldin, 2002).

Trust and Commitment

Trust and commitment are the two factors that strengthen the relationships and support in achieving positive relational outcomes that is adaptability, cooperation, relational satisfaction and performance (Hausman, 2001). A simple definition of trust is that “it is an expectation that things or people will not fail us” (Nooteboom, 2002)ⁱⁱ. On the other hand from a business relationship perspective, trust is “a firm’s belief that another company will perform actions that will result in positive outcomes for the firm and not engage in unexpected behavior with negative outcomes” (Anderson and Narus, 1990). According to Morgan and Hunt (1994) trust can be defined as willingness to rely on an exchange partner in whom one has confidence. Trust act as a factor which promotes a relationship success through reducing uncertainty and opportunistic behavior (Hausman, 2001).

Trust decides the level to which each party can realize the integrity of promises offered by the other parties and it is also faith that the party will give what they promised (Callaghan *et al.*, 1995). The effective and acceptable ways in doing business that the relational partners follow increases the trust between them. The reliance of trust is the main variable in a relationship exchange. It is also an important factor in business relationship to create the long term stability of relationship (Morgan and Hunt, 1994).

Commitment is another important variable to realize the strength of relationship and useful for measuring relationship loyalty (Gundlach *et al.*, 1995). According to Morgan and Hunt (1994), commitment is a belief by an exchange partner that an ongoing relationship with its partner is so important to guarantee maximum efforts at maintaining it. Commitment depends on the benefits from relationship and decides the length and nature of relationships. The committed party also believes that the relationship is significantly working on to ensure that it continues for an indefinite period. Interaction between commitment and trust is that increased level of trust in the integrity of a relational partner increases the firm’s commitment to the relationship (Morgan and Hunt, 1994). This interaction makes the partner to invest more time and other resources in the relationship if they trust each other (Hausman, 2001).

Relationship Quality

In general, the relationship quality describes the overall depth and climate of the relationship (Johnson, 1999). But from a business perspective, this term is related to how well the relationship fulfills the expectations, predictions, goals and desires of the participants involved in the relationship process (Jarvelin and Lehtinen, 1996). It also creates an overall feeling and impression about the whole relationship with different transaction that the customer has concern about. The two dimensions of relationship that Gummesson, (1987) categorize are professional and social relations. The former relationship is based on the service provider’s demonstration of proficiency and ability and social relations is grounded on the efficiency of the service provider’s societal interaction with the customer.

Relationship quality perceived as trust and satisfaction between the two parties in the relationship process and high relationship quality means customers ability to understand the reliability of the service provider’s integrity and future performance as the past performance has been constantly satisfactory. This relationship quality is an important precondition of a successful long term relationship (Wong and Sohal, 2002). Grönroos states that the service performance has an impact on whether the customer will engage in repeat purchase and also on the customers should not only be satisfied but they should be very satisfied in order to go for repeat purchase and become loyal.

Loyalty

Loyalty, over the past decade has become an important issue in marketing and particularly in relationship management. There is much discussion in the literature about the definition and dimensionality of loyalty. The

definitions of loyalty exist on the basis of attitude and behavioral aspect. Behavioral loyalty is repeated transactions and can sometimes be measured quite simply with observational techniques. On the other hand, attitudinal loyalty is defined as positive affect toward the relationship's continuance and the desire to continue to remain in the relationship (Dick and Basu, 1994).

Loyalty is mainly influenced by the relationship quality rather than service quality. Performance and service quality mainly affect the quality of relationship which has an effect on the loyalty of customers (Robert *et al.*, 2003). Loyal customers therefore engaged in repeat purchase and don't want to move to other service provider. In order to gain competitive advantage the company should achieve the customers' loyalty. Excellent relationship quality directs toward the loyalty which in turn enhances the cooperation between actors in relationship process. Loyalty also increases the level of communication between two parties which help to develop service or products of the company. So loyalty makes possible the high relationship quality to gain competitive advantages and profitability for a company (Wahlby and Lulic, 2003).

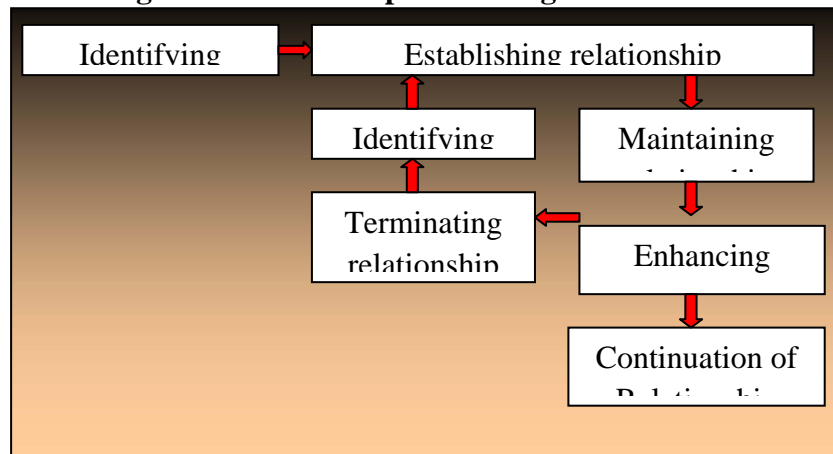
Relationship Marketing

Relationship marketing (RM) can be defined as a procedure of managing the firm's market relationships or as the process of identifying and establishing, maintaining, enhancing and when necessary terminating relationships with customers or other stakeholders, at a profit, so that the purposes of all parties involved are met and this is done by a mutual giving and fulfillment of promises (Grönroos, 2004).

RM is also related with other issues, such as building networks, creating strategic alliances and making partnership agreements, developing customers' databases and managing relationship-oriented integrated marketing communication (Grönroos, 2004). This also explained that a shift of focus is needed to implement RM and for this three areas such as: an interaction process as core of the RM; a planned communication process supporting the development and enhancement of relationships; and value process as the output of RM, are important for the successful execution of a relationship strategy. The relationship management is going through an interaction process where various type of links occur over time among the different actors and the contacts among them differs according to the type of market situation. The contacts can be between people, between people and machines and system or between the system of suppliers and the customers as well. In order to be successful, RM is needed an integration of all marketing communications to support the establishment, maintenance and enhancement of relationships with all parties involved in the relationship network.

According to Gummesson (1990), RM process includes interactions that form relationships which may develop the networks of consumers or end users, suppliers and distributors. RM mainly focused to the management of this relationship and to be successful, the suppliers, partners, distributors, financing institutions and the customers should be included in the management of relationship in a network. It is also important to create more value for the customers or the other parties (such as suppliers) and to perceive and appreciate this value by them that are created in the on going process of relationship which is called value process. If we try to put Grönroos definition of RM as a process into a model it would look like a cycle.

Figure 1 Relationship Marketing as a Process



The impact of RM on Business performance

The RM assists a firm to redefine its responsibilities of each function. It also drives a firm to restructure the organizational system into a boundary-less organization. RM increases a firm's marketing effectiveness through the dedication to customers with long term commitment and early involvement with the customers which give valuable information to the firm. It also arranges resources from outside the firm and involves a firm to team up with other firms to satisfy customers in recent market surroundings. RM has the final impact on firm's financial benefit of increased revenue and lower marketing cost.

RM as a strategic tool

Relationship has become one of the main mantras in business strategy circle (Palmatier *et al.*, 2006). RM strategies have an extensive range of effectiveness to generate strong relationships and to strengthen the specific aspects of a relationship. The three strategic issues in RM strategy were identified as: defining the firms as a service business; managing the firm from a process management perspective; and developing partnership and networks. The prerequisite of customer relationship strategy is that a manufacturer, wholesaler, retailer, a service firm and supplier concern about the long term needs and wants of customers and provides additional value on top of the technical solution related with consumers' goods, industrial equipment or services. But the customers want more attractive service offerings in addition with product or services, like from all information about the product up to correct solutions they have bought. They also demand a friendly, trustworthy and timely manner from the company. Service management, a new approach of management, geared to the demand of the new competitive situation that is service competition (Grönroos, 1996). This competition has become an important factor for the success of almost all the firms and every business has become a service business (Webster, 1994). In order to produce the maximum value in a coordinated relationship with customers and other stakeholders, the firm has to go through a process management approach of the whole operation of the business which will enable and strengthen relationship building and management. RM is based upon cooperation, where the parties will be best off as partners and will form a win-win situation. Sometimes the firm finds it expensive to acquire the required additional knowledge and resources to produce the necessary element of the offerings. The firms need to supply complementary elements of the offerings to create a successful relationship with its customers and for this it will be effective and profitable to find a partner.

Partners and network of firms are structured horizontally and vertically in the distribution and supply channel. To be an effective cooperator in RM, trust between two parties in the network should exist otherwise the parties will not feel mutually committed to each other. The three tactical elements of a RM strategy were identified as: seeking direct contacts with customers; building a database; and developing a customer-oriented service system.

Inter-firm relationship management

Marketing concept is a business philosophy and the market orientation is the implementation of the marketing concept. Marketing has important influences on a company's inter-firms relationship and the supply chain management. The market orientation does not have influence only within the internal environment of the firms but also spread out to inter-firms relationships with customers, suppliers and distributors. An environment is provided by a market orientation where the RM is maintaining. RM established through a market orientation by building up commitment, trust, cooperative norms and reduced conflicts between firms. Market orientation needs close inter-firms relationships because it is an important source of external information for the firm (Kohli and Jaworski, 1990). So, a firm should maintain close relationships with its customers to observe their need and to make sure that the customers is getting what they require from the firm. The firm also needs to maintain close relationships with distributors, suppliers and any other participants in the market to analyze the market position of other market participants on customers' demand. Close and extensive relationships with customers, suppliers and other key constituencies is needed for organizational learning (Day, 1991) and this learning from others includes benchmarking, forming joint ventures, networking, developing strategic alliances and deal with priority customers to understand the market demand before the rest of the competitors and to find solutions for those demand (Webster, 1992).

RM in international B2B perspective

Companies operating in a global competitive market find themselves in aggressive and uncertain market competition and also open to unlimited opportunities. In this situation, the companies have realized that they should adjust and change the strategy in doing business with other companies and they should change and restructure the way they are following for establishing and maintaining the current business relationships with its business partners (Zineldin, 2002).

Compare to consumer market, relationships tend to be longer-term and require a higher level of relationship commitment in B2B market (Ford, 1980). In international marketing relationship creates loyalty, reduces distance and risk between buyer and seller. A company can gain competitive advantage by managing all the relationships between firm and its market environment. The company should build up the relationship as an important part of its transaction process which will differentiate it from the competitors and will help to achieve long term benefits (Melewar *et al.*, 2001).

Analysis of Empirical Findings

The analysis is divided in two parts. In the first, the TO's relationships is analysed with the RTAs, and their existing management process carried by the TO; and in the second, the methods by which the network is being strengthened by the TO together with the role of the RTAs characteristics in this process. This served us as a platform to stand on and from which it could fetch a judgement to propose a strategy capable of improving the management of these relationships and strengthening the TO's network with the RTAs.

Business Relationships and Networks

With regards to the relationships existing between the TOs, Alidays and Hotelplan, and their RTAs and the way these are managed throughout their entire process, both TOs interviewed stated that their objective is to have the best relationship with the best RTAs. But it is remarkable that neither of them have a systematic approach to achieve this goal. Firstly Alidays justifies this objective by saying that the better the relationships with the RTAs the fewer resources will be wasted when solving daily operational problems. Similarly, Hotelplan Italia justifies this objective by claiming that the better the relationships with the best RTAs will help the company to give better offers together with a more efficient tool for solving the daily operational problems.

Existing Relationships

Both case companies, Alidays and Hotelplan Italia, stressed the importance of good communication, friendship and loyalty with the RTAs. First, claiming that once experiencing satisfactory attitudes and services in the relationships, it will be more likely that loyalty amongst the partners will emerge. Communication is also considered essential in the relationships by both companies. Efficient communication is considered a medium to facilitate the expression of opinions about business improvements, feelings, and thoughts, and more important, it helps to avoid misunderstandings. They also point out that, friendship is more important than even the best formulated contracts since problems are more likely to be solved faster by negotiating with friends than with those who are not.

Although the above mentioned three statements are all necessary in the relationships, they are not sufficient. It is also necessary to consider aspects that come before or after, however the order is not relevant since it is the importance of the factors that matters to the development of good relationships. Trust and Commitment, are considered essential elements in any relationships. Trust will give confidence to all participants immersed in the relationship. This element helps reducing the feeling of being “hurt” by the counterpart and increases the participation of everyone immersed. Commitment, on the other hand is about believing that the counterpart will do what it takes to keep the relationship functioning. This is necessary since the perception of long term relationships empower the participants to be more involved in the achievement of the common goal and to work for the team.

Another aspect influencing the relationships worthy of mentioning, relates to the attitude that the TO must have in order to improve the relationships. For instance it must not be too punitive on the other faults, considering limits in the demands to the RTAs. Sometimes, the TO must let go of the RTA’s faults and try to avoid conflicts about minor things. The TO must be charming with the RTAs giving them “some love” so that people working in those companies will work with your company in a better environment. The TO should consider the RTAs as its right arm since it is essential for the existence of TO and will help in achieving its goals. Finally, it is crucial to be explicit in terms of what one expects from the other from the beginning of the relationship so that everything is clear from the start.

Management of the Relationship Process

The process of establishing relationships with the RTAs, known by “Alidays” and “Hotelplan Italia” can be categorised as: starting, enhancing, and maintaining. The breaking-up step only occurs in cases when something goes wrong with the relationship or the services provided by the RTA are not necessary anymore. It is considered that this vision is too narrow and limiting the analysis of the relationship management process to three simple steps.

The study suggests that the process in the relationships management should be more specific and considering each step as a process in itself. In the start-up step, the TO must assure, to a certain extent, that the new RTAs are good and necessary companies; in the improvement step, the TO must plan and implement activities and track their development improving the relationships, and; good relationships need to be maintained by the commitment to the network, close interactions, and delivery of good services. It is important to have a system that enables the TO to track and fully empower these steps.

It is therefore essential that the companies understand all the activities in every step of the relationship process and try to make these activities more efficient. Both companies should try to get the most benefits out of their presence in the international tourism fairs. These represent great opportunities not only in terms of meeting the

RTAs already linked to, but to get to know new ones. This represents an opportunity of dating and relating to RTAs considered bringing potential benefits to the network

The proposed process will then reduce the risk implicit in the activities aiming to create great relationships with great RTAs. The process will consist of independent analysis of all the activities. By doing this, the activities that do not add value to the process can be withdrawn and replaced by activities that are more advantageous. It also makes it possible to find ways to improve the ones that remain in the process. Both Alidays and Hotelplan Italia lack this type of system when managing their relationships with the RTAs. They are potentially wasting resources when performing towards the achievement of this objective. Hence it is not enough to simply be aware of the necessary steps to develop a relationship, essentially the TO needs to analyse and understand all the activities within and manage them in accordance with the objective. The system proposed to solve this problem will be detailed later, that will be the result of our research and the proposition for our case companies.

Creation and Strengthening the Network

A strengthened network will benefit the TO in the sense of gaining competitive advantage and the possibility to exceed the customers' expectations by providing excellent services. Further, it will possess particular characteristics which could be translated into benefits for all the participants. Alidays and Hotelplan Italian do not follow a structured process for the achievement of this objective. They perceive the need to improve the relationships and the network by attracting the best RTAs. But they lack of a plan with delimited objectives and mediums to achieve this purpose. Therefore, their activities are limited to attract as many RTAs as possible without having established a selection criterion. This process is critical since it makes the resources destined this purpose more productive. If resources are used up towards this objective without having a clear plan, there is a big probability that these will be wasted and the results will not appear. Summing up, Alidays and Hotelplan Italia need to design a plan to strengthen their networks which would help them to canalize their resources to the more prolific activities.

The RTAs' Characteristics in the Process of Strengthening the Network

It is important to emphasize that there exist two essential methods, equally important, to strengthen the network. One is by improving the management of the relationships and the second one is by attracting the right RTAs. The second method recommends the TO to establish an unambiguous criteria to evaluate the characteristics of the RTAs and use it when analyzing which of them must be attract them from in and outside the network. Therefore, this method must be encouraged in the case companies when getting involved in the process of strengthening the network.

It is widely accepted that benefits will arise from the ability of the TO to achieve the second method, explained above. Therefore, the suggestion is to implement a system that leads the TO through the process of achieving this objective. In the absence of a system directing the activities of the TO through the building of these type of relationships, the waste of time, resources and efforts destined to this purpose will be bigger than if a system is designed and followed by the company.

Improving the Relationships Management and Strengthening the Network

Based on the analysis, the study now proposing steps of a process that should be followed when aiming to strategically manage the relationships with the RTAs.

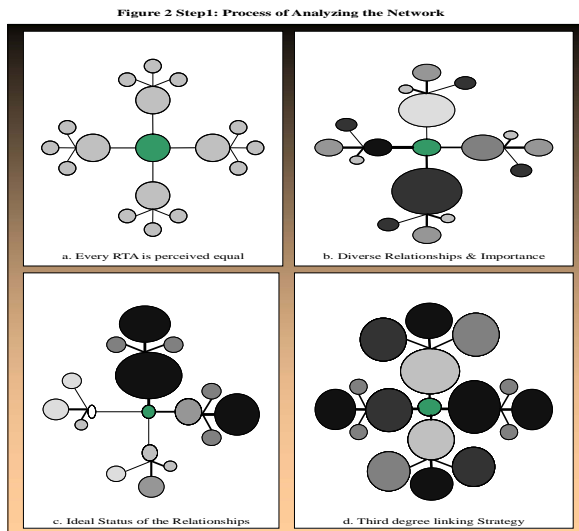
Step 1. General Analysis of the Network

The first step in the RTA Relationship Management Strategy is the execution of an extensive Network Analysis which will be achieved in four stages: the examination of the network components, the study of actual constitution of the network, the analysis of the desired network type and the analysis of the potential benefits the actual and future networks will represent in terms of indirect linkages. This analysis will help the TO to start managing the business network affecting the processes that shape it towards a specific desired model of Network.

First stage: Analysis of Network Components which consists of three elements. First element: *the essence of the network*. The TO must understand what makes the network what it fundamentally is, the necessary properties it must have without which it could not exist. Moreover, the essence of the networkⁱⁱⁱ is composed by an economical and a societal objective present in each of the participants that the TO must understand and consider when performing as a coordinator. Second element: *the network's reason of existence* i.e. why it is created and is kept alive. Basically it is known that any network is created because the scarcity of resources and specialization. Therefore, the task here is to find the complementarities of each participant: what each one gets-from and gives-to the network in terms of exchange of services that otherwise would not be possible. By knowing this, the TO will be able to strengthen these dependencies and make the Network last longer securing the permanency of the participants. Third element: *the reasons to participate in the specific network* i.e. the detection of the aspects considered by the RTAs when evaluating their immersion in a network. If the TO knows which are the ideal characteristics of a network in the eyes of the RTAs, then it will be able to shape it's network in accordance making itself desirable to these. After doing this, it will be the interest of the RTAs to be accepted to participate in the network of the TO.

In Summary, this step will help the TO to deeply understand the essence of its network, the reasons for which it exists and those for which the RTAs crave to participate. Helping the TO to encourage the participant to feel part of the network by remarking its essence; to make the network longer lasting, strengthening the reasons of its existence; and to make it more attractive to the actual and prospective participants by shaping the network in accordance to the desires of the RTAs.

Second Stage: Actual Constitution of the Network. The TO must stop conceiving its network as a group of homogeneous companies working together through homogeneous relationships (see figure 2-a), rather TO should study the constitution of the network in terms of: relationship quality, psychological distance, relative economical independence and importance to the network. This analysis will help them to have a more accurate view of the composition of the network by knowing better the participants and the relationships within.



The Relationship Quality (represented with the thickness of the joining lines in figure 2-b) aims to evaluate the subjective feelings and the objective facts of the relationship between the TO and RTAs. The subjective feelings can refer to the attractiveness of the relationship, how comfortable the parties feel when interacting with each other, and the things that both parts “would love” in their relationships. The objective facts on the other hand, refer to those things that must-be present, and the fitness for use of the relationships; this is concerned more with the excellence and the presence of the necessary elements for those relationships to perform. After this analysis the TO can have a better view on which relationships it can rely more and on which to work towards their enhancement. The better the Relationship Quality the greater the benefits expected and the more contented to work with that partner.

The Psychological Distance (represented with the length of the joining lines in figure (2 – b, c, & d) measures how close or far the RTA is from the TO in each other’s mind and behaviour. Which RTA is contacted more, who is recommended first, who is seen more often, are some of the questions able to answer how far or close is psychologically located an RTA from the TO. Physical distance is not perceived to be heavily affecting the relationships for the reason that this has been reduced by the new transportation and communication technologies.

Relative Economical Independence (represented with the size of the circles in figure 2-b, c, & d) is about the evaluation of how much of the RTA’s business is with the TO in comparison to the others in the network. The greater the relative economical independence of a specific RTA means that, in comparison with the other ones, RTA does not depend as much on the TO and therefore it is not strained to fully satisfy the TO demands. The logic here is that a better relationship with an independent RTA will help to persuade it to satisfy the TO’s demands.

The last variable is Relative Importance, aiming to measure the significance^{iv} that a specific RTA has to the TOs. Therefore, if the Relative Importance of the RTA is high, the TO will be highly interested in that RTA’s services and will have to develop a good relationship with in order to get them.

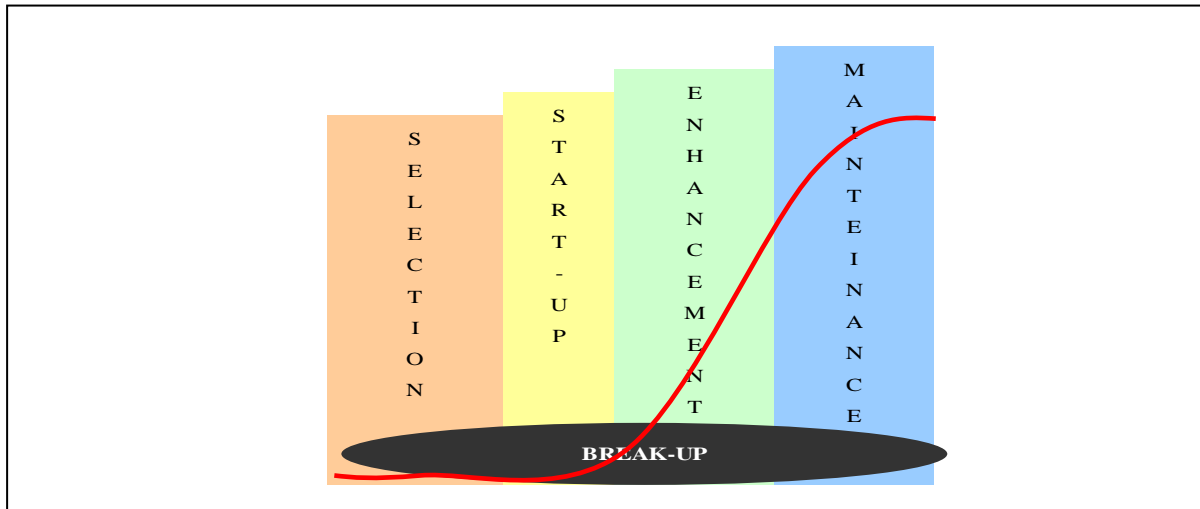
Third Stage: Desired Network. The optimal network’s constitution plan should be in accordance to the TO’s needs. In terms of which RTAs must be psychologically closer and enjoying a better quality in the relationship and which should not be so important to bring closer or improve the relationship. This constitution can be designed only after having analysed the potential benefits of each RTA to the Network. This analysis will tell the TO which RTAs will represent better benefits than others, so to perform and a better informed decision.

Fourth Stage: Indirect Linkage is the study of which actual linkages can help the TO to attract necessary RTAs to the network. The RTAs currently linked to the Network are at the same time linked to others, called indirect RTAs linked through second generation linkages. Sometimes these RTAs are as important or more than those directly linked. Therefore, the TO must perform an analysis of the indirect RTAs, choose the ones more important to the network and investigate the linkages through which they are connected in the network. By doing this, the TO will have a clear view of the linkages it can follow to develop a direct linkage to them and start developing direct linkages through indirect ones.

Step 2. Relationship Analysis

This step is to the understanding of the evolution patterns of the relationships, considering the start-up, enhancement, maintenance and the occasional break up (see Figure 3) and the elements that affect them.

Figure 3 Relationships Evolution



The relationships process suggests five steps; four of them propose a pattern and one is contingent and exists along the entire process. The four steps are selection, start-up, enhancement and, the maintenance; and the fifth one is the breaking-up. The starting step is concerned with the analysis of potential partners; they must have a common vision to the TO, and the people working for the potential partners is also worth of analysis since they are going to be working with the TO customers. The starting step usually takes place in the trade fairs and keeps on going with the evaluation of the services, quality of the services and according to Alidays, their mode of packing the services. After all the analysis is done, the TO decides to contract with the RTA, not before and after contracting the RTAs, developing the friendship must be the next step as this is more important than the contracts because this will help the everyday activities making them easier and leaner to the solution of operational problem.

After contracting the RTAs, a development of friendship must be the next step. This is more important than the contracts because this will help the everyday activities making them easier and leaner to the solution of operational problem. If the destination is new together with the market of the TO, these RTAs must be educated about the nature of the Italian tourists and it will be necessary to work close together with them in order to solve the many problems at the beginning.

The next step after starting is the managing; this is concerned with making them feel part of the company and getting to know them. The TO must let the RTAs express themselves and ask for their full involvement with the network and by doing this they will be committed more to the organization. From the Hotelplan strategy, this step also involves the continual education of the RTAs, and a close “daily” communication, visits, e-mail and tourism fairs, together with meetings at the end of the seasons including brainstorming sessions for ideas to deliver better services and the best way to face the new things coming in the market.

According to The Alidays, a relationship breaks up because of dissatisfying products and dishonesty; the lack of understanding, continual conflicts, and the lack of benefiting each other, one of the partners is having a crisis. The risks of terminating a relationship can be reduced by taking enough time in the starting step to choose the best partners.

There are three essential elements affecting the network relationships: Trust, commitment and loyalty; the lack of one of these would create sustainability problems for the entire network. *Trust* creates the long term stability of the relationship being the foundation of loyalty. This is an element worthy of preaching in any relationship because the lack of it will sooner or later imply acting against the entire network. *Commitment* is important to have a

general feeling that the partners are giving the maximum effort to maintain the relationship. If the participants of the TO network feel and believe that their relationship with each other will continue for an indefinite period, it will be more likely that their actions will be cautious and with good intentions. *Loyalty* helps to remain in the relationship, heavily influenced by the relationship quality. Once the TO has managed to create loyalty from its partners, the relationship between them will be more like the one of a family member, a different phase of the relationship. These terms together will increase the level of communication and reduce psychological distance gaining competitive advantage and profitability for the network and its participants.

In summary, it is important for the TO to understand the environments and opportunities that create reciprocally committed parties.

Step 3. Shaping the Network and Tracking the Relationships

The action in the relationship management is about trying to create and maintain an optimal environment where the relationships can flourish. This is about designing a strategy to create close and strong relationships, passing through the different stages. The main objective of the strategy should be to develop as many relationships with good RTAs as possible. The key to success is to care for every step in the evolution of the relationships because the costs of starting and performing with poor relationships are not affordable. Therefore, it is essential to set an environment that will positively affect the relationships and look to start a relationship with the best possible partners. In this stage, RM takes a major role by suggesting the procedure of managing the firm's market relationships. RM encourages a planned interaction process supporting the development and enhancement of relationships in the networks. The main purpose of this strategy should be to create higher values to the participants and the customers being served by these. are part of it and it will be that searching for the benefit of this new organization is the way they will get their individual benefits, otherwise they would block each other and get no benefits at all.

The environment where the relationships flourish is very important to control it. The environment is provided by a market orientation where the RM is maintaining. This orientation should be building up commitment, trust, cooperative norms and reduced conflicts between firms. Improving the processes of relationships will provide the organization with the necessary tools to cope with the new trends and challenges of the market. These new trends in specific are the increasing demand for alternative types of tourism, for more information and unique packages. And more important for TOs specializing in niche products: health and wellness, young singles; knowledge and advice are difficult over the internet.

Conclusion

Having carried out the analysis the study conclude that it is required to systematize the processes of improving the RTAs relationships management and strengthening the network with the RTAs. Since this was found to be the most suitable way the TO could improve the performance of these activities. The process of managing the relationships should be more specific and considering each step as a process in itself. In the start-up step, the TO must assure, to a certain extent, that the new RTAs are good and necessary companies; in the improvement step, the TO must plan and implement activities and track their development improving the relationships, and; good relationships need to be maintained by the commitment to the network, close interactions, and delivery of good services. It is important to have a system that enables the TO to track and fully empower these steps.

The widely known proverb "It is not what you know, it is who you know" has proven to be incomplete. The reasons are that both, good business relationships and strong RTAs are necessary in the process of strengthening the business network. If a single condition is present in the absence of the second, the process will not be completed because even if good RTAs are located in the TO's network, this will not create strong a network since this requires also good relationships with them. On the other hand, neither a good relationship with the RTAs in the network create by themselves a strong network since the RTAs included may not be the best, and this harms the process. Moreover, sometimes having a bad relationship with someone in the network can be worst than not including the RTA in the network at all. Therefore, the study state that both conditions are necessary and sufficient for the creation

of a strong network, completing the proverb: “It is not what you know; it is who you know and have a good relationship with”.

The process suggested provides the TO with a tool to systematically improve the relationships with the RTAs and the structure of the network. Starting first with an extensive analysis of the network, followed by an analysis of the current status of the relationships laying within these networks and the activities necessary for shaping the network and tracking the relationships. In other words, a set of steps were proposed to be followed when aiming to strategically manage the relationships with the RTAs and shape the network into a stronger position.

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Source: Grönroos, 1996

ⁱ For example, de Lurdes *et, al.*(2006) analyses business networks with organizational, spatial, relational and network contexts; Håkansson, (2006) discusses the business relationships and networks in relation to the economic policy of a specific country and shows how business relationships are involved in close interaction resulting in a multitude of interdependencies networks of interconnected firms; Eng, (2005) discusses about how relationships as a result of interactions and resource interdependencies in networks has a positive effect on a firm's relationship values.

ⁱⁱ Nooteboom B (2002). Trust: Forms, foundation, functions, failures and figures

ⁱⁱⁱThe network exists because of the need for a coordination and cooperation between the participants towards a winwin situation. Contrary to the situation where everyone competes and searches merely their own economical benefit, blocking each other from achieving the real objective: the creation of an inclusive service to the customer. Besides this rational objective, there exists a special element in the network: the "humanity" of the interactions.

^{iv}The significance of a RTA will depend on its location, if it is a popular destination; its products, if they are relevant to the Italian market; its network, which they are linked-to and the quality of these links, etc.

A Computer-Aided Process Simulation Model to Navigate Value Chain Reconfiguration Using a Three-Layered Methodology

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Abstract

This paper develops a computer-aided process simulation model (CPSM) to navigate value chain reconfiguration. The model uses a three-layered methodology incorporating the conceptualization of knowledge-integrated traceability (KIT) to create more efficient performance measures and provide a rigorous and stepwise clustered module structure that will act as a guideline for all decision makers involved. The model is based on three types of mature toolsets. First, the experts-consensus cognition makes the architecture of BSC-KIT (Balanced Scorecard) along with AHP (Analytic Hierarchy Process) technique into an integrated AHP-BSC structure. Secondly, internal validation of core propositions during CPSM development is then used to construct an account both qualitative and quantitative decision factors in the best delivery causality diagram of theory-building mode. Defining the KIT of toolset variable into two specific themes: allows a practical hierarchy for AHP-BSC structure to be evaluated without excessive computation barriers; And the systems thinking archetype of strategic activities in the ARIS-EPCs architecture (Architecture of Integrated Information System/Event-driven Process Chains) delivers the validity and reliability of research methodology as validation model of CPSM development. Thirdly, the hybrid ST-ARIS (Systems Thinking) simulation model is constructed based on the feasibility test of strategic decision factors from checking whether or not KPIs (Key Performance Indicators) could be measured. The reconfiguration provides new insights and contribution to the foundations for linking multi-method procedures into the process capability and performance of the value chain, and emphasizes the CPSM development by highlighting a specific approach associated with a conceptualization of KIT.

Keywords: Balanced Scorecard, Analytic Hierarchy Process, Architecture of Integrated Information System, Systems Thinking, Value Chain, Key Performance Indicator, Decision Making, Modeling.

Introduction

Literature review suggests that problem formulation, decision-factor acquisition, decision modeling and strategic decision, among others, are involved in decision making. Most of the literature focuses on how to

incorporate knowledge-base and inference/reasoning mechanism in decision making to form a uni-perspective toolset for the purpose of choosing the best alternative (Huang, 2009). Very often, the perspective chosen was one being extensive within the overall, or one being associated with a key person within the group. Adamides and Karacapilidis (2006) present architecture of information technology which is a knowledge-based system. In their business process modeling, problematic conditions are tested in the modeling process/simulation reality to identify the performance and capability of process of value chain and factor uncertainties, by gathering events, behavioral patterns of aggregated comparison matrix, and the strategic map of non-linear thinking (Adamides and Karacapilidis, 2006; O'Donnell, 2005; Coviello, 2005, Montibeller and Belton, 2009). This model design of virtual necessity is cognizant of the use and capability of clustered perspectives (Huang, 2009; Adamides and Karacapilidis, 2006; Montibeller and Belton, 2009; Han, Kang and Song, 2009).

This paper proposes an approach to solve the not-so-easy implementation of clustered module structure by applying process-driven modeling in clustered perspectives on computer-aided process simulation model (Huang, 2009; Adamides and Karacapilidis, 2006; O'Donnell, 2005). The conceptualization of system dynamics via the interrelationships of AHP technique, systems thinking architecture and ARIS method is vital in validating core propositions (Leea and Kimb, 1999; Wright and Yu, 1998). Navigating sustainability is realized via utilizing clustered process modeling which is constructed to identify the influence of relevant decision criteria on a target KPI setting (Yurdakul, 2004; Wu, Lin, and Tsai, 2007; Wong and Li, 2008; Rabelo, Eskandari, Shaalan, and Helal, 2007; IDS SCHEER, 2006; Ugwu and Haupt, 2007). It is demonstrated that process-driven modeling is an optimized method in constructing such a modeling, and that process technology might be an appropriate implementation toolset for clustered module structure (O'Donnell, 2005; Yurdakul, 2004; Kim and Kim, 1997; Salmeron and Herrero, 2005).

Review of Literature

The formulation of business strategic decision is focused on multi-attribute activity portfolios within the process- and function-oriented strategic planning to identify the definition of strategic thrust and evaluation of specific business action which creates the process-driven capability of value chain (Han, Kang, and Song, 2009; Adamides and Karacapilidis, 2006; Leea and Kimb, 1999; Papazoglou, Ribbers and Tsalgatidou, 2000). Gilmour (1999) develops specific multi-method procedures to apply non-linear value chain improvement techniques to a complete supply chain for improving supply chain performance and evaluating supply networks, from a strategic planning perspective. This method asserts that a screening tool of reconfiguration might provide new insights on the evaluation of performance by the process of value chain, a gap in literature comparison, and provide knowledge-based for the toolset variable to consolidate their analysis and design (Adamides and Karacapilidis, 2006; Leea and Kimb, 1999; Wright and Yu, 1998; Wu, Lin, and Tsai, 2007; Gilmour, 1999). BSC

model has proven to be a powerful toolset for strategic communication that aids in causality-building matrices and scenarios of strategic framework(Huang, 2009;Adamides and Karacapilidis, 2006; IDS SCHEER, 2006; Tsai, Siengthai, Wuwongse and Krairit,2011). Thus, this study proposes an intelligible BSC-KIT for strategic decision success that builds up a system dynamics modeling based on the calculation of AHP-ARIS architecture with target KPIs set to drive a perspective that incorporate both strategic activity and budget developed by this combination (Tsai, Siengthai, Wuwongse and Krairit,2011;Kim, and Kim, 1997; Lee, Chen, and Chang, 2008; Tsai, Siengthai, and Krairit,2010). Expounding on an actual case study, Scheer and Nüttgens (2008)have shown that using ARIS-EPCs architecture in organizational projects or SME and mid-Market can reduce process costs by 40% and time factors by more than 30%(Tsai, Siengthai, and Krairit,2010; Scheer, and Nüttgens, 2008; IDS SCHEER, 2008). Hsi (2001)used a medical center as an example to construct an ARIS process simulation model of electronic procurement that indicates the simulation results of ARIS-EPCs in the inventory control system. Results show that the empirical practice of the average time to complete electronic procurement by the contract is about 10 days as opposed to a non-contract which is about 28 to 33 days. According to the setting of hierarchical structure of distribution decision factors, the average procurement time was reduced by about 53.33%, the average turnover rate of inventory increased 14.28%, and the average inventory cost of hospitals decreased(Tsai, Siengthai, Wuwongse and Krairit,2011; IDS SCHEER, 2008; Hsi, 2001).

CPSM is a three-layered methodology for understanding how differentlystrategic decision factors affect the knowledge-based value(Huang, 2009; Han, Kang and Song, 2009;Tsai, Siengthai, Wuwongse and Krairit,2011).The theory-building cognition is based on the theoretical computation variable in methodological literature on how decision-making strategy reacts to the validating core proposition of exchange value-validated model and on process-driven capability.In addition, it can replicate the strategic managing template-building feasibility, resulting in strategic activities expected under simulation situation(Kim and Kim, 1997; Papazoglou, Ribbers, and Tsalgatidou, 2000). Rabelo et al. (2007) constructed a practical approach of hybrid system dynamics and discrete-event simulation (SD-DES) model with the toolset variable of AHP/SD/DES for identifying two major themes according to multi-method procedures which are recognized as a value chain process analysis associated with simulation (Rabelo, Eskandari, Shaalan, and Helal, 2007).O'Donnell (2005) indicates the system dynamics focused on how the relevant decision criteria linked together to form a holistic network with multi-functional and archetypes-associated control (O'Donnell, 2005; Coviello, 2005; Montibeller and Belton, 2009). Wu et al. (2007)apply the integrated dynamics decision-makingmethod to construct a project management system for improvement in efficiency and synergy of supply chain operations(Wu, Lee, Tah, and Aouad, 2007). Loebbecke and Huyskens (2009) provide a five-stage methodology and a specific software application to develop a model-based decision support system(Loebbeckeand Huyskens,2009). Based on the view of performance evaluation, Han et al. (2009) developed a simulation model, capable of identifying two major themes: macro and micro process analyses.The former, macro, is a process-based performance

frameworkperspective which deals with major business process operation. The latter, micro-analysis, uses simulation mechanism to contribute(Han, Kang and Song, 2009; Leea and Kimb, 1999; Wright and Yu, 1998). Process-driven simulation is a business process re-engineering model in itself(Kwan,Jin, and Minseok, 2009; Jawaharand Balaji,2009). Thus, it seems multi-method procedure brings maximized outcome.

The Three-Layered Methodology

The Conceptualization of Knowledge-integrated Traceability (KIT)

The knowledge-base and inference/reasoning mechanisms emphasize common characteristics and the traceable value of integrated feasibility as two major themes of strategic planning and business process management. These commoncharacteristics are the priority of weighting to explore the critical success factors (CSFs) of publishing industry; hierarchy to construct the conceptualization of systems thinking and AHP-BSC; the KPIs setting and benchmark to identify events, behavioral patterns of aggregated comparison matrix and results sustainability; process decomposition and clustered module process to define the causality between AHP and ARIS, and dynamic situation and performance improvement to achieve the research purpose in cost saving and throughput time. Owing tocommon characteristics being a virtual necessity in method, and then delivers the traceable value of integrated feasibilityfor the statistical description of strategic value-chain implementation (Table 1).

TABLE 1: LINEAMENTS OF DESCRIPTIVE TECHNIQUES: THE COMMUNICATION OF TOOLSET

Lineaments	AHP Method	ARIS Method	BSC Method	Value Chain Deployment	System Thinking
Scaling	Ratio / Priority.	Ratio / Priority Customization Software / Cost and Time Superiority / Process Optimization / Simulation.	Ratio / Priority	Ratio / Squeeze CSFs / Strategic Alignment / Integrated Resource / Extending Business / Customer Value	Ratio / Time Delay
Performance Elicitation	Pair-Wise Comparison		Budget Controlling / Action Planning		Butterfly Effect / Beer Game / Dynamic System
Weighting	Normalized Ratio via Eigenvalues	Real-Environmental Data via KPI.	The Benchmark and Method of Evaluation / KPI	Business Process Outsourcing / KPI	Events and Patterns of Behavior / KPI
Synthesis	Additive / Eigenrectors.	Event-to-Event / Unique Address Space.	Four Perspectives / Strategic Mapping	Business Process Model	Archetypes and Interventions
Structure	Hierarchical	ARIS Platform / Hierarchical / Process Modeling	Core Strategic Organization / Juxtaposition	Organization-Platform / Hierarchical	Learning Organization / Feedback Loop
Set-in Reaction	Synthesis / Consistency / Measure / Technique Produced Weightings	BPM / Process Decomposition / Measure / Continuous Improvement	Strategic Toolset / Performance Measurement / Cost Saving & Throughput Time	Horizontal Coordination	Dynamic Complexity / Mental Change

Source: The data collation and identification of Qualitative Research with Knowledge-Integrated Strategy and Literature Review by Author in this research. (2008)

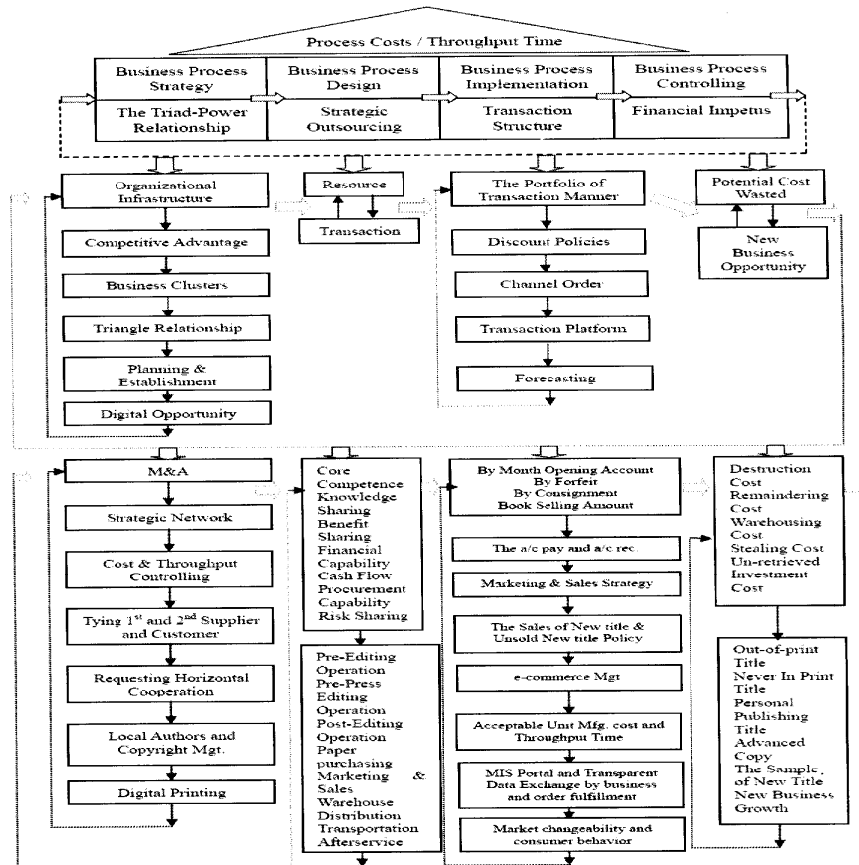
Three-Layered Methodology

BSC-KIT is a validation model that identifies accessibility assessment hierarchy criteria with critical success factors(CSFs). Relevant literature review on multi-method procedures describes process technology as quantifiable decision context and it is consisted of the combination of outcome- and process-driven evaluation. To fulfill this, three layers are involved in designing CPSM.

Layer 1 aims to construct clustered module structure through CSFs acquisition in generically hierarchical structure of strategic decision factors (Fig.1). Three themes were identified in the structure. Theme one was a design of “methodology” view of how decision factor uncertainties and multi-criteria decision-making operated. Theme two was a simplification of “hierarchy” view of how each component of the clustered module structure contributed. Theme three was a process-driven “independence” view. Process-driven modeling was used to conceptualize the integrated feasibility within systems thinking archetypes. KIT is then used as a statistical application for theory-building matrix while aiming at the combination of AHP and ARIS method (Table 1).

Layer 2 highlights important advantages of system dynamics modeling (Senge, Ross, Smith, Roberts and Kleiner, 1994; Fisher and Potash, 2008; IDS SCHEER, 2008): linking process-driven modeling with clustered process modeling to construct a strategic mapping of clustered module structure via systems thinking archetype and feedback-loop system. Thus, it changed a conceptualizing layout of systems thinking archetype into a process simulation model of STELLA-systems thinking (Fisher and Potash, 2008).

Layer 3, simulation results are used to demonstrate the process-driven capability of value chain to replicate management-driven template qualitatively. To carry out the influence of relevant decision criteria on a target KPI test quantitatively (Ugwu and Haupt, 2007; IDS SCHEER, 2006), STELLA-systems thinking of causality diagram is converted into a simulation model using Excel spreadsheet (Han, Kang and Song, 2009; Kwan, Jin, and Minseok, 2009; Jawahar and Balaji, 2009). Then, cross-examination phase of validity and reliability of research is conducted (Tsai, Siengthai, Wuwongse and Krairit, 2011; Scheer, and Nüttgens, 2008).



Source: Developed based on events identification phase of Qualitative Research with Group of Experts by the 1st Author. (2008)

Figure 1. The CSFs of AHP BSC Structure

The Strategic Managing Template for Developing CPSM

Validity and Reliability

This section discusses validity and reliability in three stages of CPSM three-layered methodology. The first stage is to apply BSC and KIT in two related perspectives on strategic activities that are significant to most industrial value chain structure and to all levels of generically hierarchical structure (Huang, 2009; Coviello, 2005; Tsai, Siengthai, Wuwongse and Krairit, 2011; Bertrand and Fransoo, 2002): (a) constructing decision factors of value chain function deployment from a review of relevant methodological literature and experts-consensus cognition, and then followed by transformation design of BSC-KIT with real-world data; (b) the transferability and feasibility between knowledge-base and reconfiguration mapping tool is tested by applying an in-depth interview to AHP-BSC structure (Table 1).

The validity of the second-stage, research design, consists of the causality of collapse and reconfiguration of three building blocks in graphic value chain. The first building block, macro hierarchy criteria analysis, is conducted to identify the measurement of pair-wise comparison weighting and the consistency of reciprocal judgment matrix as the prototype to model a generic pattern of theory-building matrix. Meanwhile, the statistical results of AHP-BSC structure are used in constructing ST architecture which is a feedback-loop system and strategic mapping of relevant decision criteria (Tsai, Siengthai, Wuwongse and Krairit, 2011). The second building block, a decision-making base characterized by subjective computation, is conducted to model the ARIS House in ARIS-BSC platform. It explores the relationships among decision factors which are gathered from events and patterns of behaviors in ARIS-EPCs architecture. The third building block, micro hierarchy criteria analysis using hybrid ST-ARIS process simulation model, is conducted to predict the performance improvement.

The third-stage methodology is to improve the validity in designing the simulation model during CPSM development (Table 1). First, a pilot study was executed to build a systematization layout of process modeling from the theory-building recognition. Secondly, the in-depth interview and questionnaire approach is adopted as a form of mathematical triangulation that includes a group of experts, questionnaire interview and valid questionnaire response, and quantitative measures. CPSM validation is based on a specific cross-examination format, which is a result of simulation and can be replicated in the management-driven interface activity.

Reliability means the same results can be repeated in data-collection procedure and dependability can be expected under traceable situation. To lower interviewees' absent-minded answers in questionnaires, all interviews were carried out by the first author face-to-face to ensure the reliability.

The Conceptualization and Implementation of Process-driven Modeling in Clustered Module Structure CPSM

The overall structure of CPSM is a clustered module structure that is designed to create a real-accuracy simulation-based design, moving through a series of holistically simplified, consistent and accurate hierarchy modeling phases, and consists of three sub-modules: AHP-BSC structure, strategic mapping of Systems Thinking archetypes, and hybrid ST-ARIS simulation model. CPSM is implemented in this paper (Fig. 2 to 6). This strategic framework is virtually essential in system dynamics. Fig. 2 differs from an operational framework (Mansar, Reijers and Ounnar, 2009). It is designed to provide a conclusive strategic managing template to support managers to strengthen decision-making quality while treating with real situation and integrated feasibility (Fisher and Potash, 2008). Excel spreadsheet, being capable of mathematical computation, is substituted for the inaccessible commercial software, for the purpose. Detailed description of CPSM could be read elsewhere (O'Donnell, 2005).

A series of decision-driven events were evaluated and analyzed. According to model-based generation, the

simulation model could be classified into four views: organizational, data, controlling, and functional (Fig. 2). Events of different attributes were allotted in these views accordingly. Each view had its unique focus. The initial events of strategic activity in organizational view emphasized the effect of different perspectives on clustered module structure in decision-making quality. The data view focused on the flowing of decision-driven events. With Taiwanpublishing industry as an example, it would emphasize the interrelation of transaction manner among publishers, suppliers and customers. The controlling view focused on identifying the level of hierarchical structure of decision factors. The functional view represented the outcome and it focused on validating the core proposition of the implementing efficiency of clustered module structure. Events did not only trigger functions, but also showed the value of functions themselves. More importantly, CPSM stressed the viewpoints that were associated with the implementation of clustered process modeling and process-driven modeling. It extended the function of systems thinking and was capable of representing event-to-event and pattern-to-pattern of behaviors. In this way, variously complex procedures could be decomposed and became process-driven “independence”. In clustered module structure, the priority and causality of relevant decision criteria in process-driven modeling was described. An event might initiate multiple functions at the same time; similarly, a function might result in multiple events.

The process simulation model of clustered module structure was used as the keystone in validating CPSM. It had four parts. The 1st part was the strategic-activity diagram of Process Strategy. It was designed to identify the financial capability of triad-power relationship among resources integration, requesting horizontal cooperation and digital opportunity (Fig. 2). The results of the simulation were shown in Fig. 3. This clustered process modeling focused on the correlation between horizontal cooperation and triangle relationship.

The names of strategic-activity diagrams for part two to four were Process Design, Process Implementation, and Process Controlling, respectively. Similar to the 1st part, each of these three parts had its own special function. Process Design investigated the financial performance of strategic outsourcing between transaction manner and cash-to-cash (Fig.4). Process Implementation evaluated the performance improvement of transaction structure among the portfolio of transaction manner, discount policies and transaction platform (Fig.5). Process Controlling explored the improvement of the business managing operation in financial impetus (Fig.6). The four strategic activity diagrams were interdependently connected to make the decision-making support model with the greatest efficiency.

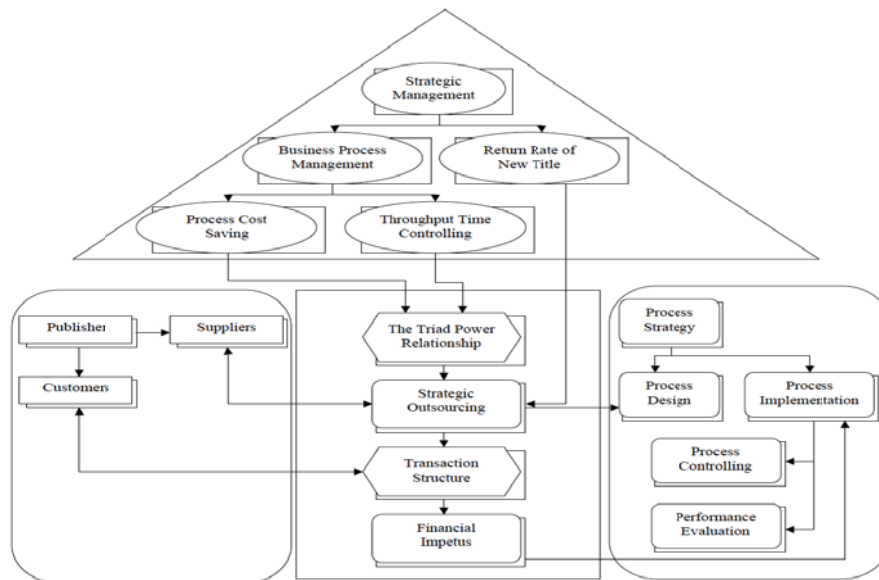


FIGURE 2: ARIS HOUSE: HYBRID ST-ARIS SIMULATION MODEL (TRANSFORMED FROM FIGURE 1)

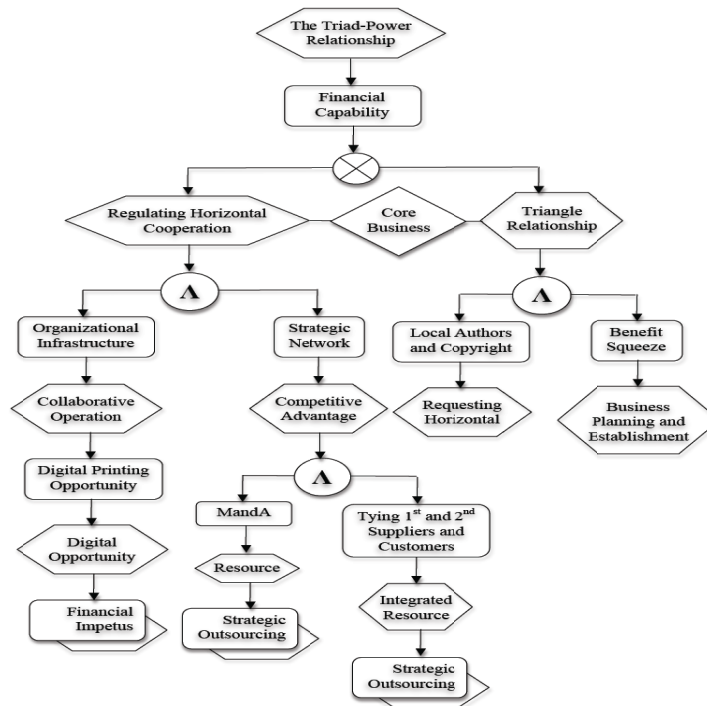


FIGURE 3: THE PROCESS STRATEGY OF TRIAD-POWER RELATIONSHIP



FIGURE 4: THE PROCESS DESIGN OF STRATEGIC OUTSOURCING

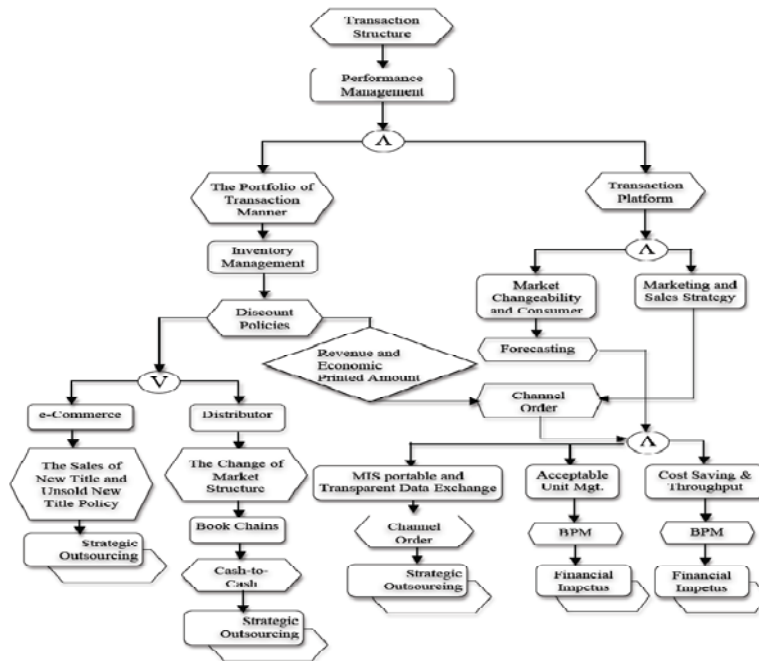


FIGURE 5: THE PROCESS IMPLEMENTATION OF TRANSACTION STRUCTURE

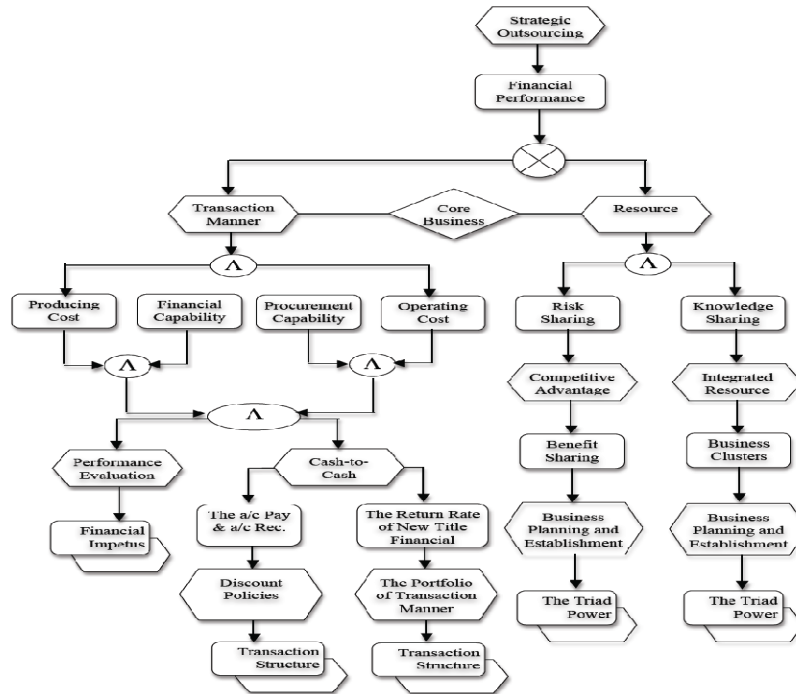


FIGURE 6: THE PROCESS CONTROLLING OF FINANCIAL IMPETUS

Case Study: Simulation Trials and Results

In this research, a group of four experts was chosen to identify the CSFs selection of industrial value chain. These experts' consensus was aligned with the event identification phase, and simultaneously, using their consensus to construct AHP-BSC, which is a necessary and important structure of the research. In composing decision elements and designing two questionnaires: AHP and AHP in-depth interview. The statistical results are presented in Fig.1. The ensuing paragraph summarizes the findings.

There are five entities of participants. The first entity is composed of 31 subjects, their average score served as the standard. The 2nd to the 4th entities are publishers A, B and C. The 5th entity is a group of experts. These four entities were targeted population and their performance was compared to the standard. Table 2 shows the comparison of participants' performance in current empirical practice and in CPSM. It reveals that in current empirical practice, process-driven capability of value chain, cost structure budget capability and throughput time controlling are all too weak, which were the reason why Taiwan publishing market collapsed. After simulating with CPSM, results revealed that all the above variables improved. For example, process cost

savings reduced 26.6% and throughput time controlling increased 23.8%. The entity of experts performed very well, just as expected. It proves that CPSM is a well-designed and feasible model.

TABLE 2: THE COMPARISON OF PARTICIPANTS' PERFORMANCE IN CURRENTLY EMPIRICAL PRACTICE AND CPSM

Research Participants	Currently Empirical Practice of Publishing Value Chain				Computer-aided Process Simulation Model (CPSM)			
	(1)	(2)%	(3)	(4)%	(5)	(6)%	(7)	(8)%
Publishing Industry (The Average of 31 publishers)	149.1		198.3		121.9	18.2	144.6	27.1
A publisher	224.8	50.8	249.8	26.0	175.3	22.0	190.5	23.7
B publisher	98.0	(34.3)	86.5	(56.4)	78.5	19.9	69.5	19.7
C publisher	232.8	56.1	235.0	18.5	185.0	20.5	185.5	21.1
A Group of Experts (The Average of 4 Experts)	184.4	23.7	193.3	(2.5)	113.8	38.3	113.3	41.4
The Average of CPSM in (6) and (8)						26.6		23.8

Source: Data were collected by the 1st Author (2008)

Note: (1) to (8) represents participants' performance in various categories.

(1)–(4) Currently Empirical Modeling of Publishing Value Chain

(1) Process Cost Savings

(2) Management Business Review (%) in Process Cost Savings: Comparing the standard group with other four groups

(3) Throughput Time Controlling

(4) Management Business Review (%) in Throughput Time Controlling

(5)–(8) CPSM

(5) Process Cost Savings

(6) Improvement (%) in Process Cost Savings

(7) Throughput Time Controlling

(8) Improvement (%) in Throughput Time Controlling

Strategic Decision-Making Success for Value Chain Reconfiguration

The conceptualization of KIT of BSC/AHP/ST/ARIS toolset variable is always changing in dynamic business environment. The changes are driven by the clustered process modeling in objectives of decisionmaking, and results of implementation. It is particularly significant at superior management-levels where decision-making strategies are mostly based on qualitative decision factors, drawn from judgment and computation. The strategic decision-making success of value chain reconfiguration has the finer details and accuracies of value chain components and elements of variation. The CPSM is enhanced by a four-clustered module structure to capture details and accuracies of value chain components and an optimized alternative is expected (Fig. 7). Causalities are listed:

a. value chain reconfiguring components represent the cash-to-cash issue to portfolio of benefit, transaction manner, and financial flow. High turnover rates are expected.

b. value chain reconfiguring elements represent recognition issue to publisher's view, distributor and channel. This would increase the demand-supply accuracy.

c. value chain reconfiguration aims to demonstrated the capability of the process in exchanging the value-validated model. If the goal is accomplished, CPSM would be manifested as a good design.

This implementation enables managers to utilize computational decision-making strategy and CPSM would

increase the managerial value in maximized outcome.

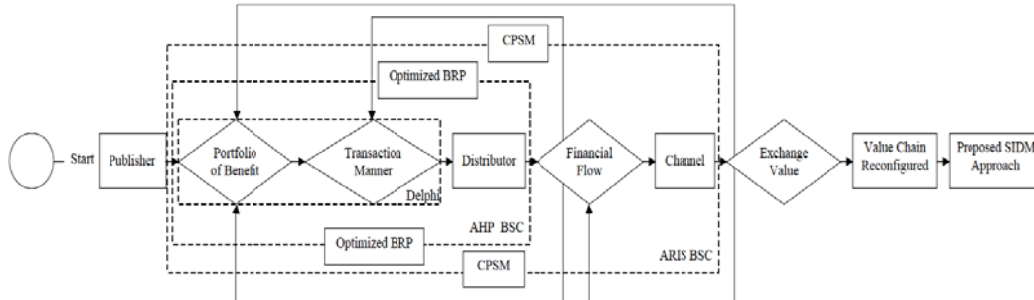


FIGURE 7: THE CPSM FOR DEFINING VALUE CHAIN RECONFIGURATION

Conclusion, Implications and Future Research

CPSM is a dynamics modeling system which applies a three-layered methodology and attempts to identify the events and patterns of behavior of value chain function. The modeling adopts the conceptualization of KIT of BSC/AHP/ST/ARIS toolset variable in examining the virtual necessity through a stepwise clustered module structure. CPSM provides the following insights. First, the case study has demonstrated CPSM is capable of strategic activities of value chain reconfiguration. Secondly, the clustered module structure provides recognition of decision requirement in strategic framework. Thirdly, CPSM allows decision makers to overcome the knowledge regarding the outcome between computational and judgmental application in process simulation models.

To make CPSM the trends of management science, we need to do more researches, for example: implementing CPSM as a stand-alone decision support system in various businesses. It is recommended that the method outlined in this paper be replicated to test its feasibility and effectiveness. Future research should focus on building more complicated decision-making hierarchy with a larger number of decision factors and the consistency analysis of smaller parts along with genetic algorithm (GA), which will enable the strategic planning of CPSM to generate better decision-making quality than the approximation method.

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Note: Contact authors for the complete list of references

A Comparison of Two Operating Leisure Oriented Mega-Malls and The Xanadu Project: Looking Into the Crystal Ball

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Abstract

This paper utilizes a case study and secondary data approach to investigating and analyzing success factors of two highly successful Mega-Malls and the possibilities for the future of the financially plagued Xanadu Mega-Mall Project in the New Jersey Meadowlands. The paper looks at propensity for tourists to visit facilities, infrastructure contributions, store mix and other factors that seem to contribute to the success of such facilities. The probabilities for the success of the Meadowlands project are discussed in the conclusion of the paper.

Introduction

In the early late 1970's this author began to write articles about such coined terms as "leisurized marketing" and "leisuremalls". The term "leisurized marketing" was used to define such ideas as selling merchandise in leisure or entertainment environments, corporate sponsorship of events, and leisure themes in advertising. The term "leisure malls" was used to describe a continuing trend toward more and more leisure and entertainment in the shopping mall setting with a continuing emphasis on increasing entertainment and recreational facilities within the mall mix. The ultimate goal was to see if a so called "Shopping Mall" could become predominately a mall that had more entertainment and recreational facility square footage than shopping. These facilities were not necessarily envisioned to be in the mode of theme parks alone, but facilities that offered a large number of recreation and entertainment facilities within an interconnected indoor environment. In 1981 the first such project which had a decidedly leisure bent was the West Edmonton Mall. In 1992 the Mall of America made its debut in Bloomington, Mn. located within an approximately ten minute light rail line from the Minneapolis-St. Paul "Twin Cities" airport. Both of these malls are now controlled by the Triple Five Group although U.S. shopping mall giant Melvin Simon owns an interest in Mall of America and participates in its on site management. These are the only two malls in North America that emulate the "Mega-Leisure Mall Model", but in other parts of the world there are facilities with similar compositions including the Xanadu in the Madrid, Spain area and Lotte World owned by the Lotte Store Chain in the Seoul, Korea area.

This paper examines the dynamics of the new Xanadu project in the East Rutherford, New Jersey (Meadowlands Sports Complex) which is approximately seventy-five percent or more (depending on who you talk to and how you measure completeness) completed as the writing of this paper commences. The project has had a sordid history and it hasn't even opened yet. It was originally supposed to open in 2007 at a cost of 1.3 Billion dollars and was originally developed by the Mills Corporation, a developer of other what would have to be referred to as "leisure oriented" outlet malls in various locations throughout the United States. It's properties included Sawgrass Mills in Florida, Potomac Mills in Virginia, Franklin Mills in Pa., and Ontario Mills in California to name a few. The Mills Company became embroiled in financial scandal and its assets were mostly sold off to the Simon Company, but even Simon apparently knew that Xanadu spelled a web of mystical trouble as they did not acquire the property as part of their deal and as a result it was acquired by another company called "Colony Capital".

Xanadu was in trouble right from the beginning and some think that Xanadu should have never been built. In early 2010 the controversy became very public again with the arrival of a new governor and the transition report from the Corzine to Christie administration stated that the original business plan for Xanadu "had failed" and needed some immediate redress. There was some talk that the project would have to be surrendered to the State of New Jersey which would probably mean that the State would get stuck finishing it and operating it which in itself would be difficult and controversial beyond belief. (1)

The evidence is clear that the Christie transition team is correct because if you read the original article about what was supposed to be at Xanadu and what is now supposedly under lease agreement to be there we can see that the business plan has indeed failed and the project as originally stated is not being delivered. In fact, it has become less and less leisure/entertainment and projected to be more and more shopping. One person who was originally involved with the project confidentially told me even before the project got into trouble that the project would eventually have much more shopping than originally projected. Originally the project was to include: The Snow Dome Snowsports Area, The House of Blues, Cheesecake Factory, UnderWater World aquarium, A PBS Kids Pavilion, Bergen Cliff Hawks minor-league baseball team and the Bergen River Dogs professional lacrosse team, ESPN Skate Park (extreme wheel sports), an indoor surfing wave, a grand movie palace, Wanadoo City (a unique children's interactive theme park) a small format live entertainment venue, a Wildlife Museum, luxury spa, cooking area and the Meadowlands Area YMCA. (2) As it stands at this writing only the Snow Dome, Cheesecake Factory, Movie Palace and Entertainment Venue remain, but to be fair other facilities including Funplex Family Recreation Center, Lucky Strike Bowling Center, Legoland, and The Pepsi Eye Ferris wheel are currently slated to join the mix. Leasing of all retail space was clearly at a standstill and many merchants including a large entertainment oriented sporting goods store chain called Cabella's are reported to have recently pulled out of the project.

The controversy and perhaps the failure of the project were predicted by the mixed opinions and reactions that happened when this project was approved. Two other competing finalists competed very strongly for the nod to go ahead with a project including the "Hartz Mountain plan for a convention center (valued at \$815 million originally) (that) even drew a campaign-style endorsement from the New Jersey Thoroughbred Horsemen's Association, which said its adjacent Meadowlands Raceway would be helped more by a wave of convention goers than by a flood of shoppers". The third finalist in addition to Xanadu (\$1.2 Billion originally and now approximately \$2 Billion) and the Hartz Mountain project was Westfield Corporation a large holder of shopping malls in the USA which proposed a "\$989 million complex of offices, hotels and an "urban village" built around a refurbished arena that would offer entertainment events". (2) This author wrote during the controversial period of consideration for the three projects and stated that although personally I find the Xanadu project thrilling I believed the one that should have been selected due to current market and regional needs was the Hartz Mountain Project. (3) This analysis was due to the fact that it is obvious that we have too much shopping in the region and that we have hardly no large convention spaces in the New York Area where the Javitts Center in Manhattan remains the only larger (and not one of the largest) convention centers in the NYC/NJ metro area and is too expensive for many potential conventions to come to the area. It is believed that the convention center would have been booked solid, open by now, and would have had far less impact on traffic than the Xanadu project will have. This being said Xanadu is sitting there and the general framework of it must now be dealt with, which is why this analysis may prove important. It is believed that with all the right moves and new investment money this project can still be the economic development jewel that it is intended to be and this article is intended to aid in that quest.(4)

Methodology

This paper synthesizes a variety of secondary data and observations by the author in a case study analysis of the potential market and marketing environment for the Xanadu Project. A wide variety of common factors for comparison were developed by the author from the available data, review of various news and scholarly articles regarding these projects, and personal first hand observations by the author due to his life proximity to the project. The author has also visited the Mall of America about six times over the years and the Edmonton Mall once. Data provided by the Xanadu Projects feasibility studies was important to this analysis. In the analysis the first step was to identify factors that can impact the success of such projects. The next step was to score the factors given observations and data regarding each factor. Factors regarding Xanadu seem to be fluid as no one knows as this is written exactly what will end up in the project. This writing is based on the current information available. A ten point scoring system was used for each factor. A composite total score is then generated for each operating project or in the case of Xanadu project still under construction. Conclusions and recommendations for further study are made.

Factors to Be Analyzed Impacting Success or Chances for Success

- 1) A list of 15 factors was developed by the author based on the existing literature and factual observations regarding this project. The factors analyzed are listed (factor name used elsewhere in this analysis is in parenthesis) and described below:
- 2) Proximity and Ease of Use of Public Transport - How accessible and easy to use is the public transportation system in reference to each of these projects. Necessity to use public transit is also considered. (Transit Proximity)
- 3) Cost of Public Transport-Actual costs of public transit (Transit Costs)
- 4) Tourist Environment (Competition)-An analysis of the competitive factors for competing for tourists are made. (Tourist Competition)
- 5) Local Leisure Environment (Competition)-An analysis of the competitive factors for competing for the local leisure/entertainment dollar is made (Leisure/Entertainment Competition)
- 6) Shopping Environment (Competition)-An analysis of the competitive factors for competing local shopping sites is made. (Shopping Competition)
- 7) Ease and Cost of Parking-An analysis of the cost and ease of parking and general accessibility to patrons arriving by automobile. (Parking Costs/Ease)
- 8) Merchandise Store Mix-Variety-Uniqueness. (Merchandise Store Mix)
- 9) Leisure/Entertainment Mix-Mix of the leisure/entertainment facilities offered or proposed is analyzed. (Leisure Entertainment Mix)
- 10) Appropriateness to Regional Goals and Objectives-The appropriateness of the project toward regional development goals and objectives is rated. (Regional Appropriateness)
- 11) Potential Visitor Population Base for Overnight Tourists (Tourist Population)
- 12) Potential Visitor Population Base for Residents (Resident Population)
- 13) Potential Visitor Population Base for Excursionists or Day Trips (Excursionists Population)
- 14) Blue and other Laws (Restrictions on Operations)
- 15) Attractiveness to Investors (Investor Availability)
- 16) Economy at time of inception (State of Economy)

Presentation and Discussion of Secondary Data and Information Utilized or Referred to In This Analysis

There is a variety of information that is useful in this analysis that is presented and discussed below.

Shopping Mall Statistics for North Jersey Region (Table A) (5)

PROJECTS	SIZE (SQ. FEET)	SALES (PER SQ')	% OCCUPIED
Garden State Mall	2,131,059	\$732	99%
Paramus Park	771,255	\$468	96%
Bergen Town Ctr	1,243,000	\$475	100%
Shops at Riverside	745,329	\$425	91%
Jersey Gardens	1,303,916	\$560	97%
Willowbrook Mall	1,516,940	\$545	96%
Mall at Short Hills	1,342,000	\$785	94%
Palisades Center	2,154,545	\$565	97%
Newport Center	1,149,147	\$535	97%

Additional Characterizations/Statistics of Meadowlands Xanadu (6)

- 1) Estimated average attendance 42.7 million annually for Xanadu, half of which are projected to be tourists. (New York City has an estimated total 47 Million visitors per year) (7) 3.8 Million people visit the Empire State Building (8) each year considered to be New York City's #1 tourist attraction and about 4.8 million visit the Metropolitan Museum of Art (9).
- 2) Traffic could be greatly complicated as there will be no major increase in access roads and the predicted attendance is astounding.
- 3) Rail site to property, but it is much more expensive than the Mall of America's rail system and takes around one hour at a cost of about \$25 round trip to get there from Newark Airport and will take about 45 minutes to one hour total travel time.
- 4) Thirty-fourty percent of the visitors are estimated to be tourists, however, given the competition for tourist time in the New York City/New Jersey area it is unlikely that these estimates will occur.
- 5) Mix of space is appears slightly stronger in the recreation/entertainment area than Mall of America, may be equivalent to or slightly less attractive than West Edmonton Mall. Attractions on opening at present include the Snow Dome Snowsports Area, Pepsi Giant Ferris Wheel (Great Views of NYC skyline), Legoland, Lucky Strike Lanes Super Bowling Center, 24 Screen Imax/3D Movie Superplex, Funplex Family Entertainment Center featuring Magiquest (a fantasy role playing game), 3000 Seat Live Entertainment Venue, Live Cooking Stage and Demos, Super Large Big Screen Television with Sports Seating Atmosphere.
- 6) Retailing tenants are currently indefinite, with a lot of space to be leased. The second phase which includes the complex's only large Department Store will not open on opening along with over 100 other potential retail store spaces. Retailing will not come close to Mall of America or West Edmonton on projected opening.
- 7) It is assumed complex will eventually have corporate sponsors but none are known at present.
- 8) Cost of project when fully completed could approach over \$2.5 billion or more.

- 9) Potential population surrounding site is not even comparable to the Mall of America and Edmonton situation. The amount of population to draw from depending on how you measure it is about 15 times larger. The 100 mile radius market for Xanadu exceeds 25 million.
- 10) Shopping competition in the area is intense with such venues as Jersey Gardens Outlet Mall (closer to Newark Airport and much cheaper to get to) and Woodbury Commons (America's most successful outlet mall and a huge tourist draw) and even Palisades Center (which also has an entertainment/mega-mall slant) all competing. This coupled with all the tourist attractions and other competition in the New York/New Jersey market makes the competitive situation severe in comparison to West Edmonton Mall or Mall of America. (See Table A above for complete run down of shopping venues)
- 11) Parking situation is greatly complicated by sports and entertainment events held at other venues at the Meadowlands Complex. It is difficult to park cars at the Mall for free due to the need to control attendees at other events from parking for free at Xanadu. Xanadu will charge for parking for all patrons. It is currently projected at about \$3 for the first three hours with increasing fees after that period of time.
- 12) Xanadu will possibly be forced to close on Sundays due to Blue Laws that do not allow retailing in the county that houses this complex. Governor Christie has said that he will eliminate the Blue Laws in a statement issued in March 2010, however, this will mean all area shopping malls will also be open on Sunday.
- 13) Small number of full service restaurants currently leased.
- 14) Bigger than both Mall of America and West Edmonton Mall when completed at 4.5 million square feet will be the third largest mall in the world and largest in North America.
- 15) Feasibility studies for this project contain demographic projections only and do not consider psychographic tendencies for either tourists or local users to utilize such a facility.

Characterizations/Statistics of the Mall of America (10) (11)

- 1) Approximately 40 million visitors annually.
- 2) 4.2 Million square feet of space built at a cost of \$650 Million.
- 3) 16 Major Corporate Sponsors Signed for Opening which provided an immediate revenue flow
- 4) \$87 per visitor spent per visit.
- 5) 4 Major Department Stores on opening
- 6) Large indoor amusement park in central atrium on opening
- 7) Although the mall contains many restaurants (full and quick service) and recreation/entertainment including an aquarium, the indoor theme park, Lego Imagination Center, A.C.E.S. Flight Simulation, Nascar Silicon Motor Speedway, Dinosaur Walk Museum, Movie Theaters, it's space mix is decidedly more slanted toward shopping with entertainment amenities rather than somewhat of a balance between the two.
- 8) Only two miles to the airport with a direct light rail train line for about \$2.00 each way. Travel time: ten-fifteen minutes.
- 9) Forty percent of the visitors are tourists (Mall is the only really major tourist attraction in the area and also can draw a lot of Canadian drive in tourists due to location.)
- 10) Parking is free of charge
- 11) Mall is open seven days a week
- 12) Access with public transportation and local area roads is excellent. Light rail, bus and limited regular local traffic in immediate area of mall.
- 13) Developed at a recessionary time
- 14) The original funding was provided by \$150 million in public bonds, which paid for the parking, land and infrastructure. Fifty-Five percent of the investment was taken on by the highly conservative Teachers Insurance Annuity Association (TIAA) with the rest coming from two solid Japanese Banks all at the time of going into a recession.

15) Characteristics/Statistics for the Edmonton Mall

- 1) Free parking for all customers with over sixty entrances and exits.
- 2) There is excellent traffic flow in area of the Mall (12)
- 3) The Mall includes over 800 retail stores, six amusement attractions including a large indoor amusement park, movie theaters, super bowling and billiards centers, and large indoor water park and a 335-room hotel, the Fantasyland Hotel, which includes eleven types of themed rooms, from the Igloo Room to the Bridal Suite. In addition to over 100 restaurants, the mall includes themed streets such as Europa Boulevard and Bourbon Street. West Edmonton Mall is anchored by eight department stores. (13)
- 4) Total annual visitors is 28.4 million. (14)
- 5) It is the number one tourist attraction in the area and in many ways the heart of all recreation and entertainment in the region. (14)
- 6) There are only just under one million people living in the Edmonton Metroplex. (14)
- 7) Amount and quality of public transportation to the facility is outstanding (14)
- 8) Local transit fares from almost anywhere in the region are \$2.75 or less including the airport. (14)
- 9) The Mall was developed at a time when the economy was stable and it appeared to be an attractive investment. Noteworthy inflation has taken place since the time of its development.
- 10) The lower drinking age for alcoholic beverages of 18 makes the mall a "place to party"
- 11) The mall cost \$1.2 Billion Canadian to build. This amounted to less than \$1 Billion American and was until 1994 the biggest indoor shopping mall in the world and now ranks #5 with 3.8 million square feet.(15)

Scoring of the Fifteen Factors and Discussion

Key: X=XANADU M=MALL OF AMERICA W=WEST EDMONTON

1. Transit Proximity

X=4-Although public transit is available the ease of use especially from the airport does not compare to that for the Edmonton Mall or Mall of America.

M=10-Best of the three with a light rail line going right into the mall and terminating there.

W=9-Just under the Mall of America

Further Discussion: The transit situation does not come close for Xanadu in comparison to what the other two facilities enjoy. The time it takes to get from the airport to Xanadu may greatly limit brief stopover trips to Xanadu. The short time it takes to get to Mall of America from the MSP airport one of the largest in the USA and a major hub encourages short stopover visits to Mall of America. Many Asian visitors who are primary customers for Mall of America pass through the MSP airport.

2. Cost of Public Transportation

X=2-Cost of regional public transportation is expensive and simply not as plentiful as it is for the other two malls.

M&W=10-It costs less than \$2.50 to get to both malls and in many cases less than that.

Further Discussion: Public transit is expensive to anywhere from Newark Airport to Xanadu. The \$25 round trip cost will deter short trips to Xanadu from the airport. It will also be the same impediment it is to using public transportation for everything in Northern New Jersey.

3. Tourist Competition

X=6-There is so much competition even in shopping that it will be difficult for Xanadu to garner tourists time. It may be noted that the first Xanadu in Spain from which the idea for Xanadu New Jersey was born does not see very

many tourist visits. On our visit there we found that few if any tourists were present and shop owners there were very surprised that we were taking our time given all the attractions in Madrid to go visit Xanadu. With all of the other iconic attractions in the NYC area it does not appear likely that Xanadu will appear on many tourists must see lists, however, being the third largest mall in the world does put it on some people's list of sights to see.

M=10-Mall of America is really the only major tourist attractions in the region. It draws a lot of tourists and is the number one tourist attraction.

W=10-There is not much else to do in Edmonton, the West Edmonton Mall is a must see tourist attraction and is the second biggest shopping center in the world. As such, it is a must see for tourists

4. Leisure/Entertainment Competition

X=9-It is believed Xanadu will fair much better in this area especially with locals looking for entertainment and leisure. It will have a few unique recreation/entertainment facilities and it will have a synergistic relationship with the rest of the Meadowlands Complex which includes a large entertainment arena, race track and the new Meadowlands Stadium home to the New York Giants and Jets professional football teams.

M and W=9-It is believed that these facilities are about the same overall in terms of leisure/entertainment attractiveness.

5. Shopping Competition

X=3-Another area where Xanadu can have trouble. There are so many successful shopping malls in Northern New Jersey and in near by Rockland and Orange County New York, that it is hard to see that this will be a preferred shopping location. Also, one can't ignore the impact of the fact that there is very unique shopping opportunities in New York City. (See store mix comments as well.)

M and W=10-There is really no competition shopping wise for both of these giants. The number and variety of stores at these two facilities are staggering. Although other area malls compete these are the giants.

6. Parking Costs/Ease

X=3-Another troublesome area for Xanadu as this mall is not as conveniently located for many of the more affluent shoppers in the area to go to and the traffic in the area may also be a deterrent. Also, the parking charges for such a facility are problematic and will discourage locals from coming to the facility.

M & W=10-Amazingly noteworthy amounts of free parking at both facilities with easy access.

7. Merchandise Store Mix

X=5-Currently the store mix is indefinite at Xanadu. Xanadu is scheduled to only have one anchor department store (which is supposed to open in phase two and not phase one) compared to Mall of America's four and Edmonton's six. Hopefully there will be better stores coming to the mall. Certainly the design of the facility is a very positive one for retailers. In the final analysis though this Mall may not have a store mix given current plans and restrictions placed on it to draw people to it for shopping alone.

M&W=10-Both malls have amazing amounts of stores and variety that make them the number one places to shop in their regions.

8. Leisure/Entertainment Mix

X=8-This is an area where Xanadu does somewhat better at this look. This is perhaps why in part the retail merchandise store mix seems inadequate. It has some pretty good entertainment and leisure facilities in it and the design itself in the interior is something that people should find enticing. It will undoubtedly have the most exciting shopping mall interior of the three projects. In terms of entertainment and leisure facilities the unique snow dome should be a draw as it does well in Xanadu in Spain (even though it really doesn't make any money it draws a lot of people into the mall). The Pepsi Eye well should be pleasing to tourists as well as corporations and locals that want to use the individual gondola cars for dinners and social gatherings. The question is how long will people walk

around the mall when they are going to the entertainment facilities that are either in Xanadu or in the aforementioned adjacent Meadowlands facilities. Will a charge for parking cause them to go to events and activities in Xanadu and then head to their cars rather than shop?

M & W=9-The leisure/entertainment facilities are somewhat unsurpassed here and balanced and blended into the shopping/retail environment pretty well but they may not appeal to everyone and every age group, so we took off one point.

Additional Comment on Facility Mixes: It is interesting to note that there have been frequent changes in the mix of retail merchandise stores and entertainment in the existing projects. These changes reflect changing merchandising trends as well as leisure and entertainment trends. Planners for Xanadu should not that during the time it was developed trends have changed dramatically and this is why all plans for Xanadu need to be critically evaluated as it moves forward.

9. Regional Appropriateness

X=6-Probably not the best project to have been selected due to the traffic congestion that already exists along Route 3 and Route 120 (Paterson Plank Rd.) which are main routes into New York City for the daily commuter.

Additionally, it does appear that given all the shopping that already exists and the need for convention space one does have to wonder why this project was selected over the convention center project. People may eventually enjoy some of the new leisure/entertainment opportunities that this will provide and uniqueness of the facility.

M & W=9-Big projects like this bring major changes in areas and lifestyles. Overall, it does appear that both of these projects have had positive impact on their surrounding communities and regional economy.

10. Tourist Population

X=6-Although there are many tourists coming to the area it is doubtful that many of them will make this a priority and as such it is unlikely that this will have the tourist draw that some have predicted that it will. The Woodbury Commons Outlet Mall may draw more tourists than Xanadu even after it opens because of the formidable bargains there. Xanadu was not allowed to have outlet stores which would have helped it a great deal with tourists, especially since it does not have the retail shopping mix of the other two Malls in this analysis. Also, the outlet/off price formula is a proven thing in tourist areas. The problem in doing this is that the nearby Jersey Gardens which is another large outlet mall might have been put out of business if Xanadu had outlet stores which perhaps emphasizes why another shopping mall may not have been a good idea. The sheer numbers of tourists in the entire region may help if the Mall management does an excellent job of attracting tours and group business.

M=10-Draws a lot of tourists as the only major attraction in the area and its proximity to Canada. Also, the cold weather environment helps to enhance its attractiveness to tourist during the longer winter periods in this part of the USA. The easy ride from the airport makes it very attractive for short visits from tourists who are even passing through the area.

W=6-Significantly less tourists than Mall of America, but when tourists do come to Edmonton it is a must see and the most major attraction.

11. Resident Population

X=7-On the entertainment side the facility could be a huge draw to residents in the area. The question is whether the lack of free parking, traffic in the area and possibly not the greatest retail mix along with strong competition from other malls will deter locals from coming there.

M=9-Mall of America is a wow for locals looking to cool off in the summer or have a fun day in the artificial outdoors in the winter. It clearly has a great local recreation/entertainment scene, is a place to be seen, and has the most stores of any place in the area. It is easily reachable at cheap costs by locals with public transportation from virtually everywhere in the 25 mile radius.

W=10-Similar conditions exist for this mall like Mall of America, however, the lack of tourists is more than made up by the fact that the Edmonton Mall is the place to be for shopping, leisure and entertainment in this area. There

are less competing factors in Edmonton than Bloomington. The winters are even colder and longer here so the Mall is an Oasis during the long winter days.

12. Excursionist Population

X=8-Hopefully regional daytrips will become popular here and perhaps it may even prove more attractive to those traveling a distance to get here for the day than people who live right on top of it and know the local entertainment/leisure scene better than people who live an hour or more away in more rural areas.

M=8-There is a great propensity to travel a distance to this mall for a day trip, however, it does not have the population around it that Xanadu enjoys.

W=7-About the same propensity to travel here as Mall of America but there is simply far fewer people here than in Bloomington.

13. Restrictions on Operations

X=1-Here is a major problem facing Xanadu. It needs to be open on Sundays. Governor Christie has already said he will remove the Blue Laws that prohibit the Sunday opening. There will be strong countywide and other opposition to this idea. It is necessary to allow Sunday openings for the success of this project. The leisure and entertainment aspects would be allowed to operate on Sunday even under the Blue Law, but the lack of allowing the retail shopping in the facility to operate on Sunday would ruin the synergy in the facility and very much hurt its success. The lower drinking age in Edmonton is also a noteworthy competitive factor that few have mentioned.

M & W=10-No restrictions on operating hours as well as a lower drinking age in Edmonton.

14. Investor Availability

X=4-Currently there is only one suitor, Steven M. Ross, who is known to specialize in bailouts. It is likely that Mr. Ross will want to make major changes to the facility to make it successful which may be an impediment to him making the investment. The shadowed past of the facility to date has become a problem in attracting additional funding. The original suitor the Mills Company was involved in a financial scandal that forced them into liquidating their holdings. It is believed if Mr. Ross or someone else is given freedom to develop and operate the facility as they see fit their will be funding to complete and open the center. That freedom is needed for the long term success of the project.

M=10-Mall of America had a much lower investment cost and received \$150,000,000 million in government funding. The chances for success were so obvious in the investment community that the project drew an investment from the Teachers Insurance Annuity Association one of the best managed and most conservative groups in the world. They took a 55% stake in the initial project. All of this was as the country was going into a recession.

W=10-Projects like this built in Canada especially at this time seem to have had no problem with funding. We couldn't even find any discussion about the funding for this Mall.

15. State of the Economy

X=3-B-Yes, the economy went into a recession, but that did not stop the Mall of America, so perhaps investors are just not as positive about this venture.

M=10-The economy was not great for the development of this facility either, but nothing seemed to deter investors.

W=10-The economic status did not affect the development of this facility.

Composite Scores for the Analysis

The total scores for the analysis were as follows:

Xanadu: 75 out of 150 total

Mall of American: 144 out of 150 total

West Edmonton Mall: 139 out of 150 total

The scores for the Mall of America and West Edmonton Mall are very similar. Obviously, from this analysis there is a great difference in the situation which now exists for Xanadu from these two facilities.

Conclusions

While the Mall of America and West Edmonton Mall are open and successful they do not have many of the development and operational problems that are facing the Xanadu project. The problems facing the Xanadu Project based on this analysis include:

1. Economic and Investment Problems-Yes, the economic situation has hurt the development of Xanadu, but it appears to have hurt the investment market rather than the potential for customers. Although retailing is off it continues to rebound at this writing. With so many financial problems Xanadu may have to go bankrupt and have more cash drained out of it before it can succeed. (The best scenario would not be for the State of New Jersey to take it over as it is hard to conceive of the State running such an enterprise.) Only time will tell. Further, entertainment and leisure especially in terms of local spending seems to flourish in a recession. The U.S. Government actually predicts a 15% (4% above average) growth rate in the employment market for leisure and entertainment oriented employment in the next ten years. It now predicts downturns in employment in many other sectors that it did not predict such downturns in before the current recession occurred. (16) Investors may just be afraid of many of the other observations that are made herein. Many of the factors discussed herein are interesting unknowns or uncertainties that need to be answered, but it is believed all can be addressed and Xanadu can be moved forward to success.
2. Environmental Problems-Xanadu is being built in a highly trafficked area on the daily commute route to New York City. Perhaps not the best example of urban planning. The cost and lack of an extensive and convenient public transportation systems and the need to charge for parking are problematic in the overall environmental framework.
3. Retail Store Mix-The retail store mix is deeply hampered by the restrictions placed on the developers. It is difficult to operate a complex of this scope without freedom to lease as one sees fit.
4. Entertainment Mix-Unfortunately, Xanadu has lost some of its plum entertainment tenants due to the overall situation. The facility must open with a reasonable retail and entertainment base or it may lack the synergy needed to attract local visitors and tourists.
5. Overall Concept-The overall concept here may not fit the overall environment. There is a staggering amount more entertainment, recreation and shopping opportunities in the area of this project than there is in the area of either the Mall of America or West Edmonton Mall.

Recommendations and Recommendations for Future Study

1. Project Mix-The project mix needs to be immediately reexamined and reformulated. Complete freedom should be given to the developers to develop and lease as they see fit. Perhaps an outlet store section with a particular theme(let's say upscale outlets only or those not in Jersey Gardens at present) or more showcase type stores or

merchandising that incorporates entertainment elements like Cabella's does needs to be attracted to the project. Turning the second phase into a convention center should be seriously considered as there appears to be a strong need for convention and meeting space in the region and the synergistic qualities of a convention center with the rest of the project would be excellent. This would also enable the retailing and entertainment facility space to be more valuable and would attract more restaurants to the project and possibly could seed hotels and other economic growth in the area far better than the Xanadu without such facilities would bring.

2. More Research-More research is required to capture the propensity of potential users to come to the facility. Original feasibility studies based on demographic projections and comparisons to the Mall of America and Edmonton Mall are not appropriate to this situation as the market environment as demonstrated by this paper is completely different at these two projects than for Xanadu. There also needs to be research to investigate the calling for a convention center as mentioned above. There is also the possibility of doing further research within the format of this study.
3. Blue Laws-Xanadu must be allowed to be open on Sundays with all facilities and services operating. It is time for Bergen County to give up its Blue Laws. Those that don't want to work on Sunday should simply be given the right not to work on Sunday. New Jersey and Bergen County can not afford to continue to endure the economic losses that occur from the Sunday Blue Laws especially in light of this attraction that could conceivably draw a lot of tourists if it was open on weekends.
4. Parking-Parking needs to be made free. On event days at the New Meadowlands Stadium or Izod Arenas that are adjacent to Xanadu the parking garages should charge for parking for anyone that stays in the Xanadu garages over three hours or some similar scheme that would discourage event attendees from parking in the garages for free. Any parking charge would be a strong deterrent for local visitors who are so used to free parking at all local shopping malls and entertainment facilities.
5. Special Public Transit Ticket-There needs to be a special \$10 or less New Jersey Transit Ticket for people going from Newark Airport to Xanadu for trips of less than five hours total time. This would greatly encourage stopover visitors to hop on the train to visit Xanadu. A free baggage check should be included at Newark Airport for those wanting to engage in this activity or go to the nearby Jersey Gardens Mall. Perhaps the special ticket could also include the bus service to Jersey Gardens to be fair to the competition.
6. Greater Public Awareness-The public needs to be convinced that traffic will flow well around the project and that it will indeed be a great benefit to have this facility in the area.
7. Greater Tourism Promotion-The Meadowlands Chamber of Commerce has already established a Visitor's and Convention Center in part to help promote Xanadu. A strong tourism promotion effort needs to be conducted on behalf of the Meadowlands Region which includes the Xanadu project.
8. Save Xanadu-In the final analysis a \$1.5 billion dollar building is sitting on Route 3 in New Jersey. This project must be saved and must be put on firm footing to succeed. The low scores shown for this project in many of the categories utilized are well stated for comparison purposes using a case study approach. They indicate the current weaknesses of this project. The bright spot is clearly the huge number of possible customers in the area. Xanadu must capture these customers by being all it is capable of being. Xanadu will exist in one form or another. Let's hope the form that emerges will indeed be successful. The investors and the people of New Jersey need to succeed.

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Changes in University Governance. An analysis of Italian Universities

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Abstract

During recent years radical changes have affected universities in most Western European countries, implying new pressures and demands on the higher education system and deeply influencing the context in which universities operate. The paper attempts to investigate governance issues and the need for new strategic paths emerging as a result of new scenarios. Specifically, the increasing number of stakeholders involved in academic activities requires universities to take into account a variety of social, economic and cultural factors when making strategic decisions. Adjustments in board composition through appointing non-academic members are signals of such trends. Moving from this consideration and relying on data on the governance structures of Italian universities, the paper discusses challenges for academic institutions in terms of change in their strategic management and governance structures as well as the likely directions such change is taking.

Introduction

Since the Bologna Declaration, the competitiveness of national university systems has been top of the academic agenda in Europe. Each Country is pushing in the direction of optimizing performance to avoid marginalisation. In competitive terms, performance is seen as the capacity to attract the most talented young people to their universities not to mention funding for European research Programmes. Consequently, the benchmark will be the efficiency of National university systems as a whole and adequate governance tools.

The European university system in many respects is experiencing what could be called a governance crisis given its shift from closed corporation status to that of exposed Institution encumbered with strategic planning and management remits, basically unknown compared with the past. Accountability, responsibility, efficiency and transparent decision making are the key words underpinning this epochal change combined with the democratic representation of all the members, each in reference to the specific role held in the system. In Italy too, autonomy introduced with the Law no.168/89 has reviewed and modified the relationship between the Ministry and individual Universities. At present, the role of the Ministry involves planning, devising directives and evaluating mechanisms within the university system, taking into account the results obtained in order to allot resources (defining parameters for measuring performance). In the pursuit of high quality training, research and development, the Italian Government is also promoting forms of competition and differentiation between Universities, experimenting innovative models of research and teaching, new curricula etc. At the same time, it is introducing mechanisms to stimulate interest in the internationalisation process of training and research and encouraging teacher and student mobility.

However, autonomy in a university context is not envisaged in individual terms but rather in an institutional sense, at the service of the people and the stakeholders operating in the territory. The Conference of the European Ministries for Higher Education in Berlin in September 2003 emphasized how Higher Education “is a public good and a public responsibility”. In Italy, for many years now, the concept of ‘self-reference’ has been the subject of debate between academics and politicians in that the University is accused of ignoring the needs and demands of its users generally speaking and those of the world of labour and production in particular. The lack of an active role in university governance on the part of the stakeholders is denounced, in particular as concerns the students and their families as well as the business world, the professions and Institutions of territorial governance, underlining how universities rely on the public for their main source of funding. In our view, the way to interpret the principle of

autonomy of university education lies in defining criteria of governance that are valid for every university in order to avoid or banish self referential mechanisms. Unquestionably, representatives of the public in governance structures together with student delegates is a start whereby strategies of development and policy guidelines can be discussed in the light of established goals. In short, the principle of autonomy in the University has to combine with the monitoring and evaluating of such goals, assuming full responsibility towards stakeholders when implementing strategic decision making processes.

Research purpose and structure of the paper

The paper starts from the premise that the recent changes in the European Higher Education system have pushed universities to consider the expectations of their stakeholders (competition and market orientation perspectives). Nowadays, it is widely acknowledged that the university needs a new model of governance, in order to preserve the integrity of its mission as well as to make its strategic decision-making processes more effective, timely and sensitive to strategic stakeholder input. This paper investigates governance issues and the need for strategic change emerging as a result of the new context. By virtue of the large number of interest groups involved in a university's activity and the importance of strategic input coming from the external environment rather than from the organization's internal setting, a shift towards extensive adjustments in university governance structures and management has been noted.

First of all, the paper attempts to describe and explain the recent changes and new trends in the European higher education system, by means of a detailed analysis of relationships between central government, the marketplace and public universities. From an overview of the literature, the study proceeds with a brief description of the composition of governing bodies in Italian public universities, illustrating the modalities and procedures of how they work, their responsibility for determining university strategy and, finally, the relationship between governance and management.

The research question starts from the assumption that to best satisfy stakeholder needs they should be included in strategic decision making processes. Universities that are sensitive and receptive to external stimulus put in place decision making processes that are attentive to input arriving from their many stakeholders. In particular, our research attempts to appraise the following: 1. The number of stakeholders involved 2. The governing bodies in Italian Universities; 3. The number of universities that include stakeholders in their strategic decision making processes; 4. The category of stakeholder involved. In particular, on the basis of findings relative to research questions 3 and 4, a positioning map is devised for assessing stakeholder engagement in Italian universities. Finally, by means of collected data (using secondary sources) findings are presented and the implications for future research underlined.

Recent changes and new trends in the Italian higher education system

In Italy as well as in most European countries, since the beginning of the 90s, a radical process of reform in education systems has taken place, leading universities towards greater managerial autonomy and revolutionizing traditional teaching activities. At the European level, one political initiative is the Bologna process, which has paved the way for the organizing of comparable structures cross cutting national borders in European higher education (Thrift, 2008). At the same time, national political reforms have reduced the coercive impact of governments in higher education, with the effect of increasing autonomy in universities (Hedmo and Wedlin, 2008; Enders, 2004; Kogan and Hanney, 2000).

Changes in the regulatory framework have modified the role of the State in terms of public funding and in formulating the general guidelines of academic activities in a context of more autonomy. One fundamental principle of the Bologna Declaration is that research and teaching in universities must be morally and intellectual independent of all political authority and economic power. In the past, governments have protected their universities from competition on the part of other knowledge organizations. However, the university is not a protected label and trust in academic institutions greatly depends on consensus and government legitimacy (Engwall, 2008). In addition, a

number of signs indicate that universities are also subject to pressures from the marketplace. In fact, a greater pressure on efficiency and effectiveness and differentiation of teaching courses are key elements which characterize the university systems throughout Western Europe (Gellert, 1991; Teichler and Kehm, 1995). In its turn, change has brought about effects consisting in: greater market orientation, with a focus on the needs of students/users as well as other stakeholders, not to mention a managerial focus in approach relative to economic issues and responding to the need for efficiency and effectiveness.

Feasibly, the changing relationships between central government, marketplace and public universities create new pressures upon higher education institutions. Consequently, there is the need for a rethinking of university mission, goal and management practice as well as for change in both governance mechanisms and academic leadership (Henkel, 2002, 2005). Particularly, in Italy, greater convergence with education systems of other European countries is a deeply felt need along with that of overcoming certain national weaknesses. These goals have started a radical innovation process within the university system, summarized in the shift - from a context characterized by scarce attention paid to the economic sustainability of academic activities to greater focus on the relationship with the central government as a main university stakeholder - towards a context characterized by: decentralization of strategic decisions at individual university level; greater emphasis on the efficient deployment of resources and not least, the need on the part of universities to take into account a larger number of social, political and economic stakeholder groups. Consequently, strategic management in universities is becoming more complex and new governance issues are emerging as the patterns of stakeholder interaction are being redefined.

Competition and Market Orientation

The process of change described above has resulted not only in more independent decision making and strategic choice at university level but has also emphasized the shift towards a more competitive environment (Bleiklie, 2005). While in the traditionally static, non-competitive scenario, the State was the main stakeholder, most decisions were centralized and each academic institution implemented locally, choices made at central government level. In the new competitive environment, the role of demand in driving the university's development is much more relevant. The capacity to interpret and satisfy higher education needs in terms of matching the expectations of students and society and transferring knowledge and competencies actually required by the job market, are becoming key elements of the university mission (Chevaillier, 2002). The output of a university is multidimensional (Bear, 1974). In addition, measuring the same is complex and does not reflect wide agreement (Reder, 1974).

Academic activities affect a number of stakeholders. The impact on the students is immediate, however, the effects of academic activity are reflected in different ways on the world of production and work; on the territory where the university is situated. In order to increase the quality of the overall value propositions, researchers in the field of higher education are highlighting the potential benefits of applying marketing theories and concepts that have been effective in the business world (Hemsley-Brown and Oplatka, 2006; Binsardi and Ekwulugo, 2003; Parasuraman et al., 2004). Marketing instruments too, aimed at identifying and monitoring demand are becoming more common: regulations and standards, customer satisfaction tools, etc (Maassen, 1997; Caruthers et al., 1997; Baldwin, and James, 2000; Umashankar, 2001; Mazzei, 2002; Chevaillier, 2002; Pugsley and Coffey, 2002; Bok, 2003). The link between a university's activities and the general performance of the economic system is more evident today. In general, universities create value for public administrations and private enterprise and for employers interested in recruiting personnel who can fill their competence and knowledge gaps. Therefore, teaching activities should be planned in order to suit external pressures and specifically the expectations expressed by enterprise (Carneiro, 2004). Local government organizations that operate in the area where the university is located are important stakeholders seeing as the link between the effect of university's activities and local development is currently widely acknowledged (Etzkowitz, 2003). The presence of a university within a specific area is a driver of the economic and social development of that area. Finally, society as a whole is affected by university activities as the effects of knowledge production and dissemination are public goals the State should achieve.

More efficiency in the deployment of resources (Leifner, 2003) and the adoption of a more outcome-based management style, are further signals of the new pressures and demands on universities. Hence, along with the need

to better address the demands of society, universities are starting to focus on stakeholder expectations. As a result, greater responsibility is needed relative to the effects of new initiatives in terms of resource investments as well as greater risk awareness associated with strategic choices. In fact, emphasis on financial autonomy pushes universities to evaluate more carefully the financial effects within the broader multi-faceted implications of their activities. Such emphasis on economic issues is reinforced by the new mechanisms of resource allocation that have been recently introduced. Public funding is related to a number of parameters of efficiency and effectiveness concerning university activities (McNay, 1995; Lenington, 1996; Clark, 1998; Kogan and Hanney, 2000; Fici, 2001; Huisman and Currie, 2004; Paletta, 2004). In other words, assessment systems combine the principle of autonomy with that of responsibility and supply an effective account of the coherence of the activities undertaken by each university with respect to institutional objectives (Shattock, 2003). In fact, accountability has become a key element in the modernization of higher education systems (Huisman and Currie, 2004). In short, the awareness on the part of universities towards the outside (Foskett, 1999) should not be contingent merely to the phase of evaluation or monitoring of stakeholder satisfaction (Frey, 2009) but on the contrary, be channelled into constructing constant dialogue procedures with the stakeholders even in the defining phase of strategic choice. In other words, stakeholders should be involved *ex ante* in university decision making processes, taking part in defining objectives, devising useful performance measurement indicators for assessment and suggesting corrective action where necessary, in the accountability phase.

Issues of university governance in a changing environment

Increased autonomy, to respond actively to a changing environment and increased competition, is regarded as a core theme by both European Union Commission and OECD experts. The changes in the university environment are resulting in significant momentum in terms of strategic decision making (Compagno, 2001). The fundamental question addressed now is to what extent changes in strategic management are going to affect university governance structures. At the same time, the accountability of universities to their numerous stakeholders has to be emphasized and reflected in the composition of their governing bodies (Raivio, 2008). The involvement of stakeholders it goes without saying, should not be limited merely to the final phase of accountability of academic activity in order to evaluate the same but on the contrary, to offer stakeholders the opportunity of taking part – contributing with ideas and proposals - in university decision making processes. In other words, universities should enlarge the composition of their governing bodies to include stakeholders in order to improve the quality of teaching and to put in place initiatives for disseminating research and development, not to mention the economic growth of the territory of reference. Governance has to do with organization as a whole and in the main, with the devising and monitoring of a strategic plan. The issue of university governance encompasses the composition of governing bodies, how they work, their responsibility for determining university strategy, the relationship between governance and management (Shattock, 2002). In other words, whereas governance is mainly related to the strategic policy of the organization, management relates to the implementation of that policy (Bennet, 2002).

Structures and functions of governing bodies in Italian universities

In order to better understand the issues of governance in Italian universities, it should be pointed out that the roles and tasks of each governing body move from the analysis of regulatory framework. A university's governing body is the ultimate locus of authority (Rochford, 2001) and strategic decision-making centre, where the responsibility for policy is placed. The overall structure of governance envisages the application of a checks and balance mechanism relative to the various entities constituting university governance. Ministerial regulations define the roles and power of each and attribute precise responsibility for decisions made; different functions are attributed to the various bodies, on the one hand those with planning power, defining strategies and verifying performance and on the other, entities charged with coordination functions of the activity necessary for pursuing scheduled plans. The governance structure of Italian universities is composed of: Vice Chancellor, Academic Senate, and Board of Governors.

The Vice Chancellor, the representational nominee of the University, is the official head of the organization, responsible for the definition of strategic guidelines and the achievement of the organization's goals

(Strassoldo, 2001). He has a leading role as president both of the Academic Senate and Board of Governors. As Managing Director of the organization, the Vice Chancellor focuses on the overall strategy of the university and specifically on the strategic aspects concerning research and teaching activities. The Vice Chancellor is furthermore, the guarantor of autonomy as well as the artifice of programmes and goals to achieve, defined in agreement /accordance with the Academic Senate underpinned by an adequate policy for the distribution of resources devised in collaboration with the Board of Governors

The Academic Senate is responsible for planning and coordinating research and teaching activities. On the basis of proposals from the Departments and Faculties, taking into account the input from an internal control Committee (the presence of which is mandatory in any university), the Senate devises a plan for university development and identifies objectives. The Committee is usually composed of the Vice Chancellor (the president) (in whose absence a vice president); Dean of Faculties; all or a quota of representatives of the Research Departments and administrative personnel.

The Board of Governors is responsible for the university management from an administrative and financial point of view and acts on the basis of criteria and guidelines defined by the Academic Senate. Generally, the Board of Governors is described as playing a strategic control function. It represents the most 'open' governance structure within a university as it may include a great number of stakeholder representatives. It is usually composed of the Vice Chancellor (president), (a substitute vice president); the managing Director a small group of representatives of administrative staff; several representatives of lecturers and researchers.

Governing bodies are mainly composed of elective members. Their number is definitely higher compared to that of any private sector firm's governing body. As result, strategic decision making is a complex and slow process. Moreover, in universities decision power is largely diffused within the organization, and risks of overlapping decision competencies are frequent (Fici, 2001). University regulations generally set up Committees and Commissions, which group a lower number of persons with specific competencies and tasks. The Committees have a consulting or support function. Their presence can be interpreted also as a response to the slow and bureaucratic way of working of the governing bodies.

In short, university governance is characterized by highly complex strategic decision making as well as by the involvement of a great number of actors. From a managerial point of view, in a turbulent environment, the traditional way of working of governing bodies is considered inadequate. For example, Senates do not convene frequently and 'too many cooks' contrast with the need for timely and effective decisions. Generally, the governance style is considered incapable of guaranteeing satisfaction of stakeholder expectations.

Empirical research

Changes in demands of higher education and generally speaking, changes in the environment in which the university operates, call for a change in governance structures. In fact, empirical research starts from the premise that the new competitive environment and a greater emphasis on market mechanisms deeply affect the strategies and organization of universities. Consequently, governance style and structures are important areas of change (Shattock, 2003). In other words, in a university context it needs to be appraised whether and to what extent, governing bodies are able to involve stakeholders in strategic decision making processes in order to match the broad range of expectations emerging not only within but also from outside the academic community. In particular, empirical research attempts to respond to the following queries: 3. The number of universities that envisage stakeholder participation in strategic decision making processes; 4. The category of stakeholders involved. From data collected, a positioning map of Italian universities can be plotted/defined in order to measure the level of stakeholder engagement.

Source of data

Analysis was based on the collection and analysis of secondary data (Marbach, 1996; Metallo and Barile, 2002).

Secondary data sources included: *External*, information was gathered from publications and documents available on the Italian Ministry of Education, Conference of Rectors, National Committee for the Evaluation of the University System and National Conference of Italian University Rectors. In particular, in order to define the field of

reference and selected sample, reference was made to the Cineca databank; *Internal*, random sample university websites were consulted. In particular, the documents consulted were: the Statute of Autonomy; Working Regulations; Strategic Plans for Development (relative to each university in the sample) and the Reports of Meetings of the governing bodies.

Data analyses was considered both from the point of view of construct validity as multiple data ensure a more accurate and thorough analysis of the phenomenon and the reliability and completeness of findings (Lazarsfeld, 1967; Chisnall, 1994).

Field of reference and sampling procedure

The field of reference consists of all Italian universities awarding valid legally recognized qualifications. At the date of the empirical survey - 31/12/2010 – universities as a whole, numbered 95.

In the CINECA databank classification, universities are: State controlled and privately run institutions/organisations. The Italian university is a mixed system i.e. both State controlled and privately run, the latter founded and funded by private means. At the same time, they are accredited by the Ministry to award legally recognized qualifications that are in conformity with laws in force.

Differing models of governance applied in privately-run as opposed to State controlled universities merely highlight principles of autonomy and pluralism from which the entire national university system can benefit. Given the different ownership and financing mechanisms, privately-run universities present significantly different governance structures. The boards of all the private universities include what we have previously defined as external members. Their presence on boards is intrinsically related to the funding mechanisms of the universities: firms and institutions which finance universities have representatives on the Board. As a result, in privately run universities the reason for appointing external members is different from that of State controlled universities. As the two groups are not uniform, we have focused on State controlled universities. The sample selected - Italian State controlled universities at the date of 31/12/2010 - consisted of 55 universities.

Processed data and preliminary findings

For each university we collected data on the composition of the Academic Senate and Board of Governors to check for the presence of external members. The cognitive goal of the field research was to investigate universities characterized by the presence of independent members on the Board i.e. external stakeholders or non-academic/administrative members. Categories of the latter included: students; enterprises and delegates of government; the categories reflect the three main functions that the university performs: education and teaching; research and knowledge diffusion; support for the local development of culture and society (Derrida, 2001; Slaughter and Leslie, 1997; Schofer and Meyer, 2005; Brint, 2005; Ramirez, 2006; Frank and Glaber, 2006; Mazza et al., 2008).

The presence of the 3 categories of external stakeholders compared to the total number envisaged in the board of the Academic Senate and in the Board of governors was measured as follows (FIG.1):

FIGURE 1: PROCESSED DATA

Number of external members in the Academic Senate	+	Number of external members on the Board of Governors	=
Total members in the Academic Senate		Total members in the Board of Governors	

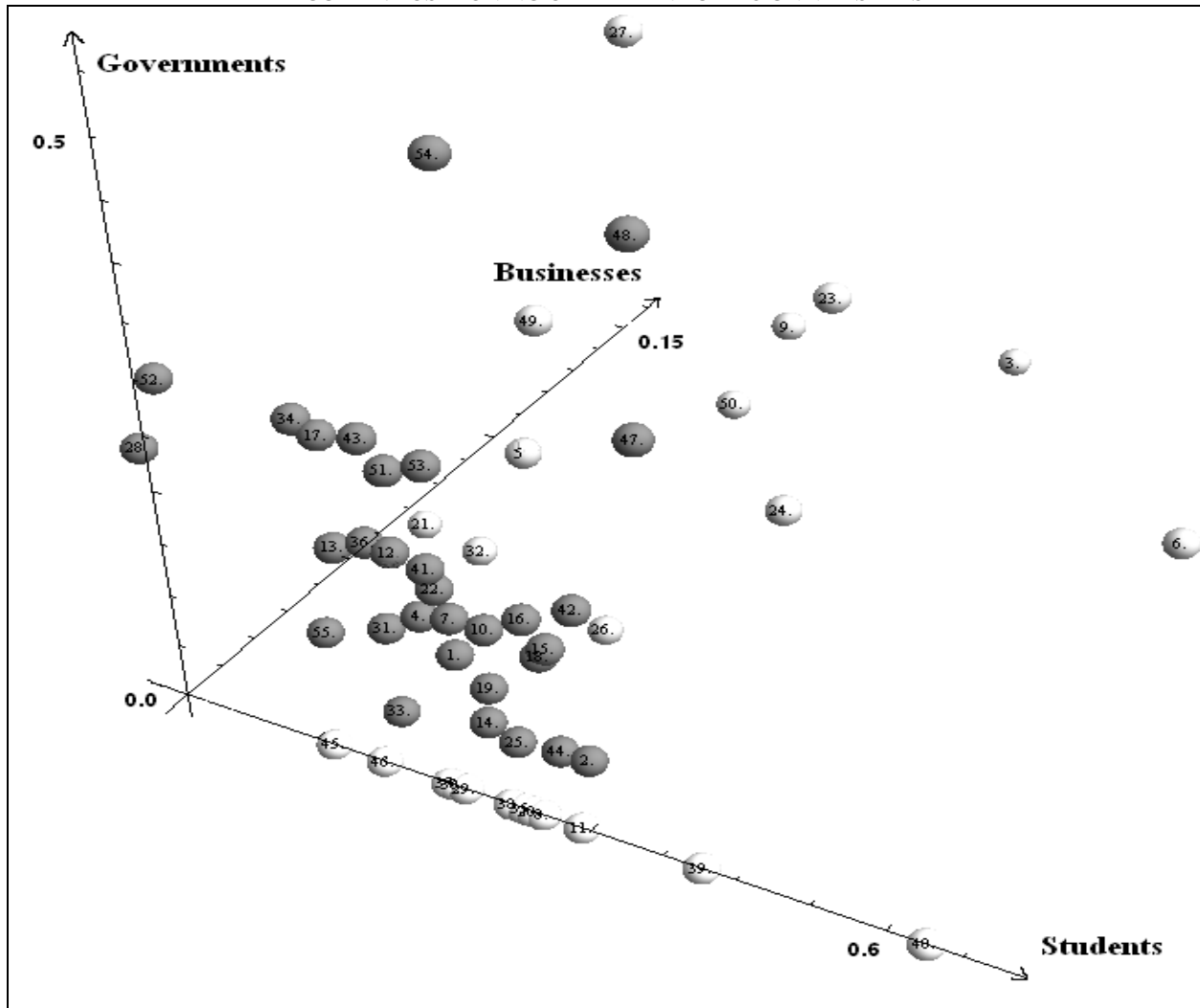
The range 0 – 2 envisaged 0 when not even one member of the specific category of external members was present on both boards (Academic Senate and Board of Governors). At the other end of the scale the value 2 results in the unlikely event that all the members of the category of stakeholder considered, correspond to the total number of members of both governing bodies. The value obtained for each category of external member enabled the positioning of the selected universities on a three dimensional diagram (scatter plot) (Diamond and Jefferies, 2001; Molteni and Piccarretta, 2001) using Wolfram Research Mathematical software.

Findings

In this section we provide the results of empirical analysis on the governance structures of Italian universities.

On the basis of the assessment made during the phase of data collection, the universities have been positioned on a three-dimensional diagram indicating (FIG.2): on the x-axis, the ratio of Students involved on the board of both governing bodies; on the y-axis, the ratio of Businesses involved on the board of both governing bodies; on the z-axis, la ratio of Governments involved on the board of both governing bodies.

FIGURE 2: POSITIONING OF ITALIAN PUBLIC UNIVERSITIES



A preliminary consideration emerging from the findings is that academic members are the predominant members of the governing bodies. By comparing the absolute value (2) with measured values (0.6 Students; 0.5

Governments; 0.15 Businesses) a modest presence of external members is evinced, in particular, the low presence of the business world is indicative.

The diagram highlights that: universities (in white) envisaging the presence only of students as external members on the board, number 11; universities (light gray) envisaging the presence of both students and governing bodies as external members on the board, number 31; universities envisaging the presence of all three categories of external stakeholders, number 13. Consequently, it emerges clearly that universities recognize that non-academic stakeholders can play an important role in counterbalancing the policy of the university which typically, is too often focused on “internal affairs” and “political struggles” rather than on expectations on the part of local governments and firms. Furthermore, external stakeholders can prevent universities from making planning mistakes (specifically concerning teaching programs) by pushing the strategy process to take into account expectations from the job market.

Of the 55 public universities, the diagram plots the presence ratio of the three categories of external members on the governing boards. In addition, Table 1 lists the different categories of representatives appointed and the distribution of their presence on the board in the Academic Senate (A) and in the Board of Governors (B) (TABLE 1).

TABLE 1: NUMBER AND TYPE OF EXTERNAL STAKEHOLDERS ON ITALIAN PUBLIC UNIVERSITY BOARDS

Category of External Members	External Members	A) Number of universities	B) Number of universities
Students	Students	51 (93%)	55 (100%)
Businesses	President of the local Chamber of Commerce	2 (4%)	9 (16%)
	Director of the local office of the Ministry of Finance	-	4 (7%)
	Representatives of firms operating in the university area	2 (4%)	12 (22%)
	Representatives of the local firms associations and consortia	-	4 (7%)
	Representatives of banks	-	15 (27%)
Governments	Representatives of Italian Ministry of Education (national/central government)	-	33 (60%)
	Representatives of Municipalities (city government)	3 (5%)	12 (22%)
	Representatives of Provinces (of provincial government)	-	9 (16%)
	Representatives of Regions (regional government)	-	10 (18%)

The category of government mainly present on the Board of Governors is that of representatives of the central government, indicated by the Ministry of Education. Local government is significantly represented on university boards: 15 universities have appointed a representative of the Commune where the university is located (the President of the county and/or town where the university is located). Of these, 9 universities are characterized also by the presence of representatives of the provinces and 10 have appointed a representative of the region. The presence of private institutions such as firms or banks is less significant from a numerical point of view. The entrepreneurial forces are also represented by the President of Chamber of Commerce or by a representative of local associations of enterprises.

This is the overall picture related to appointing external stakeholders on governing board. Concerning the motivations and expected advantages, the following reasons are suggested (on a scale of importance from 1 to 5): to enhance synergies between the universities and the local context (local private and public stakeholders); to render the university development strategy as coherent as possible with needs and expectations coming from the area; to obtain an important contribution in terms of ideas and collaboration from non-academic stakeholders; to strengthen the function of external control over the effectiveness and efficiency of academic activities and finally, to make the university more aware of its responsibilities towards society. However, the presence of external members on their boards could be perceived by universities as a risky presence, described in terms of: constraining university autonomy which is a “value to preserve” and limiting the cultural, economic, and social role of a university to a too narrow perspective. The role of the university has to be considered as far beyond the local context, while non-

academic stakeholders, made up mainly of representatives of local institutions, could attempt to distort the university's proper mission.

Conclusions

University governing bodies have to fulfil an increasingly managerial role. The new environment demands a more 'outward-looking' perspective on the part of university governing bodies. An increasing presence of external members on boards reflects the shift from a governance model entirely focused in the satisfaction of internal pressures (coming from the academic community) towards a model that takes into account a greater variety (in both number and nature) of the stakeholders.

However, even if the presence of external members on a board can be interpreted as a signal of a greater focus on stakeholder management, appointing 'externals' could result merely in a superficial change in the governance style of a university. In fact, the Board of Governors is responsible for the final approval of strategic initiatives; the contribution of 'outsiders' to strategic activity would be merely formal if their decisional powers were not integrated with deeper involvement in the preliminary stages of the strategic decision making. In other words, a substantial change in the university governance style in the direction of greater attention addressed to stakeholder expectations, requires their involvement in the whole strategic process. Such consideration is strengthened by the observation that universities are decentralized organizations in which strategic initiatives are generally formulated and developed at faculty and department levels before they pass for approval to the governing bodies. Therefore, external stakeholders cannot play a full role in the final step of the strategy process if such role is not recognized in all the different phases. Clearly, the question of number is not pertinent. A new model of governance goes beyond membership.

FIGURE 3: UNIVERSITY' PATTERNS OF EVOLUTION ON THE BASIS OF STAKEHOLDER INVOLVEMENT

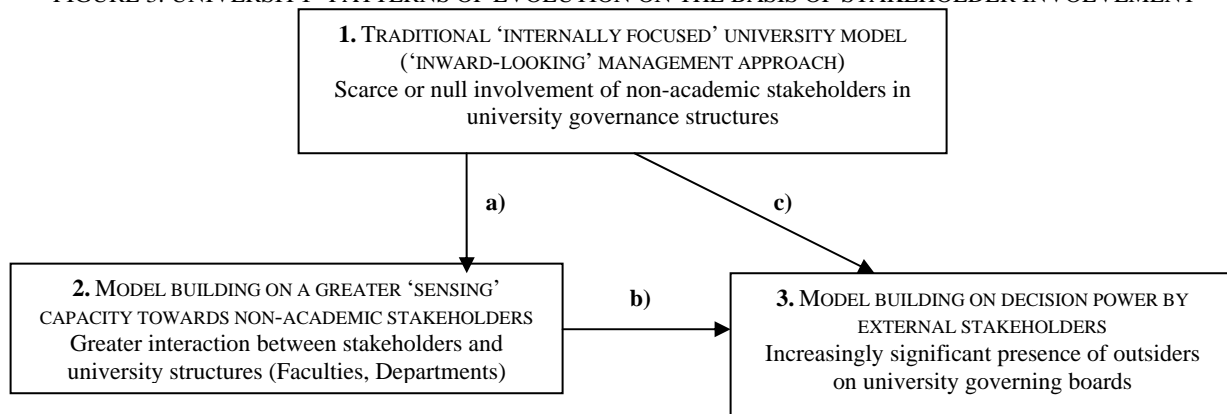


Figure 3 summarizes the possible directions of change in Italian university governance. Three basic stages are identified:

- the first reminds us of the 'old-fashion' traditional university, in which strategic management reflected the classic model of the self-referential organization not drawing any strategic input from outside the university's internal environment (box 1);
- what most Italian universities have started to do after the beginning of the reform process was to show an increasing awareness to the needs and expectations coming from outside the university. Hence, the importance of input for strategic management coming from outside the organization increased and continues to increase. Such awareness is developed at faculty and department level, where generally, pressures for new strategic initiatives emerge. As a result, a stronger link between non-academic stakeholders and the university's operating structure characterizes the model in box 2;

- a further change can be observed at governing bodies level. In fact, a greater emphasis on external demands and non-academic stakeholders find its more evident expression in a revision of the governance structure in the sense of appointing 'outsiders' on the board (box 3).

While in stage 2 the connection with non-academic stakeholders concerns the first phases of the strategic processes and largely relies on a number of informal contacts at the *operating structure* level, in stage 3, the role of non academic stakeholders is formally acknowledged at the *governing board* level. A stronger link between stakeholders and the university's operating structure results in the stimulus and involvement in the development of new initiatives on the part of the former, basically through a set of informal connecting modes (meetings with professors, participation in project planning sessions, providing suggestions – on demand from departments/schools - for critical professional figures). On the other hand, the link between stakeholders and governing bodies is the result of the contribution of external members on university boards. Generally speaking, appointing 'externals' appears to be a significant trend in the composition of university board of governors. 'Outsiders' are considered gatekeepers to the external environment.

Today most universities are in the process depicted by the arrow a). Some (13 Universities) are already in the process depicted by the arrow b). Some universities have already carried out governance changes from the start of the reform so as to signal a greater awareness towards external expectations. However, changes in governing bodies are not enough to guarantee a real change in strategic management and style of governance in the direction of more attention paid to expectations coming from external environment (Judge and Zeithaml, 1992; Ravasi and Zattoni, 2006). As discussed above, appointing outsiders while preserving an 'inward-looking' perspective at an operative- structural level may result in just formal change. Changes in the governing boards do not really affect the style of governance when they are not integrated with greater actual involvement in all the phases of the strategic process (Ayuso et al., 2006; Romenti, 2008). For this reason, the process depicted by arrow c) should be considered a risky change, with no substantial effect on the strategic management of universities. The point is not just to enlarge the board by appointing new members (Compagno 2001), but to develop mechanisms and routines through which entrepreneurial, cultural, social and economic stakeholders are really involved in the strategic processes, both at operative-structural level (when making proposals and contributing to the development of new initiatives) and at governing body level (in terms of decision making power).

Discussion and implications for further research

The changing environment in which the university is managed calls for a response to that change both in terms of management practices and governance structures. While changes in the regulating framework, external environment and (in part) management style, have been the key elements of changing university trends in recent years, the style of governance is scheduled as the "next step" in the process of change.

Concerning management practices, the change can be summarized in the shift from an 'inward-looking' approach to an 'outward-looking' approach. Hence, the main issue is to enhance the university's *sensing* capacity so as to take into account strategic input coming from the external environment. We argue that, in a competitive environment, the sensing dimension of the strategy process is critical. As a result, university operating structures (Faculties, Departments) need to develop of a set of formal and informal mechanisms through which a greater involvement of stakeholders in strategic initiatives can be achieved. In terms of governance structures, the need to match the differentiated expectations of a variety of stakeholders requires that university governing boards become more representative of their interests. Consequently, the presence of outsiders on board, who are representative of various stakeholder interests also having managerial and/or professional skills, is likely to be the main feature of university governing boards in the future. The Italian context already shows signals of such change. Whether and to which extent the presence of outsiders on university boards results in a merely "fashionable" change without any substantial implications for the strategic management or rather, responds to a substantial involvement of non-academic stakeholders in strategic policy-making remains an 'open question'.

Future research should provide empirical evidence relative to the relationship between the changing environment in universities and governance structures. It would be of interest to analyse such a relationship over

time. Moreover, new insights into the working of the modern universities would be provided if research could link university strategies and governance structures. In addition, the analysis of how external strategic issues are processed within universities also deserves attention. Such research could contribute to a better understanding of the strategy processes in universities. In particular, an in-depth field analysis could verify whether the 'more open' universities i.e. 13 universities that envisage in the Academic Senate and on the Board of Governors, the presence of a congruous number of external stakeholders results in improved performance. It should be underlined however, that the mission of universities is more difficult to evaluate and direct comparisons have not been attempted. It goes without saying that none of the three main university functions (research, education and innovation) is a clearly definable "product", and consequently, a transnational comparison of university performance is not feasible.

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Customer Satisfaction Model for the Hospitality Industry in Guadalajara, México.

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Abstract

This paper assesses the perceptions of user satisfaction of hospitality industry in the Guadalajara Metropolitan Zone (ZMG), in order to analyze the factors that influence in it. The preference for selecting the Guadalajara hotel industry is due to the conditions of tourism development has Jalisco, as one of the states with more quantity and variety of tourism and its capital Guadalajara, as the second city in economic importance in Mexico.

There will be a review of the literature on the main concepts of study object then design the survey to apply to the hotel guest in categories 4, 5 star and Luxury class, the questionnaire was applied in order to know the relationship between the quality of service, rates, advertising, and food and beverage services, with the level of customer perception and satisfaction in the hospitality industry, to finally present a proposal of customer satisfaction model.

Introduction

This study focuses on assessing the perceptions of user satisfaction of hosting services in the Metropolitan Zone of Guadalajara (ZMG), in order to analyze the factors influencing this is it. The preference for selecting the Guadalajara hotel industry due to the conditions of tourism development that has Jalisco, as one of the states with the largest number and variety of tourism, and its capital Guadalajara, the second largest city and economic importance in Mexico, and placed the state in the first place nationally in the number of lodging establishments, and the second in relation to the number of hotel rooms, and so does (ZMG) has a capacity of more than 16,000 hotel rooms ranging from to economic category and five-star tourism is the most visited state, with important economic, generated mainly by domestic tourism. In the competitive market environment, the success of hospitality services depends heavily on a thorough analysis of customer satisfaction.

Literature review

The satisfaction of customer needs is one of the issues which have awoken most interest in the marketing literature in general and in the sphere of services in particular. However, the variety of approaches indicates a certain amount of confusion which may have arisen due to the dual process-result focus which has marked the contributions in the literature. The lack of agreement on conceptualizing satisfaction creates certain difficulties for researchers when it comes to choosing the most appropriate definition, developing valid measurements and comparing empirical results (Giese & Cote, 2000).

In addition, the conceptualization of consumer satisfaction can be interpreted by focusing on a specific transaction or from an accumulative perspective. Most definitions in the literature correspond to the first approach (Mano & Oliver, 1993; Spreng, Mackenzie, & Olshavsky, 1996) although some of the more recent contributions support the idea that satisfaction is “a global measure of a set of satisfactions with previous specific experiences” (Yu & Dean, 2001:235). According to Jones and Suh (2000), defining satisfaction in this way provides a better explanation for behavioral intentions.

Customer satisfaction (CS) is a central issue in the hospitality field due to its imperative role in organizational performance and, ultimately, in the survival of hospitality companies. While some definitional and technical issues are to be further resolved, most researchers agree that CS is best evaluated on a multi-attribute scale. That is, CS

depends on a number of determinants at an attribute level and measuring CS through attribute-level performance captures the multifaceted nature of consumption experience.

An attribute level of satisfaction measurement captures CS with a specific aspect or dimension and can be aggregated into an overall satisfaction score, thereby providing specific constructive feedback to management for action strategies (Szymanski and Henard, 2001).

CS is an effective response to a purchase, and it is an important goal in consumer marketing. There are two different ways of determining overall satisfaction: the transaction-specific approach considers the emotional response by consumers to their most recent experience with a provider, while cumulative customer satisfaction is based on the customer's overall experience with a particular firm over time.

According to the dominating expectation-disconfirmation paradigm (Oliver, 1980) satisfaction is formed by way of a cognitive comparison of perceived performance of a product or service and the expectations the customer had before the purchase.

Customer satisfaction is central to the marketing concept, with evidence of strategic links between satisfaction and overall service performance (Truch, 2006), and is an important theoretical and practical issue for most marketers and consumer researchers (Goode, 2001); it is a key issue for all those organizations that wish to create and keep a competitive advantage in this highly competitive world. Customer satisfaction which remains in the limelight (Bartikowski and Llosa, 2004), especially in the service field, is typically defined as an overall assessment of the performance of various attributes that constitute a service.

It is well known that service quality and customer satisfaction are distinct constructs (Dabholkar, 2000). Another important question was answered by Oliver (1993), which first suggests that service quality would be antecedent to customer satisfaction regardless of whether these constructs were measured for a given experience or over time. Spreng and Macoy (1996) find empirical support for this model, wherein customer satisfaction is a consequence of service quality, and Dabholkar (2000) proves that customer satisfaction is a consequence of service quality (mediator model of customer satisfaction).

Measuring service quality expectations and perceptions are thus essential in managing customer satisfaction. Regarding the measurement of service quality, considerable progress has been made as to how service quality perceptions in business to consumer markets can be measured (e.g. Babakus and Boller, 1992; Parasuraman, et al., 1985, 1988, 1991, 1994).

After (production and) consumption of the service, the consumer establishes a perception of the quality of the delivered service, which may or may not confirm pre-consumption expectations. However, alternative views on the relationship between customer satisfaction and service quality exist. Anderson and Sullivan (1993) state that CS is a criterion that is used increasingly when assessing product and service performance (which includes quality). Day (2002) states that while both production and service delivery activities are aimed at creating value; for customers, customer expectations affect satisfaction, which in turn influences the assessments of value, rather than that value plays a role in satisfaction assessment of customers. Along these lines, quality could be viewed as a function of, rather than an antecedent to CS.

Understanding the strength and context dependency of this relationship may provide insights into the degree to which employee satisfaction influences customer experiences and how effect sizes vary across service contexts and research designs. We assess the strength and context dependency of relationships linking employee job satisfaction to customer-perceived service quality and satisfaction in a meta-analysis of studies that correlate employee satisfaction data with customer response data. Such insights may provide guidance for managers contemplating actions that affect employee and customer satisfaction.

The nature of interactions between employees and customers differs across service contexts. Lovelock (1983) and Gutek et al. (1999) offer particularly useful classifications of services, which we use to develop hypotheses and a coding scheme for moderator analyses. Given interaction between the customer and the service worker in a service encounter, our thesis is that the service worker's level of physical attractiveness is likely to have an impact on customer satisfaction.

In fact, researchers have demonstrated that customer satisfaction serves as a link to critical consumer behaviors, such as cross-buying of financial services, positive word-of-mouth, willingness to pay a premium-price, and tendency to see one's bank as a "relationship" bank (Winstanley, 1997; Ehigie, 2006; Ndubisi, 2006). Ultimately,

these behaviors proved to have a positive impact on key corporate outcomes, such as retention rates, average deposit amounts, cost to the bank of providing services, and future earnings (Winstanley, 1997). These results are consistent with a broader literature assessing the positive relationship between customer satisfaction and firm profitability (cf. Anderson et al., 1994; Fornell Et al., 1996; Johnson et al., 1996; Eklof et al., 1999; Zeithaml, 2000).

The satisfaction–loyalty relationship

According to Sivadas and Baker-Prewitt (2000), customer loyalty is the ultimate objective of customer satisfaction measurement. It is found to be a key determinant of a brand's long-term viability (Krishnamurthi & Raj, 1991). Moreover, compared with loyal customers, non-loyal customers are much more influenced by negative information about the products or services (Donio, Massari, & Passiante, 2006). If a service provider can satisfy the needs of the customer better than its competitors, it is easier to create loyalty (Oliver, 1999). Fornell (1992) stated that high customer loyalty is mainly caused by high customer satisfaction. Previous studies have demonstrated that customer satisfaction positively affects customer loyalty (Choi, Seol, Lee, Cho, & Park, 2008) or negatively affects switching intention (Walsh, Dinnie, & Wiedmann, 2006).

The nature of customer value, how it determines customer loyalty and how this in turn leads to financial outcomes is the subject of considerable discussion amongst academics and consultants (Payne and Holt, 1999). As with the development of any new area, there is debate about the alternative ways concepts can be defined.

Also, customers' service quality expectations have been found to be positively related to the duration of their relationship with the firm (Heilman et al., 2000). Despite these findings, research directly investigating the differential effects of customer loyalty on fairness perceptions is lacking from the literature. As fairness is antecedent to trust (Buttle and Burton, 2002), which is in turn antecedent to loyalty (Morgan and Hunt, 1994), the practices of retailers seeking to develop and maintain loyal customers should be interpreted as fair among their customers. One of the most prominent practices of retailers is their method of deriving prices. Customers' perceptions of the fairness of prices have been identified as a major area of interest due to public concern over the topic (Xia et al., 2004).

Some researchers view loyalty from an attitudinal perspective with the argument made that loyalty is a desire or intention to repurchase (Czepiel, 1987). Nevertheless, consumers may have a high relative attitude toward a brand that they have no intention of purchasing. For instance, a college student may believe that Ferrari makes the best automobiles in the world, though the student may believe that he or she will never have the funds to purchase one. Thus, relative attitude alone may indicate that only "latent loyalty" is present among customers (Dick and Basu, 1994).

Although numerous definitions of perceived value exist, the definition of Zeithaml (1988, p. 14) is the most universally accepted trade-off definition of perceived value in the literature. The uni-dimensional conceptualization strategy is effective and straightforward, but it cannot discern the complex nature of perceived value. As noted by Sweeney and Soutar (2001), "a more sophisticated measure is needed to understand how consumers value products and services" (p. 207). In fact, it is important to understand the value concept in an integrative approach, because one can understand a given type of value only by considering its relationship to other types of value (Holbrook, 1999).

Obviously, culture affects the manner in which we frame, blame, and attempt to tame conflicts (Le Baron, 1992). Drawing upon the literature on cross-cultural psychology marketing researchers has demonstrated that consumers behave differently according to their cultural values (e.g., Schutte and Ciarlante, 1998). As a specific type of social behavior, consumer revenge may also be influenced by culture, pointing to the need to elucidate the specific patterns of influence. Others, outside the marketing literature, also echo this need.

Few human behaviors are as purposeful as shopping. To understand retailing and consumer experiences, we must realize that consumers attempt to achieve some goal by purchasing and using a particular product or service (Ratneshwar, Mick, and Huffman 2000). Consumers shop for various reasons, which may not include a specific need for a product or service (Tauber, 1972); for example, they may need entertainment, recreation, social interaction, or intellectual stimulation (Arnold and Reynolds, 2003).

However, interest in customer behavior in service co creation has been growing in the literature (Bendapudi and Leone, 2003). More recently, researchers focus on what has become known as service-dominant logic which views customers as a co-creator of value in the service provision process (Vargo and Lusch, 2004). Against this background, various attempts focus more on understanding the role of customer behavior in service co-creation than on customer behavior in buying decision process. Recent literature on customer behavior focuses on the merits of understanding customers as human resources in the firm. The service marketing literature identifies at least two types of customer behavior in service delivery process (Bove et al., 2008; Groth, 2005): (a) customer participation behavior, which is “expected and required behaviors necessary for the successful production and delivery of the service” (Groth, 2005, p. 11) and (b) customer citizenship behavior, which is “voluntary and discretionary behaviors that are not required for the successful production and delivery of the service but that, in the aggregate, help the service organization overall” (Groth, 2005, p. 11).

In a broad sense, customer participation behavior refers to all forms of customer involvement and engagement in the value-creation process. This research uses customer participation behavior in a narrow sense, which includes only required behaviors necessary for the successful service creation. This usage is consistent with previous research on customer participation behavior.

Research Method

A survey was applied to 300 hotel guests who were in any of the establishments selected for this study, in categories 4 and 5 stars and Luxury Class, located in the Metropolitan Area of Guadalajara.

The questionnaire was applied in order to know the relationship between the quality of service, rates, advertising, and food and beverage services, with the level of customer perception and satisfaction in the hospitality industry.

The questionnaire used in this research was adapted with measures from Mohammad, Barker and Kandampully (2005) research about Multicultural student perceptions of fast food restaurant brands: an Australians study and from Fuch and Reichel (2006) research about Tourist Destination Risk Perception: the case of Israel.

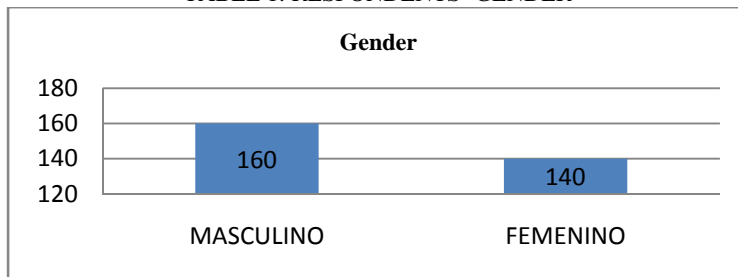
Results were analyzed by using Pearson correlation to measure the above mentioned variables. From these variables, we also determined the following hypotheses:

- H¹. The more personal attention, the more perception of satisfaction
- H². The more importance regarding services prices, the more perception of satisfaction
- H³. The more advertising importance, the more perception of satisfaction
- H⁴. The greater importance of food and beverages, higher perception of satisfaction

Results

From 100% of the respondents, 53.3% are male and 46.7% female. (Table 1)

TABLE 1: RESPONDENTS' GENDER



Source: Own elaboration

Regarding age, 58 of them are in the range which goes from 26 to 30 years, followed by the group from 31 to 35, with 46 people, and finally, 44 of the respondents are located in the group which goes from 21 to 25 years.

Analysis of variance (ANOVA) and hypothesis testing.

Once formed the groups and analyzed the process of ANOVA is to analyze hypothesis 1.

- **H1. The more personal attention, the more perception of satisfaction.**

As a control question, also called dependent variable, the following question is stated:

- P2. Am I satisfied with the services which are offered by staff?

The independent question is the number 1.1 which states: The attention of service personnel in hotels is as good as I expect. With this variable the validity of the other will be determined.

TABLE 2: ANOVA FROM HYPOTHESIS 1 Q1.2

	Sum of Squares	df	Mean square	F	Sig.
Between groups	36.517	3	12.172	34.423	.000
Within groups	104.670	296	.354		
Total	141.187	299			

Source: Own elaboration

Hypothesis 1 is approved since F indicator is greater than 0.05, indicating that the correlation measure is within the accepted parameters. Also, the correlation both between and within groups or groups that were based on the commonalities have an optimal level above the minimum range which is 50, indicating that users perceive a good service quality in accordance to what they expect.

As for the second hypothesis: **H2. The more importance regarding services prices, the more perception of satisfaction.**

The controlling question that works as the independent variable is the number 2.5, which states the following: I am generally satisfied with the prices I pay, and the dependent is 2.4 which states: most of the prices are fair.

TABLE 3: ANOVA FROM HYPOTHESIS 2 Q2.5

	Sum of squares	df	Mean square	F	Sig.
Between groups	108.047	4	27.012	59.334	.000
Within groups	134.300	295	.455		
Total	242.347	299			

Source: Own elaboration

Hypothesis 2 is valid since F indicator is 59.33, which exceeds the minimum indicator and also confirms that the guest is completely satisfied with the price which is paid for the service.

As for the third hypothesis: **H3. The more advertising importance, the more perception of satisfaction**

This hypothesis will be tested using the control question 3.3 above which states that most advertising attempts to deceive rather than to inform and it is also considered as an independent variable, meanwhile question 3.1 which states: most advertising is not appealing, is the dependent variable.

TABLE 4: ANOVA FROM HYPOTHESIS 3 Q3.1

	Sum of squares	df	Mean square	F	Sig.
Between groups	48.908	4	12.227	15.977	.000
Within groups	225.758	295	.765		
Total	274.667	299			

Source: Own elaboration

The third hypothesis is not accepted, since the F value turns out to be less than the rate of acceptance, giving as a result a value corresponding to 15.97, indicating that most respondents do not perceive the lodging establishments' publicity as attractive, but uncertain.

As for the fourth hypothesis:

H4. The greater importance of food and beverages, higher perception of satisfaction

As controlling questions, also called dependent variables the following questions are presented:

P4.2 The majority of the experiences when consuming food and beverages have been unpleasant.

P4.3 The majority of staff at my service is very helpful.

And as an independent variable, question 4.1 which states "They attend me nicely everywhere I go"

TABLE 5: ANOVA FROM HYPOTHESIS 4

		Sum of squares	df	Mean square	F	Sig.
P4.2	Between groups	29.229	3	9.743	10.862	.000
	Within groups	265.491	296	.897		
	Total	294.720	299			
P4.3	Between groups	52.573	3	17.524	41.828	.000
	Within groups	124.013	296	.419		
	Total	176.587	299			

The fourth hypothesis is not accepted, due to the fact that the two analyzed variables had an F value under 50, this represents that the area of food is perceived by respondents as unsatisfactory. Apart from that, it also means that the staff is not really into offering a suitable attention to it.

Source: Own elaboration

Proposed Model

Based on the previous analysis' results, a user's satisfaction model regarding hotel services is proposed. It is based on four specific variables which, as a whole, would represent a tool for this process.

The applicable areas are the following: personnel attention, the price of services and advertising, as well as food and beverage service.

The proposed model has its essence in the valuation carried out through the perception of satisfaction expressed by hotel guests, where we suggest implementing various measures in each area involved in the process. (Fig.1)

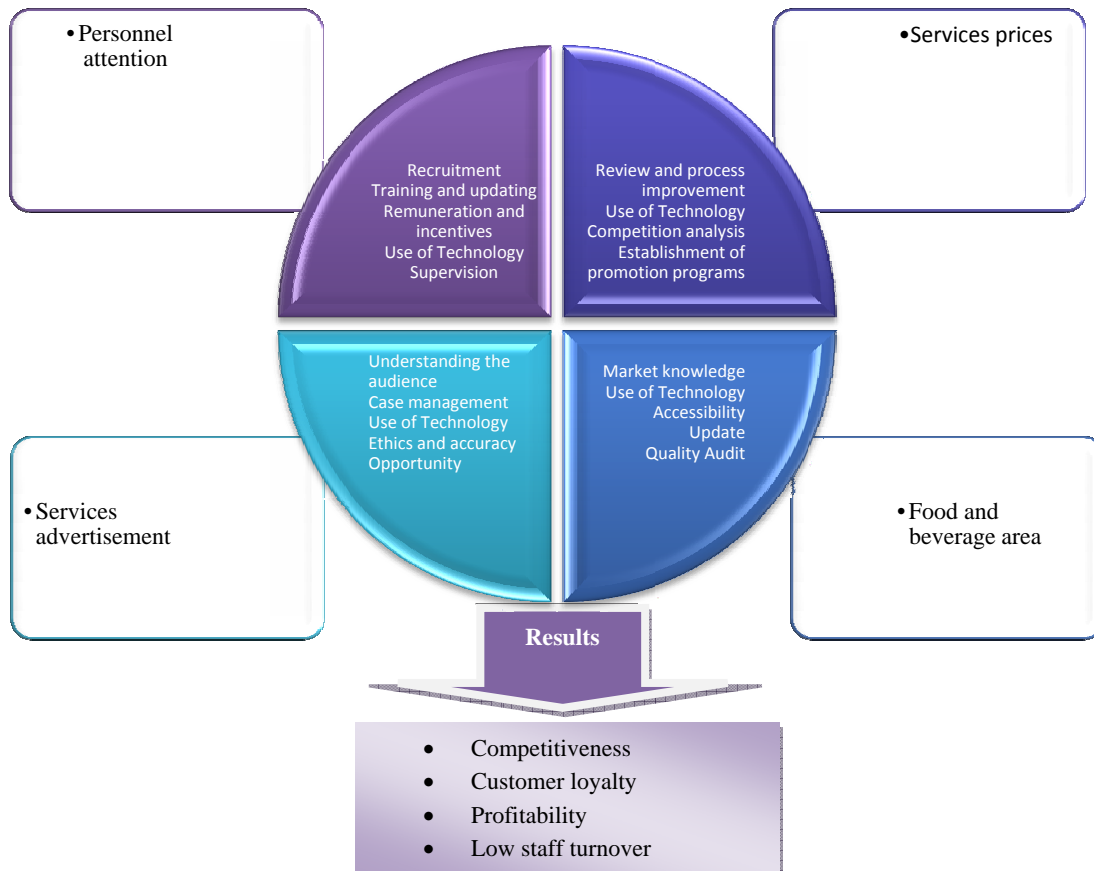


FIG. 1

PROPOSAL OF A CUSTOMER SATISFACTION MODEL IN HOTEL SERVICES

The proposed model has its essence in the valuation carried out through the perception of satisfaction expressed by hotel guests, where we suggest implementing various measures in each area involved in the process.

First, actions for the improvement of the first variable were analyzed, personnel attention, which started from the staff selection process, providing ongoing training and the need to have compensation plans and incentives. Technology plays an essential role for what it is included in the four areas of the model. It should be updated and accessible to the whole staff.

As regards to prices of services, so that they are considered fair by users, it is necessary to maintain a revision and improvement of processes. Apart from that, it is necessary to carry out a constant analysis with the rates offered by competitors, as well as establishment of advocacy programs.

Price promotions are useful tools for capturing consumer purchase; however, in order to satisfy a customer with the purchase on promotion, it is essential that the provided services keep a suitable service quality. Furthermore, it is important not to exceed the prices gap used by the customer for assessing the product's quality.

As for the obtained data, when contrasting the related hypothesis with the services publicity having resulted negative, we propose to emphasize every communication strategy design.

As lodging establishments offer their services to different types of market, you must have a broad knowledge of them in order to have great understanding of the audience and therefore, the messages should include proper handling of arguments, with ethical and truthful, and overall, they should be current and timely. The food and beverage area deserves special attention as it turned out to be the area in which respondents were more unpleasant, having experienced bad situations. Therefore, the model suggests special attention to the knowledge of the market, which means that they should identify tastes, preferences related to food and beverage consumption. It is

worth to implement a service in this area fully accessible, what it means is that there should be a suitable location, innovation with respect to the new trends.

A constant control on the quality turns out to be convenient in every single area of the model, as well as the caution to make sure that they exceed customers satisfaction.

Discussion

Among the most relevant findings it is worth to stand out that the guest has a high perception of satisfaction with the service that provides direct care staff in hotels, in fact, this helps to develop guest loyalty, which is achieved and maintained in the long term.

Nonetheless, it is important to note that one should not miss the fact that the compromise is not generated in isolation, but it is the result of trust built up between client and service provider, which in turn requires a customer satisfactory experience with the service obtained.

The personnel attention itself is not sufficient to achieve customer satisfaction as loyalty, we need to establish strategies to improve consumer perception, with respect to other variables, especially those huge differences between expected and received service. So, it is worthy to take into consideration what has already been stated in the proposed model suggested.

The price effect on the perception of satisfaction plays an important role within it, and this study found out that the user is fully satisfied with the price he or she pays for the service, and it is even considered as reasonable. It is considered in the proposed model, since the price is a variable that mainly affects the purchasing decision. But when the guest evaluates the experience of the stay, and thus generate loyalty, a greater proportion considered the result of stay rather than the expenditure.

Advertising is a tool used to communicate and bring customers to the service; however, this turned out to be seen as unattractive and misleading to respondents, hence, the proposal will suggest several strategies to improve communication.

Finally in the analysis of food and beverage services, it was found to be an area where special attention should be paid, as users report a very low level of satisfaction towards them, since such area represents a basic service in lodging establishments.

Conclusions

It is essential to point out that the results of the current study cannot be extrapolated to all lodging establishments, as they are valid only for the target population, due to their characteristics, category and different services expectancies guests get. Therefore, it is suggested to do further research in order to figure out whether the current model can be applied in some other ones.

The current study focused on the analysis of four variables and their relationship with customer's satisfaction, however, it is recommended for future studies to include other aspects that can be noted, including the valuation of furniture and equipment, importance of internet either as a distribution channel or a communication strategy, and other complementary services.

Furthermore, since predictors of satisfaction were not considered, such as emotions and culture, they could be part of more complex models to propose in the future with variables of different nature.

It is also suggested to replicate the study in other regions or cities both domestically and abroad and use other instruments to perform the evaluation.

Finally it would be beneficial to extend the research and the proposed model to other areas or businesses related to the tourism industry such as food, transportation or related services.

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Achieving balance in public-private research partnerships: How challenges in IP management can be faced

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Abstract

Competition in the international research landscape is growing and requires more and more interdisciplinary cooperation. While this is reflected by a rising number of research cooperation between academic and private partners, questions regarding finding an adequate balance of power and regarding effective management of the intellectual property (IP) become more and more crucial especially from a university's point of view. By providing first insights from a longitudinal case study the paper will show how IP can properly be managed along the lifetime of a public-private research partnership (PPRP). Strategies for negotiating a cooperation contract and practical advice for university research managers will be given and complete the study.

Keywords: public, private, research partnerships, Intellectual Property Management

Introduction

Public-private research partnerships (PPRPs) have become more and more popular worldwide in recent years. In Germany, for example, research partnerships between companies and universities or private research institutions have been growing by about 25 percent annually between 2002 and 2008 (ZEW, 2011). In such partnerships, universities usually provide 'fertile ground', i.e., researchers and infrastructure, whereas companies contribute 'seed', i.e., the money for undertaking research. Along such a partnership, both parties try to save as much of the 'harvest', i.e., the intellectual property (IP), as possible for their own use. One of the most important challenges of such research partnerships is hence related to the proper management of IP rights, which are created along the cooperation process. More specifically, the question arises whether and how balance can be achieved between different stakeholder interests in such projects and how such a balanced approach towards managing IP rights could be promoted through effective IP management. Based on case data and interviews from a German PPRP, this paper gives first insights how problems can be faced over the project lifetime and gives recommendation how challenges can be resolved and pitfalls can be avoided especially from a university's point of view.

Research situation in Germany

The scientific landscape in Germany is characterized by increasing expenses for research and development (R&D). In spite or even because of the economic crisis, the overall R&D expenses of the Federal Ministry of Education and Research have constantly been growing over the last 17 years at a compound annual growth rate of 4%, and of even 8% between 2007 and 2010 (BMBF, 2007, 2010). Overall, external funding of German universities, i.e., funding including both governmental and private funds, has been growing with an average rate of 7% over the last ten years (Statistisches Bundesamt, 2010). Despite these numbers, studies indicate a general tendency of decreasing basic funding (Geuna & Nesta, 2006) and increasing topic related competitive funding in most OECD countries (Leitner, Nones, Hölzl & Streicher, 2007). In addition to this, the number of private universities in Germany is rising (Statistisches Bundesamt, 2010). This development basically corresponds with developments towards privatized education in market-oriented countries such as the USA (Hall & Soskice, 2001). As a consequence, universities have

to build up research competences that distinguish them from other competing universities and research institutes (Statistisches Bundesamt, 2009). Moreover, universities are forced to adequately market their “unique selling proposition” and to coordinate externally funded research projects as professional as possible. Amongst other challenges, universities have to cope with the management of IP that is created in research projects. Compared to professional service or industry firms, however, universities have made less efforts to build up and maintain strong capabilities in the management of their IP and, what is more, to take account of developing it further into profit-making patents.

Patent situation in German universities

Although most German universities are still publicly funded, new trends such as a growing number of private universities and a cutback of basic funding emerge and put public universities under pressure to professionalize their functions. This is necessary for keeping up with competitors for obtaining research funding. In the course of this, a further professionalization of functions such as patent and IP management or downstream technology transfer is warranted. Probably as a first result of such efforts, the number of patents of European universities has been growing in the last years (Geuna & Nesta, 2006). However, the number of patents assigned by European universities is still less compared to universities in the USA. In European countries, 60% of the patents assigned by a university belong to large-scale enterprises or big governmental funded research associations like Fraunhofer association. In Italy or France, for example, public-assigned patents owned by universities make just 10% (Lissoni, Llerena, McKlevey & Sanditov, 2008). This is different to the USA where faculties and universities own the majority of patents. There is no doubt that this was caused by the Bayh-Doyle-Act adopted in 1980, which allowed universities to patent and own IP. In Germany, it took over 20 years to attain a similar change by abandoning the “professor privilege”. That is, until that time, professors enjoyed the freedom to assign patents to any juristic person and/or commercialize it on their own. Thus, patent rights were typically assigned to research sponsors rather than to universities (Geuna & Nesta, 2006). With this change of German law in 2002, professors adopted the same position as any other university employee, and the university itself became owner of all IP developed by its professors. As a result, patent applications by universities increased strongly during recent years (Geuna & Nesta, 2006).

However, while the mere number of patent applications increased, the quality of the patents decreased. Hence, a merely increasing number of patent applications cannot be seen as a general positive development per se (Henderson, Jaffe & Trajtenberg, 1998). As a consequence, the selection and application of patents – or, generally speaking, the IP – needs to be managed properly. Another reason for proper IP management is that usually only a few patents of the whole patent portfolio of an organization are valuable in terms of monetary or strategic profit (Ceccagnoli, Gambardella, Giuri, Licht & Mariani, 2005). Moreover, valuable patents occasionally require expensive legal defenses against competitors in order to strengthen their value and position. With this in mind it is questionable whether classical publicly funded universities in Germany can afford intensive patenting and expensive defenses. In many cases the financial background for a legal defense of patents is not given at universities (Singh, 2008). Nevertheless, the growing number of patents puts emphasis on the need for professionalization of processes and decisions on patentable inventions. Consequently, federal governments now more and more support and urge universities in strengthening their IP policies (Bruneel, D’Este & Salter, 2010) as well as regarding the protection and commercialization of their IP. This becomes visible in several appeals (e.g., Wissenschaftsrat, 2007) and initiatives (e.g. Chapple, Lockett, Siegel & Wright, 2005). In Germany, for example, by now over 20 agencies for helping universities and their technology transfer offices to commercialize patents emerged during the last decade (Prognos, 2010). In addition to helping to commercialize and license patents, such agencies also help in founding spin-offs supporting further acquisition of new research cooperation.

Public-private research partnerships and their structure of partners

In the last two decades, a growing number of academic-industrial cooperation appeared. On the one hand, universities and other research institutions are more and more inclined to gather related funding by focusing on specific technological challenges from practice. On the other hand, companies are more and more open for sharing and multiplying their knowledge with academic support (Gassmann & Bader, 2006). In the course of this, the management of IP becomes an important success factor for R&D cooperation (Hertzfeld, Link & Vornortas, 2006). Furthermore, the proper management of IP becomes the more important the more partners are involved in R&D cooperation. With a growing number of partners, the multiplicity of interests grows and makes the management of the R&D cooperation more complex, often leading to high failure rates (e.g., Faems, Looy & Debackere, 2005; Link & Marxt, 2004). Therefore, the different partners and the general structure of multi-faceted public-private research partnerships have to be understood first before focusing on how IP might be properly managed in cooperation like this.

General sources of conflict of interests

In general, all of the partners aim at developing new basic and applied research results on a research subject commonly agreed on. But when it comes to the 'motivation behind', two groups can be identified: Universities and research institutes on the one hand and private funding partners on the other, whereas the funding ministry with its function of an initiator and supervisor plays a rather neutral role concerning IP issues. Additionally because of the Law on Employees' Inventions all the inventions generally belong to the employer, i.e., a research institute, a university or a company. With the IP belonging to different partners with different focus and profit orientation, conflicts can arise.

On the one hand, the group of private partners seeks for IP as much as possible, no matter whether this is developed during the project or before. Ideally, the knowledge can even be used after the end of the project. An additional goal of this group of stakeholders is access to existing knowledge, data and results of all of the research organizations or even other private partners involved, especially if contact has not existed before. In contrast to the group of private sponsors, however, researchers are motivated to publish results and, by this means, to increase their reputation. The research organization itself, however, is motivated to protect the new knowledge even though the long-term goal is an overall transfer of the benefit to society. This securing and commercialization of knowledge represents not only financial income but especially the ability to present reputable research excellence to the industry (resulting, e.g., in more third-party funds) and the scientific community (resulting, e.g., in better recruitment opportunities).

Yet, the development of groups with different motivations does not necessarily have to lead to conflict or even failure of research cooperation. It is rather just a classic case of co-opetition: Organizations cooperate in R&D while making sure that the partners remain competitors in the market place (Porath, 2010), i.e., partners cooperate in research but compete in using and commercializing results and knowledge. Hence, the ownership and distribution of knowledge represent main challenges that need to be solved in research cooperation (Porath, 2010). One possibility is to define a strict set of rules during the first phase of cooperation's lifetime. In this paper, this shall be demonstrated by using data from a real case, which will be introduced in the following.

Member profile and organization of an exemplary PPRP

In this self-observed study, we present case data from an exemplary research project funded by the German Federal Ministry of Education and Research for five years in a program to support innovative research partnerships in East German states. This exemplary character is based on the fact that we include almost all possible partners (Universities, semi-private research organization with non-profit character and private companies) to research cooperation except independent individuals. Numerous research projects are funded by the ministry within the same program for

boasting the innovative strengths and economic success of the East German states by supporting top-level science and research but this is the only research cooperation including private companies. One of the aims of the project is to investigate management principles for these kinds of intersectional and interdisciplinary research cooperation. In addition to governmental funds, the project receives funding from four (one medium-sized and three big) private companies. The medium-sized company is international operating in upgrading lignite. Second is one of the three biggest lignite producers in Germany, also doing business as raw-material supplier and energy supplier. The two further companies are two of the four biggest energy suppliers in Germany running coal power plants amongst others. Among the recipients, there are two public universities and three research institutes. Two of these three research institutes are embedded in mother associations named Helmholtz and Fraunhofer. Both associations enjoy a basic public funding but are required to raise external funds. These associations host numerous specialized research institutes all over Germany, which operate considerably independent within the mother organization. Whereas Helmholtz association is more oriented at basic research, Fraunhofer association focuses more on applied sciences. The third research institute is an independent publicly funded research organization. Among the universities, one of the two is taking the lead and the spatial hosting of the research project.

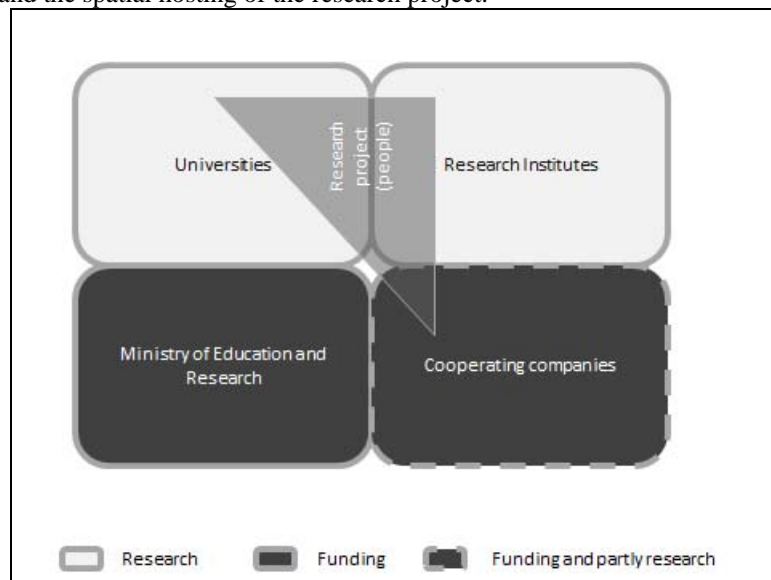


FIG.1: PROFILE OF MEMBERS IN A PPRP

As Figure 1 shows most of the people working on the project are researchers employed by two universities and embedded within specific institutes. The second group contains researchers from research institutes, and the third group researchers from the funding companies. These three groups (i.e., universities, research institutes and cooperating companies) and the Federal Ministry of Education and Research represent the core stakeholders of this research project. With this structure, the project includes nearly all kinds of partners a research cooperation can have (Hauschildt, 2004).

In contrast to the 16 other projects that are sponsored by the same federal program, the project at hand incorporates funding from private companies. This is reflected in the organizational structure and governance system of the project, which contains the following organizational entities:

- A board consisting of one representative of each funding company and of the dominating research organization as well as two professors of the hosting university, who also represent the speakers of the board.
- Two project coordinators referring to the two subject groups of researchers supervising the whole project. Their function is a connecting position between the board and the researchers, which includes

reporting and information sharing with the board as well as sending annual reports to the supervising ministry.

- Subgroups and teams of researchers from universities and research institutes referring to the subprojects.

A special situation in the present case is the prominent role of the companies as co-sponsors of the project. Because of this company representatives are included in the board. Additionally, there are geographic distances between the researchers and there is more the virtual character of the project. From an organizational point of view this can be seen as kind of a matrix organization type. One general problem is the legal difference of the partners, yet another is that the project is not independent from a financial point of view. The patents or other property rights – if they get assigned – belong to the mother organization the employee is working for, but not to the project. For this reason the institute's policy or rather the decision of the head of the institute defines the number of patents to be applied for. Legal reasons defend this to the point that property rights just can be owned by a juristic person, but not by a virtual project.

How to handle IP issues over the lifetime of PPRP

The following model aims to solve the question how to face IP issues arising in a research project especially from a university's point of view. The respective tasks project management has to cope with are structured into different phases along the lifetime of a typical PPRP. From the project at hand, three phases can be identified (see also Figure 2):

- (Pre-) start phase, which starts before the real project gets started;
- project phase, where elaborated strategies, policies and rules become implemented and realized;
- ending phase, which optimally takes place before the official ending of the project.

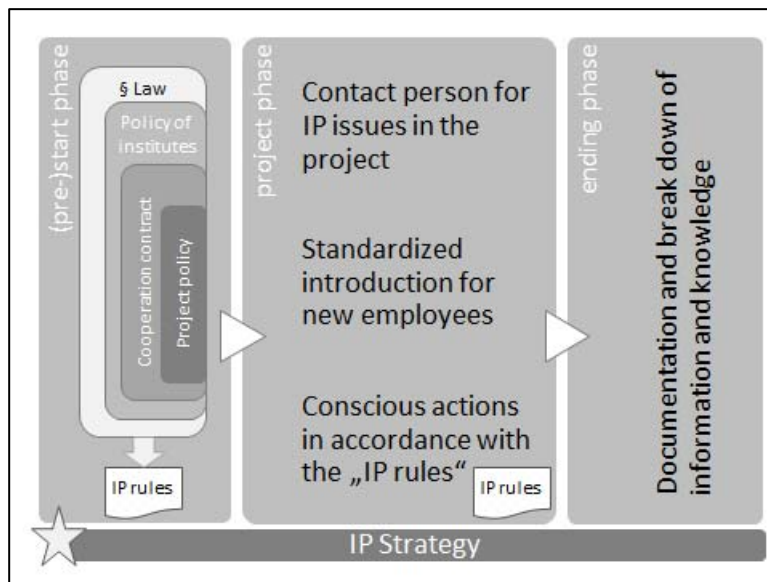


FIG. 2: PHASES OF IP MANAGEMENT IN PPRPs

(Pre-) start phase

The (pre-) start phase includes the beginning and even the time of pre-existence of a PPRP. In this phase, national and regional law sets the frame for the policies and strategies pursued by the initiating research institutes. These may become fixed in the cooperation contract once negotiations among the parties involved are finished. Based on the cooperation contract, project policies including IP strategy and management measures are outlined and may become aggregated in a project handbook or specific “IP rules”. As a matter of fact, project-related IP rules set transparent guidelines for researchers in a specific research project. The earlier this (pre-) start phase is finished and the guidelines are set, the less project time will have passed leaving space for actions which are not in accordance with the guidelines. The constitutive character makes this phase a very important phase of a project. More specifically, in the beginning of a project, some of the conflicts that may possibly emerge during later stages can be avoided by fixed policies and rules that are in line with national and regional laws, that are aligned with the policies of the involved stakeholders, and that are commonly agreed on resulting in a cooperation contract. After fixing this contract the remaining space can be used for project related policies and strategies (see Figure 2). In the following, some possible strategies concerning the negotiation of a cooperation contract will be presented.

Possible strategies for negotiating a cooperation contract

One of the major difficulties when negotiating a cooperation contract is to define solutions for eventually appearing situations which are not foreseeable at the point in time of negotiating and signing the contract. Especially policies regarding the handling of the contributed and resulting data and knowledge have to be clarified in a cooperation contract of research cooperation. In the present case, good practice contracts were used as model contracts which were adjusted to the respective research project.

A tender point in cooperation contracts are clauses which demand a prior agreement before publishing scientific results. This often comes into conflict with time aspects and the personal interests of researchers (Bruneel, et al., 2010). Whereas scientists are interested in prompt publishing in order to improve their scientific reputation, funding companies are more interested in secrecy and protection of the results and discoveries.

However, entering new cooperation contracts might also bear advantages for universities by offering the chance of becoming “relieved” from existing concessions with private partners in former contractual agreements. By this means, the cooperation contract is embedded in the existing (social) environment of a university (Blumberg, 1998). So no negotiation can be undertaken isolated from former negotiations. Existing agreements and concessions in former research contracts are taken as a starting point for the new negotiations. If now changes to existing arrangements are made they can be considered as signal for mistrust. In the worst case this could provoke disclosure of information and knowledge transfer. So, negotiations in this field are very challenging and influencing the future work. But there can be a way to solve this challenge in an elegant way with recruiting new partners in a PPRP.

For example: research institute A has an existing project with scope S1 with company X. The cooperation contract includes concessions that grant X deep insights to A’s results. Now institute A wants to start a new cooperation project with scope S2 and to once again recruit company X as funding partner. In this situation institute A has a hard negotiation position if A doesn’t want to grant as much insights to the results of S2 as for S1. If now institute A additionally finds a new research partner B for research project S2 a new partner is included into the negotiation process. As in general a cooperation contract is a general contract signed by all involved parties, the positions of A and B are equal. In the ideal case the new partner B has no historical contractual background with company X. Now B can start the contractual negotiation from a neutral position and improve the concessions for project S2 from A’s point of view, too. The motivation for A to include B is the improvement of the arrangement with company X, whereas the motivation for institute B is the participation in a new research project. The stronger the strategic importance of B, the stronger is the negotiation position of B and the stronger can be positive spillover effects for A. So, including new cooperation partners can potentially improve the contractual situation with cooperating companies from a research institute’s or university’s point of view.

Another aspect that suggests inviting new research partners is learning. Almost every research organization brings model contracts into new research cooperation, but in many cases those contracts have to be adjusted. Hence,

building on the existing experience and expertise of other research institutes might be profitable. This can help saving time and accelerating the money transfer from the funding partners involved to the research institutes: In the case at hand, no money transfer from the ministry or the involved companies had taken place until the cooperation contract was signed. This issue can become very important if the money transfer is related to expensive research investments that are important for delivering research objectives in time. In our case, the purchase of a research instrument got pushed back because of the late contract signing and money transfer. This led to a delay in research gauging and caused a push back for downstream subprojects that build on the results of the analysis of more than six months. This is just one example of how late contract signing may risk the success of a whole research project.

Possible IP Strategies for the PPRP

With setting a cooperation contract the question for an IP strategy arises. More specifically, “[p]atent strategy for a technology area is the science and art of managing research to meet competitors in the marketplace under advantageous conditions.” (Knight, 2007, p.70) If the marketplace is limited and most of the players are cooperation partners it has to be made clear what kind of patent strategy partners are looking for. According to Harhoff (2005), different IP strategies have to be considered when setting the stage for an industry project. In the following, these strategies will be evaluated as for their applicability for a PPRP:

- **Intensive application and active defending:** This strategy would be of interest in order to strengthen the position in the technological field. Building barriers discourages the entrance to a certain technology area. With numerous costly applications and especially costs of a legal action the costs are very high and usually overcharge the possibilities of universities. If there is no big budget planned and part of the project the realization of this strategy is questionable.
- **Patent nets:** This means building nets with further patents around own patents or restricting the base patent of a competitor with the net. Again, the costs for the numerous necessary applications are heavy and usually public organizations do not have a budget for fulfilling this strategy.
- **Patent maze:** This implies assigning patents which are interwoven with closely related patents. This density raises – akin to the related patent net strategy – the security and therefore the strength of the base patent. As before, all strategies which include the application of numerous patents get expensive and, again, this depends on the budget.
- **Patent flooding/blanketing:** In this case the technology area is flooded by a tremendously high number of patents at one moment. This requires a very high effort and coordination in a short moment of time as otherwise the patents could be used as a source of information for competitors. As this strategy is not only costly but also time consuming, the appropriateness of this strategy for a public university is nonrealistic as well.

To sum this up, all named patent strategies are expensive and more or less time consuming so that conditions to apply the strategies can barely be fulfilled by a public university. In the present case, for example, there was no budget reserved for patent applications at all. What remains for the project itself are strategies with a more “silent” character (Gassmann & Bader, 2006):

- **Secrecy:** This means keeping the results disclosed in the organization. This however is absolutely contrary to the general goal of a university aiming at doing research for some social benefit.
- **Publishing:** This includes publishing new results and knowledge in order to set the standard in the technology area. This brings prestige and additionally prevents patent applications of competitors with setting the standard. Hence, this strategy would be most suitable for a university. However, as some of the researches as well as some of the private partners in a research cooperation project are heading for some patents at the end of the day some individual patents will be at least assigned. In these cases, researchers and especially project coordinators as well as an IP person in charge at the mother organization have to decide how to select and time patent applications. This will be detailed in the following section of the paper.

Project phase

After setting the frame for a proper handling of IP issues within a PPRP, this frame has to be actively used when making IP decisions. This takes place in the project phase, which embraces the biggest part of the project lifetime. There are especially three important points that have to be considered. First, a person has to be defined for acting as a contact person for all IP related issues and for documenting the results. This person has two main functions: Acting as an information desk and as a “sponge”. On the one hand, this person should have a possibly neutral position and should be a confidential person. It can be a dual position in combination with the role of a project coordinator. This person should work as a contact person for all IP related questions and should assist the inventor. On the other hand, the IP person should adsorb all IP related know-how like a sponge and should disperse this knowledge whenever needed. The position of the IP person should best be backed with the necessary authority by the project leaders.

Second, there has to be a standardized introduction (document, presentation, etc.) for every new employee as part of the formal integration process. “IP rules” could be this kind of onboarding document. Third, all actions taken within the project should be in accordance with the IP rules. This last part is most difficult and requires the support especially from the project management team as sticking to the rules becomes the more efficient the stricter the leaders act in accordance with the rules and become “role models”. This could also be improved by further educating the project coordinators in IP related topics.

Ending phase

It is difficult to fix a concrete point in time when the ending phase starts. In general, the more suitable the documentation of results, data and knowledge the easier this phase turns out to be. There are two major challenges that have to be managed: First, the agglomeration of the results and knowledge, and second their documentation and transfer, respectively. These two steps optimally have taken place during the previous project phases, too. But towards the end of a project this is a “must”.

In the course of this phase, the results of the project are summed up as a whole. This means bringing together all reports, databases and further scientific findings down to one master piece, report, etc. The results that will be handed over to the partners have to get defined by the project coordinators so that the final knowledge transfer can take place. From a mere “transfer” point of view it would be advisable to just deliver suitable results to the partners. License incomes can be a nice side benefit for the mother organization.

Another important step is to document the results. As a project itself always has a temporary character by definition it has to be made sure which organization will keep what kind of result. This can be done by the leading institute alone or by the participating partners, which then keep the relevant results within their institution. This would be the case in the project at hand as this was fixed in the cooperation contract.

Additionally, this phase can also initiate applications for follow-up support of the present PPRP or for elaborating new project ideas out of the new findings. In the case of a follow-up support this ending phase runs parallel to the new (pre-) start phase of the next project life-cycle.

Conclusion

By drawing an overall picture of the research situation and the patent situation at German universities and by providing practical evidence from a real case, this paper seeks to close the gap of providing practical advice for research managers in PPRPs. More specifically, the phase model that we created along the lifetime of a real project shall help research coordinators in managing IP concerning issues. In addition, the structure of partners, interests and 'motivations behind' of a real PPRP are presented to show possible means for successful contract negotiation and IP strategies to be adopted in day-to-day IP management practices. Despite of critical views that mainly see universities as contributors to society (Smith, Parr, 2005), others that admit universities to derive extra income from patenting (Geuna & Nesta, 2006) exist as well. In sum, our paper suggests that both roles universities can play can be realized synergistically by adopting appropriate IP management measures.

Nevertheless, our paper as every other has limitations, too. One is that we solely analyzed companies' role as sponsors whereas it is also possible that company partners are just loosely participating in a PPRP, for example, by announcing a letter of interest. Hence, further research should be conducted for cases that contain cooperating companies which do not participate in funding. Another limitation is the fact that the project at hand is still running and that for this reason no statements can be derived for the ending phase yet. As a consequence, further insights into the management of IP at the end of a project needs to be conducted and compared by future research.

Moreover, there are different roles a research coordinator or manager (Kirkland, 2005) can play. In the present case the PPRP coordinator is just responsible for the project at hand, i.e., he is not formally involved in the making of institutional research policies but is involved in their implementation. It would be worth investigating IP management implications for the case of a PPRP coordinator who additionally plays one of the other roles as defined by Kirkland (2005): role as a 'leader' (person who has the authority to make institutional policy), as a 'member' (senior research manager who makes policies alongside academic colleagues in key committees) or as a 'secretary' (research manager who may have token representation on key decision-making committees but their main involvement comes through the provision of advice, reports and data).

This paper has hence to be seen as a starting point for further research. The specific setting of the longitudinal case presented here has to be challenged by other evidence and should be captured in propositions that need to be tested quantitatively.

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The Antecedents of affective organizational commitment and turnover intention of academics in selected private universities in Malaysia

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Abstract

This study aims to test the structural model that explains the relationships between career development opportunities, perceived organizational support, felt obligation, affective organizational commitment and turnover intention of academics working for four (4) selected private universities in Malaysia. This study found that the academics' perceived career development opportunities positively influenced the level of POS and POS had a direct positive relationship with affective organizational commitment. Besides, POS has not only a direct influence on organizational commitment, but also an indirect impact via felt obligation, confirming the partial mediator effect of felt obligation. Another interesting finding of the study was that the influence of POS on turnover intention is only through the indirect effect via affective organizational commitment. The results of this study add to our knowledge about the social exchange mechanisms that link HR practices with the employees' affective organizational commitment and turnover intention.

Introduction

Increasingly organizations are interested to develop committed workforce to reduce employee turnover and absenteeism, while improving the employees' performance and job-related attitudes (Mathieu & Zajac, 1990; Meyer & Allen, 1997; Mowday, Porter, & Steers, 1982; Tremblay, Cloutie, Simard, Chenevert, & Vandenberghe, 2010). There is also growing evidence that employees' positive attitudes and discretionary behaviors are important factors affecting organizational performance (Podsakoff & Mackenzie, 1997). Hence, gaining a better understanding of the motivational basis for such work attitudes and behaviors is regarded as an important component of research agendas relating to management practice in the future especially in the context of professional employees (Aryee, Budhwar, & Chen, 2002). Hence, this paper is written to emphasize on the importance of adopting theories from the human resource management (HRM) and organizational behavior (OB) disciplines to understand the process of developing a committed professional workforce in contemporary organizations.

Social exchange theory (Blau, 1964) suggests that the exchange relationship between two parties often goes beyond economic exchange and includes social exchange. Hence, organizational studies argue that employer and employee exchange not only impersonal resources such as money, but also socioemotional resources such as approval, respect, recognition and support (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). In organizational researches, the social exchange theory (Blau, 1964), the norm of reciprocity (Gouldner, 1960) and the concept of perceived organizational support have been applied to describe the psychological process underlying the employee attitudes and behaviors (Setton, Bennett, & Liden, 1996; Wayne, Shore, Bommer, & Tetrick, 2002). The concept of perceived organizational support (POS) which refers the extent to which the organization values their employees' contributions and cares about their well-being have been used to describe the social exchange relationship between the employer and the employee (Eisenberger, Huntington, Hutchison & Sowa, 1986). Based on the norm of reciprocity (Gouldner, 1960), employees who perceive high levels of POS are more likely to reciprocate the organization with positive attitudes such as higher levels of affective commitment and favorable work behaviors such as commitment to organizational goals and lower intention to leave (Eisenberger, et al., 1986; Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger, Cummings, Armeli, & Lynch, 1997). The arguments above based on the social exchange theory, the concept of perceived organizational support (POS) which is the commitment of the organization to the employee and the norm of reciprocity is further developed into the organizational support theory (Rhoades & Eisenberger, 2002).

Problem Statement

While committed academics are the key towards the successful private universities in Malaysia (Humphreys & Hoque, 2007) and since academics have a high need for support and recognition, there is very little empirical studies thus far which have been conducted to examine the role of perceived organizational support (POS) to enhance the level of affective commitment of academics using the academics working with the private institutions of higher learning (Rowley, 1996; Capelleras, 2005; Joiner and Bakalis, 2006).

Since the turnover rate of academics in private universities in Malaysia is high (Jantan et al., 2006; Morris et al., 2004) and that the private universities play significant roles towards the development of the higher education industry in Malaysia (BERNAMA, 2009; MOHE, 2009), it is important to examine the antecedents of organizational commitment and turnover intention of academics in private universities in Malaysia. The limited past studies conducted in the context of private universities in Malaysia by scholars such as Ismail et al. (2009); Saad et al. (2008) and Santhapparaj and Shah Alam (2005) provided little insights into the issue of enhancing the level of organizational commitment and reducing the level of turnover intention of academics in private universities in Malaysia. To bridge these gaps in the literature especially in the context of the Malaysian private universities, this study has adopted the Organizational Support Theory (Rhoades & Eisenberger, 2002) which suggests that employees who perceive high levels of POS are more likely to reciprocate the organization with positive attitudes such as higher levels of affective commitment to the organization and favorable work behavior such as lower intention to leave (Eisenberger et al., 1986; Eisenberger et al., 1990; Wong & Tay, 2010).

The Influence of HRM Practices on Organizational Commitment

There is no consensus in the HR literature on which HRM practices is considered appropriate (Mohd. Nasurdin et al., 2008). Despite this lack of consistency, the Social Exchange Theory (Blau, 1964), the norm of reciprocity (Gouldner, 1960) and the Organizational Support Theory (Rhoades & Eisenberger, 2002) suggest that the influence of HRM practices on employees' attitudes and behaviors is significant. Hence, this study use the organizational support perspectives to examine the influence of career development opportunities on employees' perceived organizational support (POS), which in turn will influence the employees' organizational commitment and turnover intention .

A review of the literature suggests the potential effects of several HR practices on employee commitment and motivation. They include selective hiring, appraisal, compensation, training and development activities (Snell & Dean, 1992; Whitener, 2001; Youndt et al., 1996). However, past studies in the area of HRM have been almost exclusively undertaken in the Western world and very few were undertaken in Malaysia (Mohd. Nasurdin et al., 2008).

Providing career development opportunities via training and development of employees is increasingly recognized as an important aspect of best HRM practices. Employees have a desire to extend their potential and capabilities in the organizations, to satisfy their need for growth (Alderfer, 1972; Maslow, 1954). Hence, organizations need to provide employees with career development opportunities that would meet their need for personal growth in order to create employee beliefs in higher POS. Organizations that provide career development opportunities such as recognition, training and promotion indicates that the organizations are concerned for their employees and recognize their contributions to the organization, which contributes to POS (Eisenberger et al., 1999; Rhoades & Eisenberger, 2002). Further, these HR practices are often viewed as discretionary treatment by the organization as it goes beyond normal company policies or any labor laws of the country, which suggests organizational caring and support (Eisenberger et al., 1997).

In Malaysia, the high turnover rate for academics in private universities were mainly due to the limited career development opportunities provided, inadequate support for research activities and teaching in private universities was not perceived as a career of choice (Arokiasamy et al., 2009; Jantan et al., 2006). Thus, it is important to examine whether the provision of career development opportunities would positively influence the level of POS.

Hypothesis 1: Employees' perceived career development opportunities will positively influence the level of POS.

The Role of POS on the HRM-Organizational Commitment link

There are multiple mechanisms that the organization can employ to create employee beliefs that the organization value their contributions and cares about their well-being (Rhoades & Eisenberger, 2002). HRM practices might serve as one means by organizations to show their care and support or commitment to the employees and in turn, foster affective commitment and reciprocal attachment by employees. Specifically, employees may refer the supportive HRM practices as discretionary behavior of the organizational agents to determine how greatly the organization values them (Eisenberger et al., 1986). In addition, HR practices serve as signals to employees about the extent to which the organization values and cares about them as individuals (Wayne et al., 1997). These findings suggest that HRM practices might only contribute to employees' affective commitment if they are viewed by employees as evidence of the organization's commitment to them.

Organizational Support Theory (Eisenberger et al., 1986; Eisenberger et al., 1997; Mohamed et al., 2006; Rhoades & Eisenberger, 2002) also suggests two types of HR practices that are related to POS. First, discretionary practices which the organization is not obligated to offer that imply organizational caring and commitment towards the well being of the employees but not made compulsory by company policy, union contract or laws of the country (for example, career development opportunities and work/family support) and second, organizational recognition for the employee's contribution (for example, pay satisfaction).

Research suggests that employees interpret organizational actions such as HR practices (Ogilvie, 1986; Setton et al., 1996; Wayne et al., 1997) as indicative of the personified organization's support and commitment to them by the organization's high level of caring and concern. In return, employees will reciprocate this kind deed by increasing their own commitment to the organization by being highly involved in the organization and showing their willingness to work hard to accomplish the organization's goals. This stream of thought is in line with the research findings of other researchers (Agarwala, 2003; Whitener, 2001) who argued that how employees interpret and make sense of their employer's HR practices will affect their psychological contract with their employer which in turn, affects their commitment to that employer.

Meanwhile, Eisenberger et al. (2001) examined the reciprocation's role in the relationships of POS on employee commitment and job performance. Hence, future studies on the POS-outcome relationship should examine the role of felt obligation, which refers to an employee's belief regarding whether he or she should assist the organization to obtain its goals (Eisenberger et al., 2001). This is because the Organizational Support Theory (Eisenberger et al., 1986; Gouldner, 1960; Rhoades & Eisenberger, 2002) suggests that employees who perceive that the organization values their contribution and cares about their well-being would develop a feeling of felt obligation to aid the organization to achieve its objectives.

Although POS is likely to induce employee affective commitment to organization, this effect may function through a sense of felt obligation to repay the organization's care for their wellbeing and recognition of their contribution (Eisenberger et al., 1986; Eisenberger et al., 2001). Specifically, Eisenberger et al. (2001) found a partial mediating effect of felt obligation on the influence of POS on affective organizational commitment and explained that since POS fulfils the employees' needs for relatedness and affiliation (Alderfer, 1972; Armeli et al., 1998), POS may increase the employees' identification and involvement with the organization, which is an important dimension of affective organizational commitment (Mowday et al., 1982).

The Organizational Support Theory predicts that POS should decrease voluntary turnover intention via affective organizational commitment by strengthening employees' sense of belonging and identification with the organization (Eisenberger et al., 1990; Meyer & Allen, 1997; Mowday et al., 1982; Rhoades et al., 2001). POS promotes affective organizational commitment via the incorporation of organizational membership as an important part of social identity. The resultant strengthening of the employees' emotional bond to the organization reduces the employees' intention to leave the organization (Rhoades et al., 2001). Recently, a primary survey of 93 music teachers from private music schools around the Klang Valley in Malaysia showed that they were less likely to leave when they perceive their music schools supported them and this relationship between organizational support (POS) and the turnover intention of music teachers was partially mediated by their affective commitment to the music schools (Wong & Tay, 2010). Based on the arguments above, the following hypotheses were tested.

Hypothesis 2: Higher employee perception of POS will positively influence the level of affective organizational commitment.

Hypothesis 3: The positive influence of POS on affective organizational commitment will be partially mediated by felt obligation.

Hypothesis 4: Higher affective commitment will negatively influence the level of turnover intention.

In sum, the proposed model is shown in Fig. 1 below:-

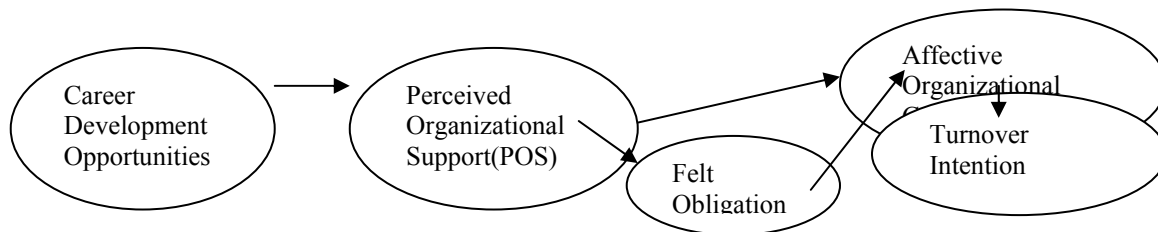


FIG. 1: THE HYPOTHESIZED MODEL

Research Objective

This study aims to test the structural model that explains the relationships between career development opportunities, POS, felt obligation, affective organizational commitment and turnover intention of academics working for four (4) private universities in Malaysia.

Method

Procedures

The target sample for the actual study was the private universities in Malaysia which were registered with the Ministry of Higher Education Malaysia (MOHE, 2009) and rated at the Tier 4 and 5 categories in the SETARA 2009 (MQA, 2009). SETARA is a rating system developed by the Malaysian Ministry of Higher Education to rate the performance of Malaysian universities in the areas of teaching and learning and in the future it will include research and development as well (MQA, 2009). This is to ensure that the private universities included in this study have achieved the minimum quality of 'very good' in the teaching and learning criteria in Malaysia. Thus, a total of fifteen (15) private universities were selected for this study. The private universities include four (4) foreign branch campuses and eleven (11) private universities. Two of the foreign branch campuses are located in the Klang Valley, Peninsular Malaysia while the other two are located in Sarawak. The eleven (11) private universities are located in Peninsular Malaysia.

A total of 1000 survey forms were distributed to the academic staff of the four private universities in Malaysia which have approved this study. In total, 202 employees responded, generating an overall response rate of about 20%.

Measures

Through extensive literature review, the variables of this study were measured based on established instruments which have been used by seminal past studies (the full list of the items of the survey are available upon request from the author). All the variables were measured by the subjects' responses based on the 5-point Likert-type scales (1=strongly disagree to 5=strongly agree). All indicators have standardized factor loadings of more than 0.67, Cronbach's alpha more than 0.70 (Hair et al., 2006) and average variance explained (AVE) of more than 0.50. Hence, convergent validity among the indicators for the respective constructs has been established (Hair, Black, Babin, Anderson, & Tatham, 2006, p.776-778).

Data Analysis Method

The structural equation modeling (SEM) is chosen to analyze the data because it is a popular statistical technique used by empirical journal articles in the social sciences to test the relationships of independent and dependent variables, is powerful to “redesign” the proposed relationships in the hypothesized model to form several nested models and is more effective in finding the “best fitting” model to the data as suggested by the modification indexes (Cheng, 2001; Kline, 2005; Shore et.al., 2006; Tan, 2008).

Results

The statistical output for the structural model for the hypothesized model is represented in Fig. 2 below. In this model, F2 refers to career development opportunities, F4 refers to POS, F6 refers to felt obligation, F8 refers to affective commitment and F9 refers to turnover intention.

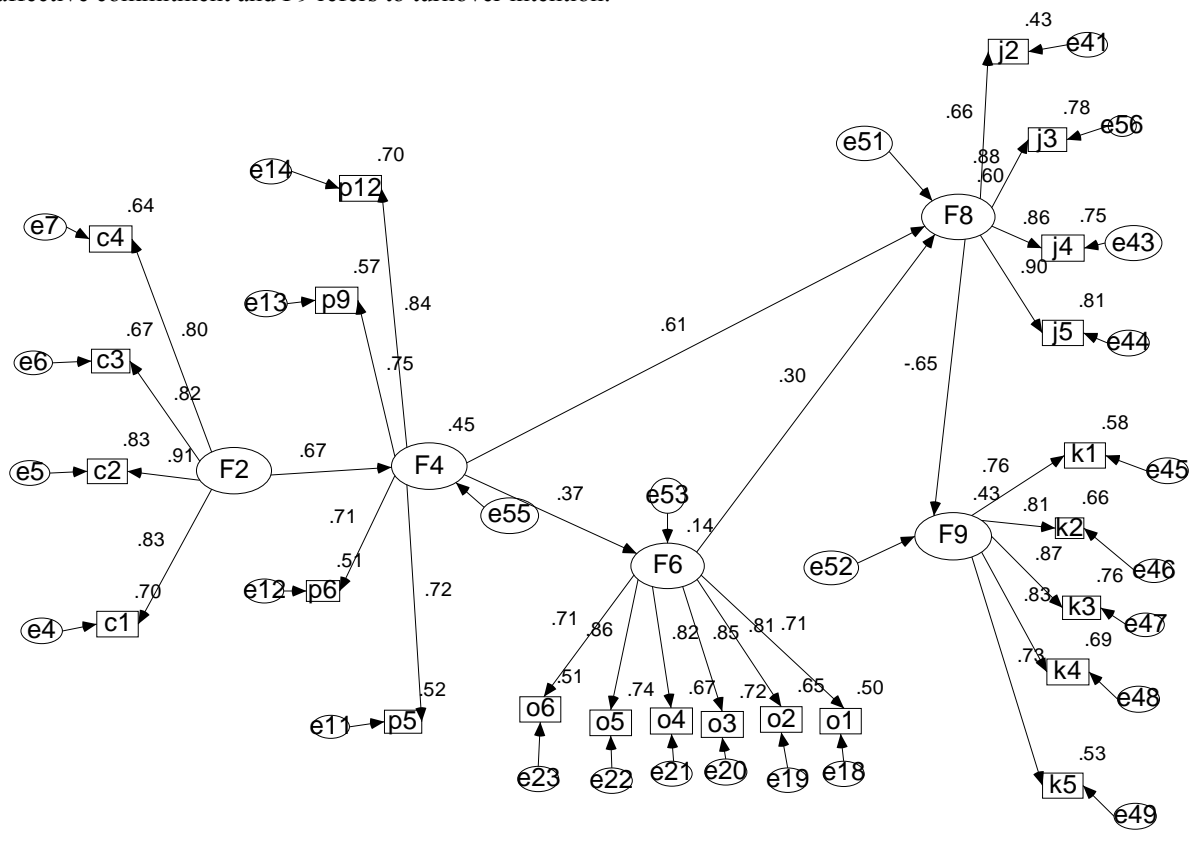


FIG. 2. THE STRUCTURAL MODEL FOR THE HYPOTHESIZED MODEL

In Fig. 2, all paths estimates between the respective constructs were significant at the 0.001 level, indicating that all the hypotheses 1-4 were supported. All the standardized factor loadings of the indicators were at least 0.67 and significant at the 0.001 level. The skewness and kurtosis values for all the indicators were also less than 3.0 and 10.0 respectively, indicating that the data did not demonstrate significant departure from normality.

The model fit indexes for the structural model are $\chi^2/df=1.560$; GFI = 0.872, AGFI= 0.843, CFI= 0.961 and the RMSEA = 0.053. Hence, the $\chi^2/df= 1.560$ has met the recommended cutoff point of less than 3.0; the CFI and AGFI has met the recommended cutoff point of more than 0.8 and RMSEA has met the recommended cutoff point of less than 0.08 (Hair et al., 2006). In sum, the structural model demonstrated acceptable model fit to the observed data.

The model fit indexes for the measurement model for the structural model are $\chi^2/df=1.991$; GFI = 0.839, AGFI= 0.803, CFI= 0.932 and the RMSEA = 0.070. Hence, the $\chi^2/df= 1.991$ has met the recommended cutoff point of less than 3.0; the CFI has met the recommended cutoff point of more than 0.9 and RMSEA has met the recommended cutoff point of less than 0.08. The values of GFI and AGFI were also reasonably acceptable at the level of more than 0.80. In the measurement model, none of the indicators cross-loaded on other factors and all the indicators loaded significantly ($p<0.001$) onto their respective latent factors. As a result, the concern of common method error was minimized. Thus, the 5-factor measurement model is confirmed and the examination of the best fitting structural model is valid and justified (Anderson & Gerbing, 1988).

Discussion

This study supported a best fitting structural model which included the interrelationships between five constructs, namely career development opportunities, POS, felt obligation, affective organizational commitment and turnover intention. Consistent with the results of a few previous studies (Allen et al., 2003; Meyer & Smith, 2001; Wayne et al., 1997), in this study, perception of career development opportunities was found to have a significant positive impact on POS. The magnitude was also strong with $\beta=0.67$. The findings of this study are consistent with the predictions of the Organization Support Theory, which suggest that HR practices such as career development opportunities might only contribute to the employees' affective commitment if they are viewed by the employees as evidence of the organization's commitment to them. Thus, this study suggests that career development opportunities relate to actions that are designed to prepare employees for a future in the organization and organizations that are willing to make a long-term investment in their employees are likely to be judged as caring about their welfare and regard them as long term assets.

In return, beliefs of POS would create an obligation for the employees to "repay" their organization by taking care of its well-being through greater effort, involvement and identification, all of which reflect their level of greater affective commitment. Hence, at the theoretical level, this study has enriched the commitment literature. Specifically, this study has provided evidence for the relationships between HRM practices, POS and affective organizational commitment.

In terms of contribution to HRD literature, this study has enhanced the existing body of knowledge by integrating one particular HRD practice which is, career development opportunities and related OB concepts such as POS, organizational commitment and turnover intention in a single study (Hatcher & Guerdat, 2008). Further, this study found significant and positive relationship between career development opportunities which is an important HRD area and POS, which in turn, influenced the academics' organizational commitment and turnover intention. Since employee development, behavioral change and organizational performance can be influenced by organizational commitment (Meyer & Allen, 1997) and HRD scholars need to understand the process to develop commitment (Fornes, Rocco, & Wollard, 2008), this study has demonstrated how OB theories such as the Organizational Support Theory can be used to enhance the body of knowledge in the HRD discipline in terms of understanding the process involved in the influence of HRD practices on the development of a committed workforce.

POS was found to have both a direct impact on affective organizational commitment ($\beta=0.58$), and an indirect impact mediated by felt obligation. The findings of this study confirm the predictions of the Social Exchange Theory (Blau, 1964) and Organizational Support Theory (Eisenberger et al., 1986) that the academics will

repay the universities which supported them with stronger commitment to the universities and develop a sense of felt obligation to reciprocate the universities' support by caring about the universities' well being and helping achieve its objectives (Eisenberger et al., 2001). As the strength of the relationship between POS and felt obligation is strong with $\beta=0.45$, this study supports the view that the POS-felt obligation association is due to the norm of reciprocity (Gouldner, 1960). This association indicates the academics' acceptance of the reciprocity norm as a basis for employee-employer relationships and provides empirical support to the social exchange interpretations of employee-employer relationships that emphasize reciprocity-based obligations (Eisenberger et al., 2001; Rhoades & Eisenberger, 2002).

Consistent with previous research, this study supported the relationship that lower commitment to the organization may lead to increased intention to quit (for example, Mowday, Porter, & Steers, 1982; Mathieu & Zajac, 1990; Chughtai and Zafar, 2006, Mohamed et al., 2006) with a $\beta=-0.65$. The academics who perceive that the universities were supportive of them would be committed to the universities and as a result, would be less likely to leave the universities. This study provides evidence that POS is important in the turnover process as an antecedent of organizational commitment, which in turn, reduces turnover intention.

Limitations and Suggestions for Future Research

First, this study is cross-sectional in nature. As the data was collected at the same time, definitive conclusions on the relations of causality between the constructs of the study should be made with caution. Second, the independent, mediating and dependent variables were measured simultaneously from the employees, thus raising the problem of common-method bias. Hence, data were collected from four private universities and confirmatory factor analysis was used to test the construct validity of the indicators used to measure the constructs (Pare & Tremblay, 2007). Future studies should study the antecedents and outcomes of POS through longitudinal data. Future research is needed to further understand the influence of other discretionary HR practices on POS such as top-down information, performance feedback and skills development on POS suggested by Tremblay et al. (2010). Besides, future studies should include other mediating variables such as procedural justice and job satisfaction as well as POS, felt obligation, trust in management in a single study to further understand the process of how HR practices influence affective organizational commitment and turnover intention as suggested by scholars such as Allen et al. (2003), Meyer and Smith (2000) and recently by Tremblay et al. (2010).

Conclusion

This study has contributed significantly to management research and practice. By linking employee perceptions of career development opportunities with POS, this study bridges HRM and organizational behavior literature, and provides guidance on how organizations can foster high levels of perceived organizational support via implementation of appropriate HR practices. The findings on the significant effects of POS on important work outcomes such as affective organizational commitment and turnover intention either directly or indirectly demonstrate the importance of POS research and the need for organizations to provide adequate support to their employees. As discussed earlier, this study also points to some interesting directions for future research.

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Sustainable development in Higher education: a case study of India

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Abstract

The higher education of any country is considered as quality parameter by the international world. The sustainability is in terms of education imparted, the legitimacy of the teaching and research undertaken and the operational aspect which involves a tradeoff between innovation and structured patterns. The corporate India witnessed the retrenchment drive and the business models on which corporate India stood, came under serious debate. The challenge for the Indian organization is to strive for sustainable Indian education industry also. So bridging the gap between the academic and corporate sector is also an important need of the hour to achieve sustainability in higher education. The paper aims at identifying and explaining the various aspects to be considered for achieving sustainability in higher education.

Employability to Sustainability

Higher education of a country has a big role in the development a country. The enigma of India is that our progress in higher education and science and technology has not been sufficient to take 350 million Indians out of illiteracy (Murthy, 2009). The private education industry is in its growth phase. Many business groups are planning to enter into the management education in a big way with the promise to deliver the best. They are investing on building state-of-art campuses to promote learning. They are standardizing the education industry by creating the benchmarks(Chatterjee, 2010). But these education courses designed by the needs of industries have failed to deliver results in terms of quality education.This affects the employability to a great extent. The higher education system produces graduates that are unemployable, though there are mounting skill shortages in a number of sectors. The standard of academic research is declining. The higher education sector is in rigorous development and restructuring. But apart from these concerns there are some more issues such as increasing crime rates, denigrating physical and emotional healthand other socio-economic problem should be addressed by the higher education of country. This would lead towards a sustainable society.

Sustainable development is considered in terms of three i.e. a) environmental sustainability, b) economicsustainability and c) Social sustainability. It must be emphasized that these are interdependent and mutually reinforcing elements of the same integrated process of sustainable development(Inventory of innovative practices in education for sustainable development., 2010).So sustainable development in higher education in the Indian context will bring about a solution to upcoming business problems, will develop an awareness and empathy towards the environment and also lay a foundation towards sustaining the social aspect which is an important characteristic of the Indian society. The key to sustainable future is sustainableruralizationandurban transformationinstead of sustainable urbanization and rural transformation. For attaining these objectives we should promote youth in the area of ecopreneurship (career connected with sustainable development), education and development(www.ceeindia.org, 2005).

Areas under Sustainable development

Rural India-India is an agrarian society with three-fourth of its population staying in rural areas. They depend on farming, livestock and other farming related income for earning their livelihood. The absence of employment and the poor living conditions causes them to migrate to urban areas. In rural India, still the villages have poor living conditions. The government schools and hospitals have no or at most two teachers. It is difficult to imagine 250 million do not have access to basic medical care. 51 percent to country' children are undernourished and 52 percent of primary schools have only one teacher for every two classes. 300 million Indian lives on hardly Rs 545 per month (Murthy, 2009). The higher education should prepare the students to avail entrepreneurship options and generate

employment opportunities for the rural people. New ideas on farming and distribution channels for rural India should be generated.

Hypothesis 1: The academic activities done by the institute makes a significant difference in promoting awareness about the Poverty in rural India.

Hypothesis 2: The academic activities done by the institute makes a significant difference in promoting awareness towards the encouraging Entrepreneurship at the student level.

Public Health

The deteriorating public health is another big problem that India is facing. Rural health conditions needs a lot of improvement. On the other hand, the urban health is the victim of the problems like drug addiction, depression, teenage pregnancy and suicide arising out of debauchery, extra marital affairs, domestic violence, poor sleep and unhealthy eating habits. Invoking the thought process of the students towards this direction can also generate a lot of employment opportunities.

Hypothesis 3: The academic activities done by the institute makes a significant difference in promoting awareness about the Public Health in India.

Hypothesis 4: The academic activities done by the institute makes a significant difference in promoting awareness to curb the problems arising from the Job Retrenchment in India.

Energy

Clean energy initiatives to stop global warming and catering to environment and energy needs of the future is also a new sector with immense opportunities. India with having a lot of natural resource can be used for making up self-sufficient villages by using solar power or tidal power. Education and vocational training to generate employment opportunities in rural India is also the initiative which needs a lot of manpower to bring about a growth in these areas.

Hypothesis 5: The academic activities done by the institute makes a significant difference in promoting awareness about the Clean and Renewable energy activities.

Hypothesis 6: The academic activities done by the institute makes a significant difference in promoting awareness about the Energy Conservation practices.

Values

Increasing number of scams and political instability calls upon for developing integrity through a sound value system and good governance. The education system of any country has a big role to play in integrating values and ethics within the budding managers. A sound value system is the foundation of the sustainable society.

Hypothesis 7: The academic activities done by the institute makes a significant difference in promoting awareness about the Cultural Values of India.

Hypothesis 8: The academic activities done by the institute makes a significant difference in promoting awareness about the Cross Cultural values required in era of globalization.

Hypothesis 9: The academic activities done by the institute makes a significant difference in promoting awareness about the Family Values in India.

Hypothesis 10: The academic activities done by the institute makes a significant difference in promoting awareness about the governance issues.

Gender Inequity

The gender inequity is also a problem which we witness quite often. Efficient and effective female managers have constantly reported the presence of the glass ceiling hindering there development. The plight of the women

denigrates in the case of house wives and women in the rural areas. They are victims of depression, exploitation, domestic violence, sexual harassment, female feticide, bad reproductive health etc.

Hypothesis 11: The academic activities done by the institute makes a significant difference in promoting awareness about the problems related to Gender Inequity in India.

Environment

The knowledge about the environment and performing environment friendly activities should be integrated as the part of the economic activities to reduce global warming and problem of Urbanization. Urbanization of the developing society has also emerged as a big problem. Constant migration of people from the rural parts of the country due to unemployment and poverty is bringing disequilibrium in the growth. The cities are expanding and the slums are increasing which in turn forces these people to live in the poor conditions.

Hypothesis 12: The academic activities done by the institute makes a significant difference in promoting awareness about the Global Warming Initiatives.

Hypothesis 13: The academic activities done by the institute makes a significant difference in promoting awareness about the problems related to Urbanization in India.

The academic activities undertaken by the institute towards affecting the sustainable development initiatives are in the respective forms. Firstly, the curriculum taught within the course of the higher education is one of the institutional activities which can be one of the ways of promoting the education for sustainable development. In an evaluative review of Rhodes university participatory course 1998, Janse van Rensburg and Le Roux(1998) identifies key aspects of the course orientation, which have come to shape the pedagogy and teaching practice in the course. It involved clarification of processes of curriculum deliberation, as a way of orienting community –based adult education (Lotz, 1999). The key features also indicate that curriculum deliberation involves processes that deliberately focused on achieving sustainability goals(Lotz-Sisitka, 2004). Regular Disciplinary reviews can play an important role in promoting the integration of sustainable development in disciplinary education, because of their content, the process of disciplinary analysis, and the emergence of actual and potential disciplinary relationships with sustainable development(Appel, Dankelman and Kuipers,2004). Secondly, the community links established in the form of community service, conferences, and the student/faculty exchange and training programs are the ways by which a university or institute can gain a lot by initiatives of a fellow institute or university. The Community Programs include providing information to new students as part of orientation, fostering environmental leadership with student groups, supporting innovative student projects on campus and in the community, and fostering local and regional business, government and community networks for sustainability(Cladder and Clugston, 2004). Thirdly, in the form the analytical and research work undertaken in form of service learning projects, internship programs and center of excellence on specific sustainable issues.

Theoretical Model

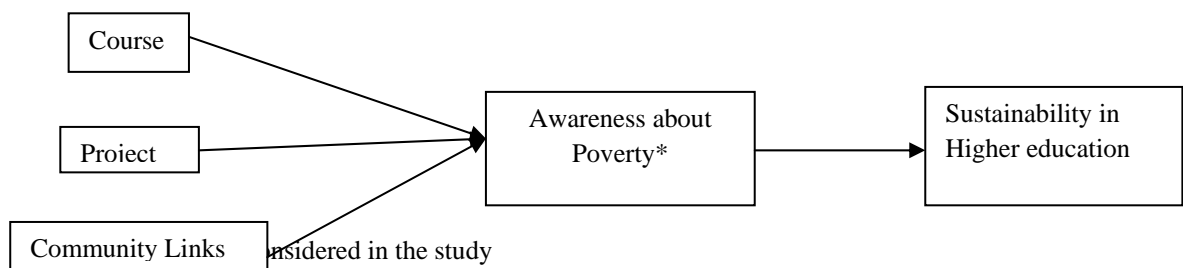


FIG. 1: THEORETICAL MODEL

The model is applicable for all the thirteen sustainable issues which are the part of this questionnaire. The poverty is one of the sustainable issues which need the youth involvement to bring a worthwhile change. The model here tries

to test the awareness level of the student on this issue and the extent to which awareness is contributed by the independent variables i.e the course structure, the project(research) and the partnerships(community links) are able to predict the awareness of the student on the issues relating to poverty. The same model is replicated for other twelve issues. These issues are public health, energy conservation, clean and renewable energy, cultural values, cross cultural values, family values, global warming, urbanization, job-retrenchment, entrepreneurship, governance, and gender inequity. These are the improvement in these areas will bring about economic, social and environmental sustainability. So the higher education should consciously imbibe these issues with the academics to bring out the responsible citizens to take up the challenge of the sustainable development.

Objectives of the Study

- To study the awareness level of the students on the sustainable issues
- To analyze to extent to which awareness on sustainable issues is contributed by the academic activities undertaken by the institutes

Methodology

The study is descriptive in nature. The study has been conducted in natural environment without any interference from the researcher. The data has been collected through questionnaire during regular college hours. All the participants were informed of their rights as participants. The questionnaire consisted of the following items which were considered as the area requiring awareness and participation from youth for attaining sustainable development. . The public health, energy conservation, clean and renewable energy, cultural values, cross cultural intelligence, poverty, family values, global warming, urbanization, job retrenchment, entrepreneurship, governance and gender inequity were the items of the questionnaire on which awareness through education was measured. The questionnaire is divided in three parts. The first part contains the demographic details of the respondent. The second part of the questionnaire is for gathering the information about the awareness of respondents about the sustainable development issues. And the third part of the questionnaire is more measuring the effectiveness of the academic activities in raising awareness of the students on creating employability with sustainability. The responses were collected on a Likert-type scale (1=Not at all to 5= A great deal). About 200 questionnaires were distributed. Out of this only 98 were usable questionnaire. The response rate was 49 % only. Participants were given opportunity to express their feedback on the questionnaire. The reliability coefficient of the instrument measuring the awareness on the sustainable issues was 0.8 for 13 items in the questionnaire. The questionnaire consisted of 22 questions. Data is drawn from population of the students who are using the same syllabi, by using probability random sampling. The population comprises of the management graduates pursuing their Masters in Business Administration. The sample size consists of 98 management graduates of post graduate level. The sample consists of 46 female and 52 male students. The unit of analysis is the individual students. Respondents ranged in age from 21 years to 25 years with mean age of 23 years.

Data Analysis

The data analysis is done in two parts. In the first part, the awareness level of the students on the sustainable issues was assessed and in the second part of the study the awareness created by the academic activities on sustainable issues was assessed. The table 1.1 depicts the awareness level of the students on the sustainable issues. The general awareness level is good from 98 students, 47 students were well informed, 26 students had just informed and 17 has somewhat knowledge on the poverty. About 90% of the sample had an average awareness level on entrepreneurship. The level of awareness about the entrepreneurship opportunities is only 21% contributed by the academic activities. The overall awareness among the student about the denigrating public health was 91% (38 students had a good knowledge, 29 students had average knowledge and 12 students were somewhat informed). The

table 1.1 states that overall awareness of the sampled students is above average to good. The table signifies that the awareness level of the students is highest on energy conservation, development of clean and renewable source of energy and global warming. Above 50 percent of the total sampled students reported that they were informed about this issue to a great extent. About 23% to 29% of the total students reported that they were adequately informed about the above issues. About 43 to 46 students reported awareness of a great extent on the values (governance, cross cultural values, cultural and family), gender inequity and poverty. On issues like Job retrenchment, public health and entrepreneurship the awareness was not as appreciable as 29, 24 and 28 students had “somewhat” knowledge on these issues respectively. Otherwise only a 17% to 18% of the total students reported their awareness to somewhat category for the remaining sustainable issues. The table 1.1 reveals that the students have considerable amount of knowledge on the sustainable issues.

TABLE 1.1: AWARENESS LEVEL

	Great deal	Quite a bit	Somewhat	Unsure	Not at all
Poverty	47	26	17	7	1
Entrepreneurship	30	31	28	4	5
Public Health	38	29	24	5	1
Job Retrenchment	27	32	29	4	6
Clean and Renewable Energy	51	26	17	3	1
Energy Conservation	55	29	12	1	1
Cultural Values	43	33	17	4	1
Cross Cultural values	46	34	16	1	1
Family Values	42	24	23	4	5
Governance	46	26	21	4	1
Gender Inequity	46	30	19	2	1
Global Warming	54	23	18	3	0
Urbanization	39	29	23	6	1

H1₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the Poverty in rural India.

H1_A: The academic activities done by the institute makes a significant difference in promoting awareness about the Poverty in rural India.

To test this hypothesis, multiple regression analysis was done. The results of regressing the three independent variables against the awareness about poverty can be seen in the table. The academic activities done under the project area have facilitated the understanding the students towards rural poverty. But the amount of awareness created by academic activities remains 23% only. The first table 1.2 output list R(.510) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.237). The ANOVA values indicate that F is 11.032 at 0.000 level. The Beta under standard coefficients for course, partnerships and project is -.161, .242 and .413. The significance level for t-test for course, partnerships and project is 0.091, 0.000, and 0.014 respectively. About 23.7 % of variance in awareness about the poverty in rural India is explained by three independent variables. It is a good model. Thus, hypothesis 1 is

substantiated. The activities resulting under the partnerships with various agencies have made a significant difference in enhancing the awareness level of the students about the Poverty in rural India.

TABLE 1.2: POVERTY

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.510	0.237	11.032	0.000	.091	0.000	0.014	-.161	-.242	.413

H₂₀: The academic activities done by the institute does not make a significant difference in promoting awareness towards the encouraging Entrepreneurship at the student level.

H_{2A}: The academic activities done by the institute makes a significant difference in promoting awareness towards the encouraging Entrepreneurship at the student level.

To test this hypothesis, multiple regression analysis was done. The results of regressing the three independent variables against the awareness about entrepreneurship can be seen in the table. The first table 2 output list R(.488) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.214). The ANOVA values indicate that F is 9.819 at 0.000 level. The Beta under standard coefficients for course, partnerships and project is .0628, .410 and .122. The significance level for t-test for course, partnerships and project is 0.479, 0.000, and 0.205 respectively. About 21.4 % of variance in awareness about the Entrepreneurship in India is explained by three independent variables. It is a good model. Thus, hypothesis 2 is substantiated. The activities resulting under the partnerships with various agencies have made a significant difference in enhancing the awareness level of the students about the Entrepreneurship in India.

TABLE 2: ENTREPRENEURSHIP

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.488	0.214	9.819	0.000	.479	0.000	0.205	.0628	.410	.122

H₃₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the Public Health in India.

H_{3A}: The academic activities done by the institute makes a significant difference in promoting awareness about the Public Health in India.

To test this hypothesis, multiple regression analysis was done. The results of regressing the three independent variables against the awareness about Public Health can be seen in the table 3. The first table 3 output list R(.426) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.155). The ANOVA values indicate that F is 6.953 at 0.000 level. The Beta under standard coefficients is 4.346 for project which is significant at 0.001 level of significance. Only, 15.5 % of variance in awareness about the public health in India is explained by three independent variables. Thus, hypothesis 3 is substantiated. The projects given to the students have made a significant difference in enhancing the awareness level of the students about the Public Health in India.

TABLE 3: PUBLIC HEALTH

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)

0.426	0.155	6.953	0.000	.069	0.975	0.001	-.182	-.003	4.346
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H₄₀:The academic activities done by the institute does not make a significant difference in promoting awareness to curb the problems arising from the Job Retrenchment in India.

H_{4A} :The academic activities done by the institute makes a significant difference in promoting awareness to curb the problems arising from the Job Retrenchment in India.

To test this hypothesis, multiple regression analysis was done. The results of regressing the three independent variables against the awareness about Job retrenchment can be seen in the table. The first table 4 output list R(.559) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.29). The ANOVA values indicate that F is 14.210 at 0.000 level. The Beta under standard coefficients for course, partnerships and project is -0.019, 0.292, and 0.403. The significance level for t-test for course, partnerships and project is .839, 0.002, and 0.000 respectively. About 29 % of variance in awareness about the Job Retrenchment in India is explained by three independent variables. It is a good model. Thus, hypothesis 4 is substantiated. The project and partnership have a significant difference in enhancing the awareness level of the students about the Job Retrenchment in India.

TABLE 4: JOB RETRENCHMENT

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.559	0.29	14.210	0.000	.839	0.002	0.000	-.019	.292	.403

H₅₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the Clean and Renewable energy activities.

H_{5A}: The academic activities done by the institute makes a significant difference in promoting awareness about the Clean and Renewable energy activities.

To test this hypothesis, multiple regression analysis was done. The first table 5 output list R(.186) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.034). The ANOVA values indicate that F is 1.118 at 0.346 level. Thus, hypothesis 5 is not substantiated. Thus, the academic activities done by the institute do not make a significant difference in promoting awareness about the Clean and Renewable energy activities.

TABLE 5: CLEAN AND RENEWABLE ENERGY

R	R ²	F	Sig-level(F)
0.186	0.034	1.118	0.346

H₆₀:The academic activities done by the institute does not make a significant difference in promoting awareness about the Energy Conservation practices.

H_{6A}:The academic activities done by the institute makes a significant difference in promoting awareness about the Energy Conservation practices.

To test this hypothesis, multiple regression analysis was done. The first table 6 output list R(.200) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.040). The ANOVA values indicate that F is 1.308 at 0.277 level. Thus, hypothesis 6 is not substantiated. Thus, the academic activities done by the institute do not make a significant difference in promoting awareness about the Energy Conservation practices.

TABLE 6: ENERGY CONSERVATION

R	R ²	F	Sig-level(F)
0.200	0.040	1.308	0.277

H 7₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the Cultural Values of India.

H 7_A: The academic activities done by the institute makes a significant difference in promoting awareness about the Cultural Values of India.

To test this hypothesis, multiple regression analysis was done. The first table 7 output list R(.388) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.124). The ANOVA values indicate that F is 5.562 at 0.001 level. The Beta under standard coefficients for course, partnerships and project is .391, 0.024, and .216. The significance level for t-test for course, partnerships and project is 0.000, 0.818, and 0.216 respectively. Only 12.4 % of variance in awareness explained by three independent variables. Thus, hypothesis 7 is substantiated. The course inclusion has a significant difference in enhancing the awareness about the Cultural Values of India.

TABLE 7: CULTURAL VALUES

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.388	0.124	5.562	0.001	.000	0.818	0.216	.391	.024	.216

H 8₀: The academic activities done by the institute makes a significant difference in promoting awareness about the Cross Cultural values required in era of globalization.

H 8_A: The academic activities done by the institute makes a significant difference in promoting awareness about the Cross Cultural values required in era of globalization.

To test this hypothesis, multiple regression analysis was done. . The first table 8 output list R(.079) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The adjusted R² (0.006). The ANOVA values indicate that F is .195 at 0.900 level. Thus, hypothesis 8 is not substantiated. Thus, the academic activities done by the institute do not make a significant difference in promoting awareness about the Cross Cultural values required in era of globalization.

TABLE 8: CROSS CULTURAL VALUES

R	R ²	F	Sig-level(F)
0.079	0.006	.195	0.900

H 9₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the Family Values in India.

H 9_A: The academic activities done by the institute makes a significant difference in promoting awareness about the Family Values in India.

To test this hypothesis, multiple regression analysis was done. The first table 9 output list R(.313) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.06). The ANOVA values indicate that F is 3.398 at 0.021 levels. The Beta under standard coefficients for course, partnerships and project is 0.011, 0.277, and .076. The significance level for t-test

for course, partnerships and project is 0.915, 0.010, and 0.465 respectively. Only 6% of variance in awareness explained by the three independent variables. Thus, hypothesis 9 is substantiated. The partnerships have a significant difference in enhancing the awareness about the Family Values in India.

TABLE 9: FAMILY VALUES

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.313	0.06	3.398	0.021	.915	0.010	0.465	.011	.277	.076

H 10₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the governance issues.

H 10_A: The academic activities done by the institute makes a significant difference in promoting awareness about the governance issues.

To test this hypothesis, multiple regression analysis was done. The first table 10 output list R(.319) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The R² (0.073). The ANOVA values indicate that F is 3.545 at 0.018 level. The Beta under standard coefficients for course, partnerships and project is .033, 0.200, and .180. The significance level for t-test for course, partnerships and project is 0.754, 0.062, and 0.086 respectively. Only 7% of variance in awareness explained by three independent variables. Thus, hypothesis 10 is substantiated.

TABLE 10: GOVERNANCE

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.319	0.073	3.545	0.018	.754	0.062	0.086	.033	.200	.180

H 11₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the problems related to Gender Inequity in India.

H 11_A: The academic activities done by the institute makes a significant difference in promoting awareness about the problems related to Gender Inequity in India.

To test this hypothesis, multiple regression analysis was done. The first table 11 output list R(.393) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The Adjusted R² (0.128). The ANOVA values indicate that F is 5.740 at 0.001 level. The Beta under standard coefficients for course, partnerships and project is -.025, 0.257, and .241. The significance level for t-test for course, partnerships and project is 0.804, 0.014, and 0.019 respectively. Only 12.8% of variance in awareness explained by three independent variables. The project and partnership has a considerable impact on student awareness about gender inequity. Thus, hypothesis 10 is substantiated.

TABLE 11: GENDER INEQUITY

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.393	0.128	.5.749	0.001	.804	0.014	0.019	-.025	.257	.241

H 12₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the Global Warming Initiatives.

H 12_A: The academic activities done by the institute makes a significant difference in promoting awareness about the Global Warming Initiatives.

To test this hypothesis, multiple regression analysis was done. The first table 12 output list R(.434) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The R² (0.162). The ANOVA values indicate that F is 7.253 at 0.00 level. The Beta under standard coefficients for course, partnerships and project is -.160, 0.217, and .342. The significance level for t-test for course, partnerships and project is 0.107, 0.033, and 0.001 respectively. 16.2% of variance explained by three independent variables. The project and partnership has a considerable impact on student awareness about global warming. Thus, hypothesis 12 is substantiated.

TABLE 12: GLOBAL WARMING

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.393	0.162	.5.749	0.001	.804	0.014	0.019	-.025	.257	.241

H 13₀: The academic activities done by the institute does not make a significant difference in promoting awareness about the problems related to Urbanization in India.

H 13_A : The academic activities done by the institute makes a significant difference in promoting awareness about the problems related to Urbanization in India.

To test this hypothesis, multiple regression analysis was done. The global warming is widely debated topic on which awareness needs to be created among the student. But the awareness by the academic activities was only 12% and 16% for urbanization and global warming, respectively. The first table 13 output list R(.385) is the correlation of three independent variables with the dependent variable, all the intercorrelations among the variables are taken in the account. The R² (0.121). The ANOVA values indicate that F is 5.456 at 0.002 level. The Beta under standard coefficients for course, partnerships and project is .042, 0.233, and .225. The significance level for t-test for course, partnerships and project is 0.681, 0.026, and 0.028 respectively. Only 12.1% of variance in awareness explained by three independent variables. The project and partnership has a considerable impact on student awareness about global warming. Thus, hypothesis 12 is substantiated.

TABLE 13: URBANIZATION

R	R ²	F	Sig-level(F)	Sig-level t _(course)	Sig-level t _(Partnership)	Sig-level t _(Project)	Standardized coefficients Beta _(Course)	Standardized coefficients Beta _(Partnership)	Standardized coefficients Beta _(Project)
0.385	0.121	.5.456	0.002	.681	0.026	0.028	.042	.233	.225

Conclusion

The conclusion of this research is listed below.

1. The data on rural India shows that students are very well aware about the problems. The academic activities undertaken in the form of the coursework, community links and research though makes a significant difference but the effectiveness is very low. So the other factors need to be related to academic activities need to be explored or these factors need to be strengthened for explaining the model better. The partnerships and course inclusion can be the improvement areas. There is a big rural urban divide. So these backward areas need to the playground for innovation for the young minds with the enthusiasm to stand as

wealth and job creators. The college should be an agent in the upliftment of the rural people by being a facilitator with the role of exposing and connecting people and ideas.

2. The partnership (community links) has a major contribution in promoting awareness on entrepreneurship opportunities and development. These partnership facilitate networking in form of conferences, workshops and summits to facilitate the exposure on the entrepreneurship avenues. Though course inclusion on this area as a subject and few respective projects as the part of course are present as a practice but these needs to be strengthened in a structured way for increasing the awareness level and creating entrepreneurs.
3. The repercussions of job retrenchment or insecurity are also affecting the emotional and physical health of an individual. The vocational training or incubation lab should be a part of curriculum to deal with the unseen challenge faced by three-fourth of the private sector employees. The awareness is through project followed by the partnership but system of academic activities needs to be developed for searching alternatives so that individuals could lead a secure and healthy life.
4. The awareness related to energy issues are not at all pursued by the current educational set up of management graduates. In spite of good awareness level the educational framework failed to create a significant difference in awareness through academic activities.
5. Awareness about values in three dimensions (cultural values, family values and the governance) is significantly contributed by the academic activities but to a very low extent. More focused things needs to be practiced under the activities in the related area. The imbibing of these values creates a responsible citizen involved in an ethical and clean business activity. The enriched aspects Indian Culture and family traditions should not be the victim of the dynamic social change. The cross cultural knowledge, a very essential need of the present era with a perspective that the student would be part of globalized world in future should be consciously enforced in the form of subject knowledge, projects and partnership areas. So the student should be culturally intelligent.
6. The learning on the gender issue forms the building block of sustainable and developing society. The knowledge and its practice in the business and the social environment should be professed by young generation for creating a sustainable world around. The increasing number of cases of sexual abuse and rape has raised a question mark on the tranquility in the society leading us on an unsustainable path. The acknowledged presence of glass ceiling in the work area again and again and the poor quality of life lead by the women in traditional Indian families need to be improved.
7. The learning about repercussion on the environment as the result of rapid development to accommodate the needs the expanding population needs to be provided to every student in higher education. The economics of rural migration to cities and urbanization should be critically evaluated by the students. The projects and partnerships have promoted learning on this aspects but it should also have a course inclusion as well. But the model is too weak. The academic activities are able to explain the awareness in students to a little extent.

Practical Implication

The academic institutes should not only work with a vision of placing the students and achieving their profit margins. Consistent efforts should be made to bring out responsible citizens. This could be only achieved when the problems of different nature i.e. social, economic and environment are addressed with power of education and mobilization of young minds in the particular direction. Integrated research for designing learning systems and structure to capture the sustainable issues, apart from the curriculum offered in the higher education can be a breakthrough approach for achieving sustainable development of the higher education.

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Designing Effective Systems for Transfer of Learning and Outcome Based Evaluation

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Abstract

It is being increasingly understood that training success depends upon the individual's readiness for training and the degree of organizational support for training. Characteristics of the individual and work environment are important influences, before, during and after the training event. The organization has a definite role to play in influencing the person's career attitudes and beliefs that he or she can benefit or learn from the training. The prime purpose of management development is effective managerial behavior and not just knowledge and attitude. Thus a model that has individual learning as its main focus is flawed as it ignores the key aspects of organizational context. Another key aspect of corporate training around the world is that even today evaluation of training outcomes is one of the least well conducted aspects of training. Evaluation mostly tends to concentrate on input based metrics that are easy to collect as against outcome oriented metrics. Very often evaluation gets trapped into a low level minimalist regime that often delivers little and yet eats up a lot of resources.

This paper relies on responses of 50 UAE based trainers who have been interviewed in depth on this topic. Also case studies of how organizations have designed effective systems to enable transfer of learning in workplace are included. Two before-after experiments were conducted and their results are also included. Evaluation tests carried out by these practitioners in the UAE currently and their suggestions are also included. The data was analyzed using paired comparison and correlation technique. The study is of particular interest to not just training practitioners but also HR departments of organizations.

Introduction

Anyone who wants to understand training and development needs to understand very carefully the nuances of the process of training. A wide gamut of issues and events that take place before, during and much after the training is over. All of these contribute either directly or indirectly to training effectiveness. The prime purpose of management development is effective managerial behavior and not just knowledge and attitude, though these could be significant contributors to effective behavior. Thus a model that has individual learning as its main focus is flawed as it ignores the key aspects of organizational context in which the learning is translated into effective managerial behavior. An early example in this connection was described by Sykes (1962) who studied 97 supervisors who were trained in the principles of participative management. However when they returned to their workplace their senior managers they found had no intention of supporting their participative management style. After a year most of the line managers left the company. Thus, learning and attitudes are necessary but not sufficient. $\text{Performance} = (\text{some function of}) \text{ability} \times \text{motivation} \times \text{opportunity}$.

It is being increasingly understood that training success depends upon the individual's readiness for training and the degree of organizational support for training. Characteristics of the individual and work environment are important influences, before, during and after the training event. The organization has a definite role to play in influencing the person's job or career attitudes and beliefs that he or she can benefit or learn from the training. With the change in business standards and increased business complexities, organizational processes are being changed very frequently. In order to cope with these processes, employee development becomes very crucial and forms an important route to organizational development. Training, exposure to new processes and preparing employees through performance counseling can add to employee development in a significant way. Essentially there needs to be a willingness to

spend on employee development by the employer and willingness to participate in self development on the part of the employees.

Although managers are not often trainers, they play an important role in influencing employees' readiness for training. Motivation to learn is the desire of the trainee to learn the content of the training program. Various research studies have shown that motivation is related to knowledge gain, behavior change, or skill acquisition in training programs. Managers need to ensure that employees' motivation to learn is as high as possible. They can do this by ensuring employees' self-efficacy: understanding the benefits of training; being aware of training needs, career interests, and goals; understanding work environment characteristics; and ensuring employees' basic skill levels. Many managers send their employees to training and seminars without even a clue of what will be covered and how will it benefit the employees and their dept. and how to reinforce what has been learnt.

Individual factors and workplace factors along with the training process complete the circle of factors upon which training effectiveness depends. While individual and workplace factors have been known to influence training effectiveness, even now very little research is carried out in these areas.

There are many instances in the UAE of trainees not being able to implement what they learnt due to issues or constraints in the workplace. Hence post training, it is very important for the organization to provide a congenial atmosphere that will encourage the participants to apply what they learnt. These could be related to resources availability or in some cases to just projecting the right attitude by superiors, subordinates or colleagues.

According to Martin, Harry J, "Human Resources, Lessons Learnt-The key to effective training isn't necessarily what happens in the classroom: It's what you do afterward", teaching employees new skills is one thing and getting them to apply what they have learnt is yet another. Considering that only 10-40% of training is ever used on the job, there is a lot of wastage involved in training. The author feels that the reason for this is that training involves change which in turn creates anxiety. Hence organizations need to create a work atmosphere that actively encourages people to change. Even simple activities like having trainees write down how they use their skills or having them discuss their progress with peers can help. It has been found that such follow up activities led to trainees initiating projects that resulted in substantial cost reductions in some divisions. A conscious effort to measure effectiveness and that too multiple times is required. As each type of training and training situation requires a unique treatment, it may involve some legwork for the concerned people implementing this part to come out with unique solutions. This is where some creativity and coupled with discipline and a passion to make a difference is required along with a detailed knowledge of the business process as well as human psychology.

Most trainers and training organizations in the UAE are busy making the training happen, and feel drained after that. Mostly no pre training evaluation is done thus making it difficult to know if the changes are indeed due to training or some other reason like a change in management policy, or individual attitude etc.

A National survey in UK showed, only 19% of respondents attempted to assess the benefits of training they undertook. It was found that 4 out of 5 establishments in Britain did not make any attempt to assess the benefits they get from undertaking training. . Although US practices seem more advanced, it is worth noting that a report by Carnesville and Schulz for the American Society of Training and Development (ASTD) on the ROI of training also painted a bleak picture. A 1988 ASTD poll found that only 20% evaluated in terms of training's economic effect on the organization. In other words a lot of subjectivity still prevails in the area of training. Thus even in a global sense we have a long way to go in the area of outcome based evaluation of training. It seems that most training depts. world over end up measuring input while on the other hand as investment in training goes up we need to focus on training outcomes and how they reflect on the bottom line. Surely the UAE has a long way to go in this area. The orientation of the HR professionals towards more subjective ways of doing things rather than work with metrics is perceived as a major obstacle.. This is further compounded by lack of long term perspective among professionals in

the UAE.. Metrics rely on information and history of data all of which requires long term commitment by the organization and HR professionals.

Literature Review

This section has been done through my research with online books, journals like Proquest and published research studies in my area. The literature review supports the view that individual characteristics and organizational climate go a long way in influencing training effectiveness. It also shows how training evaluation still remains an unloved activity amongst trainers and organizations,. The suggestions and recommendations made by these studies are included. My literature review also helped me understand that the process of planning for effective training starts much before the event and ends much after the event. This helped me in designing the methodology of my study. (Refer section on methodology below.)

Cascio, F. Wayne () in “Managing Human Resources Productivity, Quality of work life, profits” talking of characteristics of effective training practice, mentions that he found 4 characteristics that seemed to distinguish companies with the most effective training practices, viz.

- 1) Top management is committed to training and development. Training is part of the corporate culture.
- 2) Training is tied to business strategy and linked to bottom line results.
- 3) Organizational environments are “feedback rich”. i.e. they encourage risk taking and afford opportunity to learn from success and failures of decisions. Thus we can conclude from this article that effectiveness of training is a combination of trainer-trainee-organization related factors.

Many companies are undermining the effectiveness of their own training programs because the organizational environment does not support the newly trained personnel. Minton-Eversole, Theresa, (1994) in “Make Training worth Every Penny-On Target Evaluation”, reviews a book by Jane Halcomb. The article mentions that Jane is amazed at how many managers send their employees to training and seminars without even a clue of what will be covered and how will it benefit the employees and their dept. She feels that coaching and counseling is important as a preparatory before sending employees for training as much as it is crucial to reward and reinforce employee’s progress. Also when employees practice new skills it is important to address environmental barriers that may hinder transfer of learning.

Various studies have found that peer and manager support for training is critical. The key factors to success are a positive attitude among peers and managers about participation in training activities; managers’ and peers’ willingness to tell trainers how they can more effectively use knowledge, skills, or behaviors learned in training on the job; and availability of opportunities for the trainees to use training content in their job. If peers’ and manager’s attitudes and behaviors are not supportive, employees are not likely to apply training content to their jobs. Marla Rosner (2003) in “Making Training Stick” feels that sometimes even the best designed programs may falter because of a top- down approach. Both franchisors and franchisees frequently complain that their investment in training does not produce results. The tendency in such cases is to blame the trainer or the trainee. However in reality one needs to analyze how the training was designed and executed and how well the post training reinforcement has taken place.

Geoff, Anderson (1994), in ”A Proactive model for Training Needs Analysis” in Journal for European Industrial Training, Bradford, feels that if training must be integrated into the normal business activities of an organization , it must be both strategically aligned and collaboratively designed. . Much organizational training till date is based on a traditional mechanistic approach to adult training that received considerable support from the 2 world wars

The author mentions that adult educationalist Stephen Brookfield warns that the insistence of traditional training models that training must be outcome oriented and determined from predetermined behavioral objectives neglects the possibility of unplanned learning occurring and the important roles played by insight, reflection and discovery of adult learners. The author feels that we need to challenge the idea that training exists solely for short term economic reasons. To achieve this we will have to approach the development of training strategies in a more holistic manner. This will involve integrating both individual and business needs within a framework which acknowledges all the contributors to occupational competence as well as organizational success. Paton, Nic (2004) in his article ”Money

Well Spent” in Personnel Today says that in a down turn, training is normally one of the things that get cut. The author feels that measuring the effectiveness of training is a somewhat nebulous process. According to this author, the concern is for e.g., how can you show that training has made a difference to the team’s improved productivity. To know this there needs to be a link between business priorities and the way projects are initiated. Learning objectives need to be tied in and demonstrably delivered. Sindell, T. Milo (2002) reviews a book called “How to make smart decisions about training” in an article by the same name, wherein he mentions a concept called CRI – “Criterion Referenced Instruction.” According to the author of the book, Whitmore, Paul CRI focuses on three areas of training:

- Defining and measuring desired outcomes
- Focusing on performance success
- Designing training that reflects the needs of the learner. Here the author tries to put the performance dimension in every stage of training. Special emphasis has been placed on post training follow up to ensure that skills are applied in the right way. Organizations in future need to take this cue and set up appropriate follow up mechanisms to get more value out of training.

Tate, William (2004) in “Applying Learning in Practice” feels that there is an awkward gap between what the learners learn and what happens when they try to apply their learning in their jobs. The gulf between learning and using that learning clearly indicates that the training and development pipe leaks somewhere along its length. Solutions worth exploring are both tactical and strategic. Tactical ones retain their focus on individual learners, seek to improve the efficiency of what is learnt. It seems appropriate to tackle the leak in the system at the individual’s level as well as the organization’s level. There has to be a quantum jump in the number and duration of follow up post training. To look at problems of transfer of learning and to tackle them as and when they occur and use these to develop a sound methodology for evaluating training outcomes.

Rae, Leslie (1999) in her book “Using Evaluation in Training and Development” talks about the criteria for Evaluation. She observes that info on four criteria is essential as a minimum requirement, viz.

- 1) The level of learners prior to learning.
- 2) The level of the learners post learning.
- 3) Confirmation of the effective implementation of that learning.
- 4) Evidence that the implementation changes were a result of that training.

She sums up by saying that we can feel, suspect or guess that the training or learning has been successful but without an evaluative approach we will never know. Phillip , Lewis and Thornhill, Adrian (1994) in ”The Evaluation of Training- An Organizational Culture Approach feel that there seems to be a widespread proposition that evaluation is the least well conducted aspect of all training activities . A recent study of training in UK revealed that 85% of British employers make no attempt to assess the benefits of undertaking training. According to these two authors, evaluation should embrace an organization wide approach that embraces the culture of the organization. Lovell, Kevin (2007) in his article “Getting the Value out of Evaluation” outlines the process for measuring the outcomes of learning. He feels that evaluation has to be outcome focused rather than activity focused. Most evaluation amounts to nothing more than checking reaction. Organizations wanting to do higher level evaluations need to develop a customized approach. In practice most L&D teams are busy with making the training happen.

Bruce, J. Tracey, Tews and Cornell, J. Michael (1995) in their article “Training Effectiveness: Accounting for Individual characteristics and Work Environment” feel that there are certain individual and work characteristics outside the training environment that affect trainees’ preparation for training, knowledge and skills acquisition during training and subsequent transfer of training on the job. The author and his team conducted interviews with 21 training and HR professionals from 10 diverse service sector organizations of varying size to find out what are these external factors. Research revealed the 2 main factors as

- Individual characteristics
- Work environment.

Kirwan, Cyril () In “Improving Learning Transfer” talking of constraints to transfer of learning, the author mentions that high on the list of constraints to effective application is the lack of spare time for practice and development of new skills. This is seen for example in the case of managers returning to work from a management development program, and then struggling to engage in ‘management’ rather than ‘operational’ activity. The author has taken the following observations are taken from an evaluation report around a range of different training and development programs delivered for a medium-sized public service organization. Participants in the survey reported a wide range of organizational factors that helped or hindered them in applying learning. These factors related to manager, peer and organizational support as well as the climate for change within their work environments. This article also lets us appreciate how so many factors have to be controlled after the training takes place so that the training may be effective

Methodology

It was felt necessary through my review of literature to first and foremost begin by testing the attitudes of trainers in the UAE towards various facets of training effectiveness. This was achieved through 50 in depth interviews of prominent trainers in UAE in 2 categories of Corporate training namely, technical training and soft skills training using a structured interview questionnaire administered face to face. Each interview lasted 40 minutes (approx) Their detailed comments and ratings have been captured in the section that follows. A few before/after studies were also conducted by me between 2009-present wherein participants did an appropriate test before the training event, as well as immediately after and were interviewed after 2 months of training to check how they managed the learning transfer process to the workplace. This was done for 60 participants (Asians).

Interpretation and Findings

Major Findings

72% of the trainers interviewed felt that very few organizations did a serious evaluation of training in the UAE. Furthermore 60% responded that evaluations happened sometimes or rarely. It is also interesting to note that only 30% agreed that lack of evaluating was due to it consuming time and resources. On the contrary 50% felt that it was not such a dreaded task after all and one that clients did value. 86% of participants agreed that end of course smile sheets cannot be confused as evidence of learning. 68% of respondents agreed that off late the learning function is being quizzed about its value add to the organization. 94% of respondents felt that evaluation should be tied to the needs assessment process and that it should use a range of tools to be effective. An overwhelming 96% felt that evaluation should be an ongoing process that needs to be done before and after training as well as after a certain time lapse. Most respondents felt that the follow up on training was not at all enough at the moment. On strategic alignment only 60% felt that if training were congruent with business objectives it would be automatically effective. They felt that was just the start of the process of moving towards outcome based training. Also 78% of respondents agreed that modern day evaluation ends up measuring input rather than output.

Qualitative responses

Despite the below satisfactory levels of evaluation of training happening in the UAE, most respondents felt that evaluating training served as a great source of feedback helping the trainer improve his/her performance, content as well as delivery. They said it gave the trainer valuable insights on what worked and what did not in a given situation. They saw training as a dynamic process requiring continuous improvisation. It apparently helped some of them fine

tune their presentation to real time situation. It also helped them deal with a culturally diverse audience sometimes from different levels of management. Homogeneous groups are far more effective to deliver training to but the groups in the UAE currently are a far cry from this.

On the process of evaluation, many respondents felt the need to have a time gap between training and evaluation to allow enough time for the participants to apply what they learnt. They added that a peer review or an interview with the line manager would be an added bonus giving valuable insights on the transfer of learning process. Many respondents strongly urged the involvement of the line manager and felt that evaluating training is better done through a close knit coordination between the line manager and the HR dept. This is so because after the training, the trainer mostly loses contact with the trainee. While some suggested mystery shopping before and after training, yet others suggested using training score card along with performance indicators. This could be developed by the HR dept in coordination with the line manager by linking the KPI's of the individual and his post training performance. However they felt that all this needed high levels of emotional involvement by the managers doing the monitoring. Together with this they also added the need to engrain in the trainees the urge to improve themselves by applying what is taught. It was also opined that currently in the UAE the practice of doing a TNA did not exist except in few cases.

There were wide variations between respondents on the status and nature of evaluation practices in the UAE. They however agreed that evaluation mostly gets done in technical training areas. While in the Government sector a lot of training happens throughout the year, they were more result measurements done in the private sector largely patronized by expatriates, where being result oriented was an essential thing to keep their jobs. Some qualified by saying that evaluation of training happens but in a very adhoc and rushed manner. One of the respondents gave a very valuable insight when he mentioned that since the organizations in the UAE did not view their employees as their assets, training was done more for employee engagement rather than effectiveness. The most often mentioned measurement methods and those they felt would be useful for their kind of training were first and foremost those related to application of learning like feedback from superiors, measuring ability to apply and explanatory tools. This shows an eagerness on the part of the trainers to move towards more outcome based evaluations. This was followed by quantitative techniques which they felt were more suitable for testing technical and skill based areas like project management etc. As mentioned earlier 94% of the respondents felt the need to use a range of tools to evaluate. They felt that using more than one tool helps overcome individual participant differences.. They also added that when you are serious about the evaluation, you need both qualitative as well as quantitative tools. Most of them as mentioned earlier wanted evaluation to be an ongoing process. They felt that this helped ensure right fitment between the participant and the course. Also pre course measurements helped the trainer to understand the level of the audience and he could then fine tune his presentation to that level thereby automatically improving the effectiveness of the course. They also added that evaluations lend a serious tone to the learning activity by giving the respondents a feeling that we mean serious business and you should also be the same. While technical trainers preferred evaluation on site, they also felt that these assessments helped the participants keep abreast of the latest technology in the marketplace and to know where they stand and to continuously improve themselves. While for soft skills, qualitative tools were considered more effective, for technical skills programs quantitative tools were considered more effective. However they added that choosing the right metric was alone not enough. There had to be a sound structure and methodology for measurement.

In order to achieve outcome based training, several suggestions came forth

- 1) By making training a part of the corporate philosophy so that the organization could create a culture where trainees wanted to improve themselves in their work by applying skills and knowledge and the right attitude in the workplace.
- 2) Involvement and commitment of the top management and particularly the line manager was considered an absolute prerequisite.

- 3) They felt that motivation of the trainees and the relevance and context of the training to the trainee ensured outcome to some extent.
 - 4) A thorough understanding of client needs by the trainer was considered an absolute must.
 - 5) The line manager and the HR manager they felt should be involved throughout in the design , development as well as delivery of training. Only then could the training be effective.
 - 6) A proper training needs analysis and identification was considered a must by most of those interviewed.
 - 7) Some felt that linking the training directly to performance on return to work would automatically make the training more outcome based as the trainer and trainee would work towards focused outcomes
- To sum up it was felt that a paradigm shift in the outlook towards training by all concerned was required. Training according to them should evolve into a process starting with needs and ending in effectiveness.

Footnotes

Although the abstract mentions hypothesis testing we encountered some other related issues and had to stop midway to collect some more data. The process is on and if successfully completed as per our estimate should be able to include it in the final paper. The results of the before /after studies are not being presented now as we have finished only those with Asians. The study with Arabs is still on. There have been delays owing to sudden cancellations of training during the recession period. Now the training activity has again started and this data is being collected and collated. If it is ready before the paper is due it could be included as well.

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Endnotes

There are distinct advantages arising out of the evaluation process. However in the UAE most organizations are too busy making the training happen with too little focus on the evaluation component.. The development role of the HR function seems to be underutilized owing to the short term vision of the employers as well as employees. As it is a transitory economy people come here with a short focus and limited perspective. In the UAE most of the training especially in the public sector is done to satisfy the technical requirements of say ISO or other such certifications and hence tend not to be that strategic in outlook.. The potential of training is therefore hidden and unknown to the top management in many cases. UAE needs to develop a strategic vision for training to benefit from this activity.

Training has an important role to play as a motivating tool that can be used by HR and line management to get the desirable benefits. It can be used to help develop a positive attitude in the trainee's mind towards the organization. If handled carefully it can work as a powerful motivating tool. However this trend has not set in so far in the UAE. Training in the UAE tends to be focused on here and now skills – skills that the organization can benefit from rather than the individual in a broader sense. HR depts. and organizations in the UAE need to broaden their vision and move towards more of training of a general nature that will benefit the individual first and then through him the organization. With a slight shift in the outlook of training from short term to long term and from post mortem approach to perspective planning, both individual learning and organizational development can be achieved. Here in the UAE the approach to all business processes including training is short term. UAE needs to seriously shift gears to a different plane wherein much more can be achieved from the training process.

There are significant implications for the training function arising from this study for the UAE and elsewhere.

- People issues are growing in prominence.
- Management is decreasingly seen as a status position, growing number have the authority and require management and interpersonal skills to do their job.
- Organizations are increasingly dependent on self aware, capable individuals and must recognize their aspirations.
- Communication and feedback skills are critical as shared objectives become more important. It is less easy to achieve results through hierarchical control, operation through alliances and coalition is required and appropriate influencing skills are required. As we move towards a flatter organization with taskforces and informal work culture, different kinds of L&D activities especially the soft skills kinds will become more important. Leveraging the complementary skills of culturally diverse and multidisciplinary teams will make training a complex and necessary activity and one that takes cognizance of the changes in the organizational setup in the years to come.

The requirement for reinforcing traditional management principles is replaced by the requirement for the delivery of less specific interpersonal skills to a more amorphous, less acquiescent population. The training manager is himself or herself a participant in the management. In recent times, in the age of mergers and alliances, people are required to be team players. Training also in a way needs to reflect these organizational changes in its content and outlook. The current decade is seeing deep changes in the HR area. This poses a challenge to all working in this area anywhere in the world. Organizations and trainers need to make a strong commitment to evaluate correctly, viz. to evaluate outcomes and not just the training activity which is what the smile sheets do. They need to move to levels 2 or 3 of evaluation rather than being stuck at level 1 which they are in at present. There have to be a complete new branch of activities in the HR dept devoted to post training activities leading to a more proper evaluation of not just

training process but outcomes of training as well. This also needs the line managers and training professionals to work closely and to cooperate with each other. This should be coupled with a system that is transparent. We also need to understand that the attitude of “one size fits all” doesn’t work in setting evaluation methods for training. Each type of training needs to be studied for the desired outcomes and then analyzed and fitted with the best ways of evaluating. This needs to be a customized approach keeping in mind the type of training and the desired outcomes, the type of organization and the type of people getting trained. Consultants or HR depts. working in this area need to be highly experienced to come out with the right methodology for evaluating a certain type of program. We need that all organizations think of evaluation at the Training Needs analysis stage and when planning training itself. It should be an integral part of the training action plan.

In conclusion there are definite pointers for substantial improvements in the training process for organizations in the UAE starting from the training needs identification stage way down to the successful evaluation of training outcomes.

Internationalization of Higher Education in Central Asia

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Abstract

This paper focuses on the Bologna Process and its influence on higher education as one of the tools to increase its quality. Quality of education, which is one of corner stones of the Bologna Process, is multivariate concept, which comprises all its functions and types of academic activities. This research enables the author to make the following conclusions: Central Asian higher education institutions need 1) improved university governance and elimination of corruption, 2) developed infrastructure, 3) integration into the international educational space through building innovative higher education partnerships between American, European, and Central Asian universities, 4) introduction and implementation of the main objectives of the Bologna Process with combination of traditional and international experience. These changes will raise the role of universities as innovative engine and the center of knowledge and effect on internationalization of Higher Education in Central Asia.

Introduction

Today politicians of the most developed countries of the world understand the role and significance of education, considering it as the primary factor of social and economic progress. Maintaining a high education level is the major condition of stable development of any country. Experts of the Organization of Economic Cooperation and Development (OECD) emphasize that basic economic growth long-term rates in the OECD countries depend on the support and expansions of knowledge ... For the last two decades in many OECD countries the real growth of the added value in the sectors based on knowledge has stably exceeded economic growth rates. “The process of globalization accelerates these tendencies ... Comparative advantages of the countries are less and less determined by natural resources or cheap labour. They are more and more determined by technical innovations and competitive application of knowledge ... today, the economic growth is in the same process of knowledge accumulation as the process of capital accumulation.”¹

At present, the higher education in the Central Asian countries (Kazakhstan, Kyrgyzstan, and Tajikistan) is characterized by poor quality of education and a sharp increase of the number of university graduates, while half of them are not employed according to their specialties. If there is a common purpose that links the approaches of Central Asian governments, it is that tertiary education should contribute to the consolidation and modernization of their societies. These three nations had reasonably successful education, using quantitative indicators such as literacy, primary and secondary coverage and research, under the Soviet Union and part of this legacy remains. Yet, that legacy is irrevocably part of history leaving the political elite with the task of creating new educational systems for the new countries. Suffice it to say that such a task is likely to involve challenges that go beyond education to include questions of national identity and globalization with responses – though inconsistent or fragmented – driven by different doses of principle and pragmatism. The three countries have not followed the same model, but there is enough similarity between the problems that they face coupled with their geographical proximity, to compare their different responses. While in all countries the rural population tends to be poorer, it is the size of that population and its opportunities for attending schools that define the educational challenges and which are then transferred as policy options into the higher education system.

The challenges facing higher education in Central Asia

The political and socio-economic transformation process that has taken place in the past ten years in Central Asia has set new requirements for the education sector as a whole. It is nowadays widely accepted that education and trainings are key ingredients for modernizing transition economies and that new forms of organization require higher

level skills and an increasingly flexible labour force. Education is a key instrument to maintain stability and social cohesion, to promote economic growth and reduce poverty. It is also accepted that “knowledge-based” economies demand highly skilled and flexible people. Higher education can contribute to reducing unemployment, social tensions and assisting economic integration. High-quality higher education institutions produce well-qualified graduates with the skills and knowledge needed to meet the challenges of the economic and political reforms and guide their countries to enhance living standards. Higher education is under strong pressure to produce the skills required by the new economic conditions.

Higher education systems in Central Asia are faced with the new challenges linked to the transition process: declining quality, dramatic decline in state spending in education, lack of adequacy to the needs of the labour market, excessive regulation, and reduced access to higher education for the poorer layers of the population. Instead of offering a general and broad education, many universities are still trying to equip students with narrow specialties for which there is no longer a demand in the labour market. There is a general mismatch between the number and profile of graduates and the employment prospects available to them. Political statements give high priority to education, but these declarations sometimes remain unsupported by appropriate funding and proper capacity building and staff development. Most universities are aware that they need to develop a modern perception of their role and mission: the prevailing view is often that their main task is restricted to traditional teaching and scientific research. More attention would need to be paid to the need to educate highly qualified people who will have to meet the quickly changing requirements of the labour market and regularly update their skills and qualifications. Employers are generally not involved in the definition of higher education programmes but most universities realize that they need to develop the entrepreneurial spirit and motivation needed to take part in new partnership projects. The mechanisms to ensure the relevance of higher education to the labour market requirements still need to be developed. Higher education programmes must prepare students for lifelong learning, and provide them with the skills that will help them to cope with future changes. To be able to respond flexibly to emerging demands, universities need to be in constant dialogue with the labour market. Because of the lack of communication between universities and the labour market, the market abounds with specialists for whom there are little demand.

An obstacle to the co-operation between universities and the world of work is, in some cases, the absence of well-developed enterprises that have the capacity to establish partnerships with universities. Co-operating with small and micro enterprises that are hardly surviving is almost impossible. A possible and partial solution could be to rely on networks and associations of entrepreneurs rather than on small and scattered individual enterprises. At a time when the education system needs to react sensitively to market needs, more attention should be paid to partnerships between educators and employers.

Teaching is still too often teacher-centred, with lecture-heavy timetables, memorization of facts, little independent work, and students having to be the passive receptors of knowledge. University managers and teachers realize that still a lot needs to be achieved to train students for active learning, which will help them to find a job in the highly competitive labour market. More attention is now paid to the need to increase the overall quality of education, and become more closely involved with the developments of the Bologna process.

The Role of the Bologna Process

The Bologna process aims at establishing a European higher education area. The Bologna declaration accepted by the Ministers of Education almost of thirty European countries in June 1999 is aimed at the formation of the all-European higher education space and securing leading global positions for European higher education institutions. The given declaration says, “We should thoroughly control the rise of competitive capacity of the European higher education system in the world. Vitality and efficiency of any civilization are evaluated, in fact, by attractiveness of its cultural values, i.e. level of impact on other countries. We should be confident that the European higher education system possesses that level of attractiveness in the world that corresponds to the significance of our prominent cultural and scientific traditions.”²

What did the Ministers who signed the Bologna declaration want?
I think that they were looking for the following three things:

1. To start a process of convergence in the structures of higher education, in its architecture;
2. To consider measures that would build trust between their educational systems or create understanding for a start;
3. To build something that would increase the attractiveness of their higher education systems, which would make them understandable for people to come in from other parts of the world and bring their own experience and their own perspective to Europe.

These ideas are about an external dimension to the Bologna process, and a way of making simpler and more comprehensible structures to bring people in. The Bologna Process was not an easy process for Europe. In almost every country there have been difficulties, sometimes-political difficulties, sometimes difficulties with academics, who do not see why they should change the patterns of teaching that they are comfortable with. Difficulties were sometimes with students who do not see as much security in the new structures as in the old ones.

Therefore, the Bologna declaration proclaimed six basic purposes for the creation of the European higher education zone and the promotion of the European higher education system worldwide, namely:

- Introduction of two cycle trainings (bachelor-master);
- Introduction of credit hours to measure working hours spent by students to study educational programs;
- Introduction of the all-European supplement to diplomas for securing employment possibility for European citizens and increasing competitiveness of the European higher education system;
- Education quality control;
- Expansion of students mobility;
- Securing appeal of the European education system.

The introduction and application of the main aims of the Bologna Process, both at the national and international levels, are an essential condition and effective way to form an open all-European educational space. Today, 81 percent of European countries entered the Bologna system.³

The Bologna process involves the adaptation of a common framework of readable and comparable degrees, the introduction of undergraduate and postgraduate levels, the introduction of credit systems, the promotion of a European dimension in quality assurance, and the elimination of remaining obstacles to the free mobility of students and teachers. Most countries in the region are revising the structure of their higher education degrees, to make it compatible with the recommendations of the Bologna process. Quality is becoming a key aspect of the higher education modernization process, with the development of national standards, the upgrading of certification and accreditation institutions, and the training of local staff on new quality assurance procedures.

The mobility of students is an important purpose of the Bologna Process, which creates a competitive environment for higher education schools. It is the academic mobility of students that enables them to easily move from one university to another during their studies, i.e. the student is not so closely attached to the university where they began studying as they were in the past. Higher education institutions have stopped being a monopolist. The key to the successful maintenance and increase of the number of students at a university is the satisfaction of their demands as consumers of higher education services. Undoubtedly, there will be bigger competition between higher education institutions for maintaining or acquiring new clients. The aspiration of students to receive education of international standards promotes the growth of competition, and this, in turn, stimulates the improvement of the quality of curricula. While analyzing the literature on the Bologna Process, one can see that authors frequently express their reservations saying that the matter is not so much about the quality of education, but about “those mechanisms, procedures and technologies, which secure the level of quality for all high education schools and labour markets that produces trust.”⁴ Indeed, in a situation where universities in the Central Asian countries spring up like mushrooms, the inclusion of a bigger number of countries into the Bologna Process brings about a problem of trust in the diploma i.e. the issue of maintaining some formal minimum quality control rather than a problem of education quality.

So, why have the European countries gone through the Bologna process? I think there are a number of things that are driving it, and that they are important for Central Asia as well. First, it is a capacity issue. The European Union is seeking to give experience to a larger percentage of its population. Some have said that 50% of any age group should have higher education experience. That is an enormous number. And it has certain

consequences. If you want to get 50% of your young people into higher education then you have to ask yourself whether a six-year qualification is appropriate. Whether, that is what individuals actually want. Whether there are actual jobs available for so many people with a six-year degree programme. The answer to both those questions is no. There not such jobs available and it is not what most people want. Most people want a greater degree of choice. That is the second element, because our education systems are moving towards the idea that the individual should have a greater degree of choice. This Bologna structure enables individuals to have more choice. Higher education is desirable, but it does cost money. Putting 50% or 35% or 20% of young people through the process of higher education costs considerably more than giving them the choice to opt out earlier if that is what they want. Finally, the EU wanted to align their education structures to the model that was already quite well understood in other parts of the world. The Bachelor, Master, Doctoral systems have provided a way to make their systems more readable, more understandable, and more attractive. The Bologna process contributes to the development of models of higher education. It develops mutual learning and encourages higher education to contribute to the development of societies, not only in Europe but also in societies elsewhere in the world. It also encourages contacts and links between institutions within Europe and elsewhere in the world. When we develop higher education, we develop society as a whole. If we can create links between institutions, which are already built on links between people, then we will find a way of going forward together, not just in education, not just at universities, but also between the countries of Central Asia, and the countries of the European Union.

The importance of the creation of Education Quality Assessment Systems

Two factors still affecting quality negatively are the lack of quality evaluation and corruption, the latter of which is mainly linked to inducements paid to enter university and obtain diplomas. This practice can only undermine the attitude of students and the value of university diplomas, which are no longer seen as the guarantee of academic standards. A number of initiatives have been taken in the modernization of their higher learning institutions. Most governments are, however, committed to education reforms, stressing the fact that education is an important factor of economic and social prosperity.

Most Central Asian countries have taken up these challenges and initiated ambitious education reforms, developed new policy reforms, and started to redefine the missions of their education system to be in line with the requirements of a modern society. However, initial expectations about the transformation of the educational systems have largely failed to materialize. Higher education legislations are being adjusted to the new socio-economic environment, and strongly influenced by developments taking place in Europe. Each country is of course following its own pace: some countries are more advanced and have heavily invested in education and training; some have less resources to invest the modernization of higher education systems. A lot of emphasis has been put on curriculum reform. There is without a doubt a need to modernize curricula, which are rigid, centrally determined, overloaded, not adapted to the needs of the labour market, inflexible and cover a narrow scope. But curricular reform can only be considered as an entry point for reforms, not an end in itself, it has to be accompanied by the proper structural reforms of the systems. This is a considerable challenge.

The problem of the harmonization of national education quality control systems and development of common approaches has appeared to be difficult to accomplish. Educational systems of European countries have too many differences starting from principles of educational management to aspects, which at first sight do not directly concern higher education (for example, national languages, histories, cultures, traditions in teaching and training).

Fundamental differences have developed in a certain groups of countries, which may be presented as the Anglo-Saxon model and the Continental model. The first model includes the education systems of Great Britain, Ireland and partly that of the Scandinavian countries. They may be characterized by a high level of autonomy of higher educational facilities, independence from government controls and also a significant share of private ownership in the education system. The continental model is used in such countries as France, Germany and the Russian Federation, where state ownership prevails in the education system and educational facilities have limited autonomy with governments exercising centralized financial and academic control.

Many European countries have their own traditions and wide experience in the creation of education quality assessment systems (for example, Great Britain, the Netherlands, and France).

The various assessment models differ in purposes, approaches, methods and assessment results. Other countries (for example, Germany, Italy and Denmark) have just started forming such systems under the influence of the Bologna Process.

In some countries, the main purpose of quality assessment is the perfection of educational processes, for example, in France, Great Britain, the Netherlands and the Scandinavian countries; while in other countries purposes may be assistance to the international recognition of programs (Germany), informing the public about deserving educational facilities (Estonia) comparison with other education facilities and programmes (Great Britain, Latvia) and the establishment of accreditation status (Eastern-European countries, including the Russian Federation).

In European countries, approaches to assessment are also different: it may refer to the assessment of an establishment as a whole (institutional assessment), which has been introduced in the majority of countries of Western and Eastern Europe; or the assessment of separate subjects or directions of an educational establishment. Accordingly, assessment systems have different forms: accreditation, audit and higher assessment.

Results of quality assessment procedures may be both confidential and accessible to the public; recommendations for educational establishments on perfection as well as confidential comments and ratings based on assessment results may influence the financing and confirmation of educational establishments, the change of their status and image promotion.

Due to political and economic changes in Europe, a tendency of the integration of educational systems is observed during the last few years. Higher educational institutions, which have been exposed to comprehensive government control, obtain more autonomy (the continental model), and, on the contrary, in the countries with traditionally weak influence of government control (Anglo-Saxon model) independence of higher educational institutions are more and more limited, but these processes are developing slowly.

Simultaneously, under the influence of the Bologna process, accreditation agencies are created in Germany, Austria, Denmark, Sweden and Italy, and the education quality assessment system is being transformed in other countries.

Thus, today education quality assessment systems have been developed in the majority of European countries. However, the integration process does not come with the challenge to unify these systems. On the contrary, in order to effectively apply accumulated experience and available resources, a network structure has been established which unites bodies responsible for external assessment of higher education quality on a voluntary basis – the European Association for Quality Assurance in Higher Education (ENQA). It was created to develop common approaches and conduct joint research on the integration of educational programmes.

All three countries in CA are ready to develop internal and external quality assessment systems in order to develop relevant national standards. Taking the lack of the relevant experience, knowledge, expertise and methodology in QA into account, many universities are highly interested in learning and implementing the best practices of their European Union colleagues and establishing a network for information exchange and recognition.

Quality of education in CA is a major debated issue nowadays. Despite the efforts from Europe, the United States and Russia in providing instruments of co-operation and reform, quality has depreciated in a number of universities since 1991. The importance of the quality of education is specifically stressed by Ministries of Education.

In Kyrgyzstan at present the system of higher professional education unites 47 higher educational institutions (HEI) including 32 state and 15 non-state institutions, 41 independent structural departments, 16 branches of local HEIs and 10 branches of foreign HEI. The total number of students of all HEIs (full-time, distant, and evening) is 236,900 and the number of educators is 13,500. Recently, the enhancement of higher education quality has been one of the most important problems. Within the system of higher professional education there are systems of state certification (attesting) and licensing carried out by the state authority – the State Inspection on Licensing and Accreditation under the Ministry of Education and Science of the Kyrgyz Republic. However, the methods of quality assessment used by this public body are more quantitative than qualitative, lacking the characteristics of an internal system of checking the quality of specialists. As a result, the present external system of QA does not motivate HEIs to establish essential valuable internal systems of quality insurance. Universities are

obliged to introduce QA departments. However, a strategy on improving the quality of education does not exist. This initiative as well as lifelong learning is to be addressed in a new frame of alignment with the Bologna process. The system of government financing has improved dramatically since the introduction of the National Testing System in 2002. The idea is that the system administers a universal admission test in all regions of the Kyrgyz Republic, which is free of charge and is open to all perspective students (high school graduates) willing to apply for a government scholarship supporting their studies. Top scorers are awarded government scholarships (as well as stipends). Before, universities were allocated quotas by the government and independently distributed their shares of government scholarships. Despite the fact that the former system was highly criticized for discrimination, corruption, and ineffectiveness, the National Testing System improved the access of young people from remote districts to free education.

Another latent issue in the world of higher education concerns accreditation. Although the National Strategy for Higher Education Development assumes the creation of accreditation bodies, independent from the government, Kyrgyzstan has never had independent accreditation. There has been a debate about it since 2001, however, nothing has been done to promote independent accreditation yet. The respondents of social surveys have stressed the importance of establishing a branch system of quality insurance of higher professional education, which would be based on common methodological approaches. They also have underlined the necessity of arranging experimental bases to work out and implement the system of quality management on the basis of HEIs and academic and methodological unions. However, there is no methodology on establishing such systems in the national system of higher education at the national or HEI level. At present, HEIs have to work out such systems independently. This outcome turns out to generate financial and time expenses.

Thus, we can observe that the problems preventing the process of implementing the systems of quality insurance in HEIs in Kyrgyzstan and CA are linked to the lack of methodology on establishing the system adopted to the national educational standards; the lack of specialists authors; the lack of financial means and, above all, the lack of knowledge of top managers in the field of quality management in addition to underestimating the practical benefits of implementing the systems of quality management in HEIs.

One of the most important concerns is that curricula in most universities suffer from overloading and an irrational allocation of classes. In many respects they remain poorly structured and do not reflect students' needs. In principle, most existing curricula have not been adapted to the expectations of potential employers at all. With the exception of economics, business, and few others, courses are taught in the same manner as at the beginning of 1991. The contents of courses have undergone little change. As I mentioned before, the labour market and the educational services are in many respects isolated from each other. The existing state educational standards are too rigid and do not allow new approaches to developing academic programs. It is worth mentioning, that the Ministry of Education and Science is flexible and often recognizes academic programmes that although do not conform to state standards, bear real market value. At a time of widening relations with European HEIs, and high desire from students to get a diploma recognized worldwide, HEIs are motivated to establish independent accreditation structures and an external system of quality insurance. This fact has been testified by numerous projects in the data field realized by HEIs and NGOs of the Kyrgyz Republic. Therefore, in 2007 the Education Network Association together with the Ministry of Education and Science of the Kyrgyz Republic and by support from "Soros-Kyrgyzstan" Foundation implemented the project "Higher Education Reforming of the KR" realized by the consortium of HEIs of Kyrgyzstan, Italy and Slovakia on establishing quality departments in HEIs of Kyrgyzstan.

Despite some national specifics, the introduction of contemporary quality assurance systems has many common characteristics within the Central Asian countries. The currently existing traditional systems, methods and criteria of quality assessment and control do not satisfy higher education in most countries of Central Asia. All countries highlight their openness and intention to orientate their higher education system towards European frameworks and standards in QA in particular those set by ENQA, adapted to the specific characteristics of national systems.

In Kazakhstan, great efforts have been made in recent years to reform Kazakhstan's education system to meet the needs of a modern competitive economy. This review considers how far these efforts have succeeded, and what still needs to be done in the higher or tertiary education sphere.

A National Accreditation Center (NAC) has been created by the government of the Republic of Kazakhstan. The mission of NAC is to conduct institutional and specialized accreditation of HEIs, the notification, and recognition of certificates; to make contribution to the development of higher education quality. Today in Kazakhstan the main objectives we can cite include the realization of a programme, according to which Kazakhstan would be among the 50 most competitive countries of the world; the implementation of an accreditation model harmonized with international quality assurance practice; and the approval of the high standards of the quality of education of Kazakhstan, developing educational programmes to increase the competitive capacity of the national system of higher education.

In Tajikistan the reformation of the educational system in general and higher education in particular is under way and the country faces many difficulties relating to its demographics, the financing of the education system, the insufficiency of the legal-normative framework, the conditions of transition to the market economy. The Ministry of Education of Tajikistan has worked out the main priorities in reforming the Higher Education in the Republic of Tajikistan (Strategic Directions of Long-term Reforms of Educational System of Tajikistan for 2004-2015). The strategy identifies education quality enhancement as one of the key priorities. Other crucial strategies are to provide transparency and efficient management in the education and to introduce credit technologies.

For Tajikistan, the emphasis is put on the development of a framework for qualifications.

In general, there is a crucial need in all CA countries for the creation and development of quality assurance systems to enhance the quality of education. Quality enhancement, in higher education in particular, has become official policy declared at the government level in most CA countries. It is included in the country development strategies and is one of the national priorities set up by Tempus for Kyrgyzstan and Tajikistan. Our key focus is on the development of national QA systems (internal and external level to get recognition and accreditation). However, the present challenge of QA system development in CA is that we can find it at different levels across countries. There were several initiatives in CA in the enhancement and assessment of the quality of education with some different approaches and in different areas. These initiatives offered systematic work at the national level and inside universities except for Kazakhstan where the National QA Centre was set up under the Ministry of Education and some legislative basis for the accreditation and QA was developed. In the other CA countries some projects and initiatives formed the basis for the future systematic work at the national and later on at regional and international levels. For instance, in Kyrgyzstan research and preparation work for the development of internal QA system model has been started by the Education Network Association with the support of the Ministry of Education and international partners. In Tajikistan there were several projects that covered some parts of QA but not systematically. In Turkmenistan there is not any information about such initiatives. An important fact is that the levels of QA system development in Central Asian countries are quite different, another one is that a joint Tempus project is being implemented with Central Asian HEIs, hopefully creating adequate and sustainable internal and external QA systems at the national levels and providing exchange and recognition within the network. Despite the fact that the recognition of accreditation agencies and their co-operation with national authorities is yet to come, we believe that the Central Asian Network of Quality Assurance will lay the foundations for an accelerated process of the independent accreditation and recognition of studies and quality assurance by non-governmental agencies.

Conclusions

For many Central Asian higher education schools, particularly for the institutions of Kyrgyzstan, Tajikistan, and Kazakhstan, transition to the Bologna Process represents a number of difficulties connected with the imperfect material base and equipment, the shortage of textbooks and manuals and the low salaries of the teaching staff. The condition of libraries does not correspond to current standards. The old Soviet higher education model is used, which is characterized by the all-embracing role of the government in the education system, an authoritative approach to humanities, a huge choice of various programmes and universities without the guarantee of quality, the lack of critical and independent thinking in humanities, and corruption. Such higher education institutions do not provide quality education, and there is not any demand for such graduates in the labour market. However, those higher education institutions (Kazakhstan, Kyrgyzstan), which have experience in the introduction of the western educational models, can gradually adopt the basic tools of the Bologna Process, for example the introduction of the

two-cycle trainings (bachelor – master), a system of credit hours such as the ECTS (European Credit Transfer System) and others. In our opinion, other universities and colleges of Kyrgyzstan should also progressively transfer to the Bologna process via a pilot scheme as new conditions for the educational process are created that correspond to the international education quality standards.

The inconsistency of the quality and credit systems of Kyrgyz higher education institutions is a significant problem. At present, the majority of lecturers and members of Kyrgyz universities and colleges are not aware of the role of credit hours (such as ECTS) or the principal directions of the Bologna Process. The author believes that it would be advisable to hold a series of seminars, trainings, round-table discussions and international conferences for representatives of universities and colleges to raise their awareness among representatives of universities and colleges the principal directions of the Bologna Process not just in Kyrgyzstan, but also in the whole Central Asian region.

The Bologna Process plays a significant role for higher education schools as it ensures that higher education and scientific research systems will continuously adapt to the changing needs and demands of society and to the necessity of scientific knowledge development. In the near future, this process, as one of the tools for improving the quality of education will promote the increase of international competitiveness of the higher education institutions of Central Asia.

Thus, it is important for higher educational institutions to create favourable conditions for their transition to the European system of transfer of credits, to improve and introduce modern models and methods of university management in the area of the organization of educational processes, personnel administration, financial management and the planning of activities of educational institutions. This research enables the author to make the following conclusions: Central Asian higher education institutions need 1) improved university governance and elimination of corruption (transparency, student's participation in decision-making, creating institutes of independent accreditation agencies), 2) developed infrastructure, 3) access to the European and American electronic libraries and appropriate and sustainable technology, and information, 3) integration into the international educational space through building innovative higher education partnerships between American, European and Central Asian universities, 4) creation of successful models of public-private partnerships, 5) introduction and implementation of the main objectives of the Bologna Process combining traditional and international experience. These changes will raise the role of universities as the innovative engines and centres of knowledge and effect on internationalization of Higher Education in Central Asia.

They will also promote the role of the higher education as a crucial factor in national and global economic development. In fact, maintaining a high educational level is the major condition of stable development in any country.

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Medical Tourism Growth Market or Hype?

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Abstract

Medical tourism is a vivid discussed topic within not only the healthcare industry, but also the media. Reports about US patients traveling to India for orthopedic surgeries, or British housewives traveling to South Africa for plastic surgery combined with attending a safari are omnipresent in the media. Moreover medical tourism is frequently regarded as a chance for emerging countries like India to establish an industry providing growth and wealth for future generations.

However subliminal doubts in how far medical tourism is really a prospering market do exist. Especially the economic potential which used to be described as a source of endless economic growth seems not to be that reliable. Also the surgery and safari stories do not seem al-ways substantiated.

Yet critical voices start to assume that there is not only a great potential for growth but also for hype. Furthermore doubts concerning patients' real motivations do arise, nourishing skepticism about their attitude towards medical tourism.

Therefore my paper aims to investigate, whether medical tourism is a growth market or hype.

Introduction

Medical tourism is said to be one of the fastest growing and most lucrative forms of tourism, as people travel internationally to gain access to medical care.

In 2003 there were 350.000 medical tourists, by 2010 that number grew to 6. Million and by 2017 the number is expected to grow to 16 Millionⁱ.

Quite similarly Deloitte states that in 2007, 750.000 US patients traveled to foreign countries in search of medical care. In 2008 the number is seen as high as 1.500.000 implicating a growth rate in the amount of 100% and growing on an identical basis with a number in the height of 3.000.000 US medical tourists in 2009, 6.000.000 in 2010, 7.500.000 in 2011 and so on with estimation for 2017 in the height of 15.750.000 US medical tourists in 2017ⁱⁱ.

McKinsey however names a number in the amount between 60,000 and 85,000 US patients per yearⁱⁱⁱ. McKinsey's smaller number is caused in part by its strict definition of medical tourists: "people whose primary and explicit purpose in traveling is medical treatment in a foreign country." McKinsey does not count people who receive emergency care, who travel for massages or acupuncture ("wellness tourists"), expatriates who live in foreign countries, nor those who travel to nearby locations for the closest available care^{iv}.

The report does say that there is a huge potential for growth in medical tourism, particularly for those who travel for lower-cost care. It points out that an aortic valve replacement costs more than \$100,000 in the United States, but about \$38,000 in Latin America and \$12,000 at in Asia^v.

Literature Review

In the current economic crisis these growth rates sound almost gorgeous, however voices raise that there might also be a certain potential for hype^{vi}.

A key for such predictions seems to be certain *ceteris paribus* attitude, since issues like terror attacks, outbreaks of diseases such as the flu, or tense political situations like riots in one of the third world medical traveling destinations do not seem to play any role at all.

The 9/11 attacks for instance, led to a significant shift within the US as a medical tourism destination for Middle Eastern patients. Since obtaining a visa for a treatment in the USA was more than difficult or almost impossible for patients from Middle Eastern countries, led to the fact, that these patients started to travel to Thailand^{vii}. Also the flu has a high potential to have an impact on medical tourism. Since the almost annually repeating news about the flu outbreak in its variety of forms in Asia tourists and naturally medical tourists are likely to have a severe impact on medical tourism^{viii}. Also a change in the political situation has the potential of being vital for a medical tourism location. The countries of the Middle East were regarded as a new hot spot for medical tourism^{ix}. Contemporarily however the medical tourism activities in some of the Middle Eastern countries seem to collapse.

Since most of the studies seem to describe medical tourism as a story of constant growth, and neglect a variety of facts that have a great potential to influence the growth in a very negative way, one can have a doubt in how far the topic is thoroughly investigated, and is likely to be a sort of hype. A contemporary study states, that the number of US medical tourists can be counted in thousands and not in millions^x.

By the end of 2008, the researchers conducted a telephone and email survey of businesses engaged in facilitating overseas medical travel for US residents. They collected information from each company included the number of employees, number of patients referred overseas, medical records security processes, destinations to which patients were referred, treatments offered, treatment costs, and whether patient outcomes were collected. 63 medical tourism companies were selected for inclusion and 45 (71%) completed the survey^{xi}.

The 45 companies involved, had referred an average of 285 patients overseas since start up. The survey recorded a total of approximately 13,500 US medical tourists in total for all 45 businesses since they started in business. The most common overseas countries that companies reported referring patients to were India, Costa Rica, and Thailand though many other countries were mentioned less frequently including Malta, Israel, Spain and Germany^{xii}. The most common medical services utilized by overseas medical travelers were orthopedic procedures, cardiac procedures, infertility treatment, and cosmetic surgery^{xiii}. The authors highlight the significant difference between their grand total of 13,500 US medical tourists travelling via 45 medical travel facilitators and the number of articles, studies, and reports that have suggested an amount between 500,000 and 2,000,000 Americans traveling overseas each year for medical care^{xiv}.

As a conclusion of their efforts, the authors of the study propose, that estimates of much larger US medical tourists numbers were provided by parties with personal and/or financial interests in the overseas medical travel market^{xv}. The study however did exclude Americans traveling for dental care, as well as foreign medical tourism facilitators. Nevertheless they point out that even when patients from group 2 and 3 above are factored in, the market may be somewhat smaller than prior studies have estimated. They also point out that two years after conducting the interviews, 15.6% (7 of 45) of companies that completed the initial interviews no longer had functioning websites and thus were presumed to no longer be in business^{xvi}.

Despite the both limitations like excluding the dental treatment and the neglecting of non US medical tourism facilitators the study is still very important. Even in case the “missing” patients from both groups are mingled into the study, the annual outbound medical tourism patient numbers for the USA are perhaps in the region of 100,000 to 200,000 at best, rather than the millions that have been mooted elsewhere^{xvii}.

Conclusion

These facts lead inevitably to the conclusion, that medical tourism is an existing phenomenon with a very high potential for hype. Especially the large gap between the amounts of traveling patients must not be neglected. The fact, that this study despite its flaws unveiled some fundamental truths and facts about medical tourism and its potential for hype is evident.

Hence, further research about the fundamentals of this topic is necessary in order to create a reliable basis for any related activity, no matter if it is related to scientific or economic activities.

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Effectiveness of Health Related Public Service Advertising Campaigns

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Abstract

Health Related campaigns are much talked and less researched area in Indian advertising. Being Public sector driven there is inadequate research regarding its worth and effectiveness. Neither scientific need analysis is carried out before launch of the campaign nor its effectiveness judged after launch. Sincere efforts to judge effectiveness and impact can lead to improvement in message to be communicated and increase its acceptability and effectiveness. Efforts to judge effectiveness can put best use of public money as millions are spent on such campaigns every year by the government. Most of the advertisers rely on advertising agencies inputs which often lack research and are driven by gut feel. The basic premise of this study is to judge effectiveness of Health related Public Service Campaigns run by govt. Three widely advertised campaigns were selected for the study. The campaigns selected were related to TB, Malaria and AIDS ailments. To Measure effectiveness a questionnaire consisting of open and close ended questions was used. The questionnaire included scale developed by-Leavitt, Clark. (1970). "A Multidimensional Set of Rating Scales for Television Commercials", Journal of Applied Psychology, 54, 427-429, to judge effectiveness of advertisements apart from other open and close ended questions regarding use of celebrities and other executional aspects of the advertisements. The comprehensive scale gives effectiveness of Advertisements using Forty Five items. The study collected responses of 150 viewers of advertisements regarding effectiveness of the campaigns and advertisements. The data was then subjected to suitable statistical analysis to find difference in perception of different demographic segments regarding effectiveness of advertisements and the campaigns. The analysis reveals perception of respondents towards the advertising campaigns and provides suggestions to the stakeholders for improving the effectiveness. The campaigns are to the great extent successful in raising the awareness regarding the said diseases and its preventive measures. Celebrities were found to be highly effective in increasing the overall effectiveness. The advertisements were found to be informative by the respondents.

Keywords: Advertising Effectiveness, Public Service campaigns, Consumer Perception, and Consumer Segments.

Introduction

The flurry of advertisements associated with public service campaigns raises several questions regarding its worth and effectiveness. Public service advertisements (PSA) or announcements are promotional material that addresses problems assumed to be of general concern to citizens at large. PSA typically attempt to increase public awareness of such problems and their possible solutions, and in many instances also try to influence public beliefs, attitudes, and behavior concerning them (O'Keefe, 1990). Most of the PSA deal with health of personal safety topics, including alcohol and drug abuse, preventive health care, traffic safety, nutrition etc. Some PSA also include environmental issues, educational and literacy issues, consumer issues, and general humanitarian concerns like hygiene and cleanliness issues. Mass media audiences are generally attentive and give positive reactions to such advertisements.

Healthcare in India is the responsibility of constituent states and territories of India. The Constitution charges every state with "raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties". The National Health Policy was endorsed by the Parliament of India in 1983 and updated in 2002.

Health related public service campaigns are the advertising campaigns that are run by the government to create awareness among public about diseases which are very dangerous. The Government of India has introduced various health programme and policies to improve the Indian citizen's standard of living. Government chooses

number of mediums to reach to the masses. For this the government uses television, newspaper, hoardings and radio. Sometimes rallies are also organized to create awareness among people. The example of these kind of campaigns are AIDS awareness campaign run by the government under the banner of national AIDS control organization (NACO), Campaign for tuberculosis, malaria and polio are other examples. Sometimes famous celebrities are taken in the advertisements to create more impact.

The study has been undertaken with an objective to measure the effectiveness of health related public service advertisement campaigns which are run by the government of India. The study included three campaigns which are malaria, tuberculosis and AIDS,

Over the years, an increasing level of insecticide-resistance has developed in the malarial vectors in many parts of the country, while the incidence of the more deadly P-Falciparum Malaria has risen to about 50 percent in the country as a whole. In respect of TB, the public health scenario has not shown any significant decline in the pool of infection amongst the community, and there has been a distressing trend in the increase of drug resistance to the type of infection prevailing in the country. A new and extremely virulent communicable disease – HIV/AIDS - has emerged on the health scene. As there is no existing therapeutic cure or vaccine for this infection, the disease constitutes a serious threat, not merely to public health but to economic development in the country also. (NHP 2002)

Literature Review

Public service advertising (PSA) campaigns are widespread around the Globe. Public service announcements are a type of advertising, sponsored by either government agencies or other organizations, to promote causes and activities generally considered socially desirable (Garbett, 1981). PSAs use paid as well as donated media for creating awareness for social issues. Such advertising is generally produced and distributed on a cooperative basis by governmental agencies or nonprofit organizations working in cooperation with private advertising and mass media companies. Generally the content or programming, while the participating advertising agency and media companies provide creative services, media planning and dissemination services on a not for profit basis. Studies have found no distinction in the effectiveness with the either type of media. Based on self-reported behavior from sample surveys and official counts of incapacitating and fatal highway accidents, in three market field experiments comparing the effectiveness of Paid versus Donated Media in decreasing youth male drinking and driving, the study found both type of media strategies to be equally effective (Murry Jr., 1996). The placement of PSAs has long been debated and earlier studies reveal that most of the PSAs were being placed during non-prime time especially between 7am to 6pm on weekdays (Hannmen et al, 1973). However recent analysis of advertising pattern indicates more favorable time distribution. Same pattern has been observed in India also.

In a study to explore effects of message framing of health advertisements and individual differences in temporal orientation on consumer risk perceptions, attitude, and behavioral intentions, Consumers' temporal orientation moderates ad-framing effects related to goal pursuit strategies. The study demonstrates that a "fit" between a goal pursuit strategy (GPS) manipulation in the ad and consumers' chronic regulatory focus increases the effectiveness of the advertisement, but the regulatory fit effect is moderated by temporal orientation (Kees, 2010).

Exposure to the PSA had no discernible effects on HIV-related knowledge, but did affect perceptions. Compared with an unexposed control group, students exposed to the PSA estimated seeing more HIV- and AIDS-related PSAs and rated the usefulness of TV PSAs lower, at the same time were more likely to rate their chances of contracting HIV as low or none. The respondents expressed less desire to obtain more information. The use of an all-mnemonic phone "number" resulted in a threefold increase in recall of the CDC National AIDS Hotline phone number, but did not affect intentions to call. Overall, the results reaffirm the importance of deploying strategies that go beyond reliance on either a single PSA or TV PSAs alone to affect knowledge, perceptions, or intentions (Nowak, 1993).

A study to judge effectiveness of PSAs found that it is necessary to conduct empirical research to determine the critical variables influencing a given behavior also there is a need to critically evaluate the potential effectiveness

of a given PSA. As all PSAs might not be equally effective and some even might have negative effect. To be effective the PSA need to provide new information and perceived as realistic (Fishbein, 2002).

Public service campaigns are often developed without prior assessment of target audience felt needs and perceptions; audience are not segmented into subgroups indicated by these characteristics, and message and material development proceeds without pretesting the effect of such factors as message clarity, appeals or presenters with target audience (Bratic, 1981). Although testing message in pre-finished form, the producer can identify and correct, potential weaknesses and corrections would be time and budget affordable. In absence of a standardized Health message testing service, effectiveness needs to be checked through post testing. Studies like this one can offer implications for theory, as well as for creators of public service advertising campaigns. North Coast Area Health Service (NCAHS) conducted a seven week television advertising campaign to raise community awareness of the availability of free adult pneumococcal vaccination and to increase coverage among North Coast residents. Effectiveness of the campaign was evaluated by examining vaccine ordering patterns of North Coast vaccination providers keeping previous year as a base. In the months during and immediately following the advertising campaign, a significantly higher proportion of vaccines were dispatched to North Coast immunization service providers (Wallace, 2008). An intervention approach using culturally sensitive mass media messages to enhance protective beliefs and behavior of African American adolescents at risk for HIV is suggested by Romer, 2009. This approach exploits the potential that mass media messages have and engages the most vulnerable segments of this audience to reduce HIV-associated risk behaviors. This study provides further evidence that if a media campaign achieves high exposure and is developed on the basis of careful formative research; it can be an effective HIV-prevention tool for reaching high-risk youth within communities that need them the most. PSAs containing strong verbal claims are rated as more effective than those with weak claims. Arousing messages with weak claims are perceived as least effective. Surprisingly in this study increasing claim strength increased memory for negative but not for positive messages. It is suggested that the combination of intense emotional appeal and weak claims may be partially responsible for the boomerang effects in antidrug campaigns (Lang, 2008). In a study to investigate the consequences of using national celebrities, local celebrities and disaster victims as spokespersons in a public service radio announcement (PSA) soliciting contributions for victims of Hurricane Katrina, it was found that the hurricane victim was the most credible and believable spokesperson. The national celebrity, Ashlee Simpson, was the least credible and the least believable. The local celebrity was more credible and believable than the national celebrity, but no more so than the hurricane victim (Toncar, 2007). No studies were found in Indian context regarding effectiveness of PSA. An attempt is being made to explore this area through this empirical study.

Research Design

A. Research Objective

To Study the effectiveness of Public Service Awareness Campaigns in diseases such as Malaria , T.B. & AIDS.

B. Methodology

The present investigations were descriptive in nature with survey being used as the major research approach. The study used survey method of obtaining information, which is based on the interrogation of respondents through a structured questionnaire.

C. Scope of the study

Being self-funded the study was confined to Ahmedabad city of India. The city is one of the most important urban centers of country and represents diversity of India.

D. Sampling Plan

The Population: The study is carried out in Ahmedabad city of India. The total urban population of city becomes population for the study.

Sampling Unit: Sampling units for the study is individual. From the above population, all the respondents who have seen any of the selected advertisements for the study were defined as sampling unit for the purpose of the study.

Sampling technique: Non probability convenience sampling was used. Care was taken to make the sample representative of the actual population.

Size of the Sample: Respondents for the study were 150.

E. Instrument for data collection

For data collection a survey using a structured questionnaire was conducted. To Measure effectiveness a questionnaire consisting of open and close ended questions was used. The questionnaire included scale developed by-Leavitt, Clark. (1970). "A Multidimensional Set of Rating Scales for Television Commercials", Journal of Applied Psychology, 54, 427-429, to judge effectiveness of advertisements apart from other open and close ended questions regarding use of celebrities and other executional aspects of the advertisements. The comprehensive scale gives effectiveness of Advertisements using Forty Five items with eight dimensions like Energetic, Amusing, Personal Relevance, Authoritative, sensual, Familiarity, Novel and Disliked.

Results

Recall of the advertisements

Advertisement of AIDS was highest watched followed by TB and Malaria.

Suitable Media

Best suited media for creating awareness through PSAs was found to be Television followed by Print. Road shows or rally were not found to be very effective media for communicating health related social issues.

Impact of Celebrity/ Religious leaders

People strongly agreed to impact of Celebrity and Religious Leaders in creating awareness through PSAs (Mean 3.84). In terms of source credibility i.e. effectiveness of Celebrity endorsers in PSAs, Mean score for Attractiveness (4.50) was highest followed by Trustworthiness (3.93) and Expertise (3.61). It implies that popular celebrities are helpful in drawing attention of masses towards the campaign. Merely appearance in the advertisement increases the recall of the advertisement and thus increasing effectiveness of PSA.

Useful Information Communicated by the campaign

As evident from high mean score (3.37), people do believe that they gain useful information from the PSAs.

Effectiveness of Advertisements

To judge the effectiveness 45 item Levitt's reaction profile was used. The scale has eight dimensions giving effectiveness of the advertisements. Responses were collected on a 5 point scale where 1 indicated does not fit and 5 indicated fits extremely well. The scores for last dimensions were reverse coded to judge overall effectiveness of the advertisements. As can be seen scores for personal relevance, familiarity and disliked (reverse coded) are higher. Thus it can be inferred that the respondents find advertisement to be meaningful and relevant as well as they have seen those advertisements many times indicating familiarity with the advertisements. The score for Disliked dimensions were high (reverse coded) indicating people liked the public service advertisements.

TABLE 1: EFFECTIVENESS OF PUBLIC SERVICE ADVERTISEMENTS (LEVITT'S REACTION PROFILE)

Effectiveness of PSA			
Dimension	Mean score		
	TB	Malaria	AIDS
Energetic	2.48	2.58	2.62
Amusing	2.52	2.43	2.46
Personal Relevance	3.43	3.36	3.46
Authoritative	2.74	2.73	2.85
Sensual	2.53	2.61	2.76
Familiarity	3.10	3.09	3.27
Novel	2.88	2.80	2.82
Disliked	3.65	3.61	3.60
Overall Mean	2.90	2.89	2.96

Factor Analysis:

There are two preconditions for running factor analysis. They are measure of sampling adequacy should be greater than 0.5 and second being determinant value should be non zero. For all the factor models ran as mentioned in table 1, both these conditions are satisfied.

TABLE 2: ALTERNATIVE FACTOR MODELS

Scale	Number of factors	Factor Model	Explained variation
	Number of factors		
TB	12	$e > 1$	76%
TB	08	Eight factors	66.7%
Malaria	12	$e > 1$	75.9%
Malaria	08	Eight factors	65.5%
Aids	12	$e > 1$	76.11%
Aids	08	Eight factors	65.5%

TB

By factor analysis, it is inferred that when we solve for eight factor solution, we are able to deduce eight factors like energetic, mix of amusing and novel, personal relevance, authoritative, sensual, familiarity & disliked factors. When we solve for eigen value greater than one, we deduce 12 factors. The factor structure for eight factor solution is more clean compared to eigen value greater than one solution. But, it is less precise than provided by the scale.

Malaria

Factor analysis was conducted and eight factor solution had a better fit compared to eigen value greater than one solution. The factors deduced from eight factor solution are namely, mix of amusing and dislike, novel, sensual, authoritative, familiarity, energetic, personal relevance & a mix of personal relevance & authoritative dimensions.

Aids

Factor analysis was conducted and eight factor solution had a better fit compared to eigen value greater than one solution. The factors deduced from eight factor solution are namely, Mix of energetic, Sensual, Disliked & Amusing, Energetic, Authoritative, Mix of familiarity & Novel, Personal Relevance 1 & Personal Relevance 2.

Difference in perception of respondents of different demographic segments regarding effectiveness of public service advertisements

As can be seen from table 3, we can infer that for disease TB, the difference in scores for amusing and personal relevance dimensions of Leavitt’s reaction profile scale for respondents across different income levels is statistically significant at 0.05 level of significance. Also, the difference in scores for energetic, amusing, authoritative, sensual, novel and disliked factors of the scale for respondents of different age brackets is statistically significant at 0.05 level of significance. The difference in scores on energetic, amusing and disliked dimensions of the scale is statistically significant for male and female respondents.

Similarly from table 4, we can infer that for disease Malaria, the difference in scores for personal relevance dimension for respondents across different income levels is statistically significant at 0.05 level of significance.

Also, for disease AIDS, the difference in scores for personal relevance, energetic, amusing, authoritative, sensual, novel and disliked factors for respondents of different income levels are statistically significant. The difference in scores on energetic, amusing, personal relevance, sensual, novel and disliked factors for respondents of different age brackets are statistically significant. Also, the difference in scores on energetic, amusing, personal relevance, novel and disliked dimensions for male and female respondents are statistically significant at 0.05 level of significance.

TABLE 3: ANOVA RESULTS FOR DISEASE TB

Between Groups	Sum of Squares	Df	Mean Square	F	Sig.
Income Levels					
Amusing	22.905	4	5.726	4.527	.002
Personal Relevance	4.313	4	1.078	3.216	.015
Age Levels					
Energetic	12.451	3	4.150	6.704	.000
Amusing	21.245	3	7.082	5.587	.001
Authoritative	5.178	3	1.726	3.488	.017
Sensual	9.145	3	3.048	5.708	.001
Novel	10.164	3	3.388	7.532	.000
Disliked	19.897	3	6.632	10.750	.000
Gender					
Energetic	3.169	1	3.169	4.706	.032
Amusing	12.539	1	12.539	9,578	0.002
Disliked	9.541	1	9.541	14.060	0.000

TABLE 4: ANOVA RESULTS FOR DISEASE MALARIA

Between Groups	Sum of Squares	Df	Mean Square	F	Sig.
Income Levels					

Personal Relevance	5.501	4	1.375	3.511	.009
Age Levels					
Energetic	10.926	3	3.642	9.089	.000
Amusing	17.485	3	5.828	9.304	.000
Authoritative	4.245	3	1.415	3.850	.011
Sensual	9.945	3	3.315	5.810	.001
Novel	6.597	3	2.199	4.206	.007
Disliked	15.923	3	5.308	8.339	.000
Gender					
Between Groups	Sum of squares	Df	Mean Square	F	Sig.
Energetic	2.370	1	2.370	5.231	0.024
Amusing	3.968	1	3.968	5.594	0.019
Disliked	5.423	1	5.423	7.759	.006

TABLE 5: ANOVA RESULTS FOR DISEASE AIDS

Between Groups	Sum of Squares	Df	Mean Square	F	Sig.
Income Levels					
Energetic	6.645	4	1.661	2.906	.024
Amusing	9.031	4	2.258	2.903	.024
Personal Relevance	7.443	4	1.861	5.770	.000
Novel	4.642	4	1.160	2.887	.025
Age Levels					
Energetic	7.310	3	2.437	4.327	.006
Amusing	9.007	3	3.002	3.886	.010
Personal Relevance	3.570	3	1.190	3.432	.019
Authoritative	5.125	3	1.708	4.178	.007
Sensual	11.302	3	3.767	3.062	.030
Novel	7.075	3	2.358	6.165	.001
Disliked	10.409	3	3.470	5.458	.001
Gender					
Energetic	4.605	1	4.605	8.024	.005
Amusing	6.750	1	6.750	8.682	.004
Personal Relevance	1.565	1	1.565	4.400	0.038
Novel	2.282	1	2.282	5.570	.020
Disliked	3.667	1	3.667	3.667	.021

Effectiveness in terms of preventive measures

From the survey it was revealed that people have taken proper preventive measures after watching advertisement of public service campaigns. More than 94% respondents agreed to the fact. As per the survey people think AIDS is the most harmful diseases than T.B. and Malaria. From the survey it can conclude that most of the respondents (57%) have provided BCG & Malaria vaccine to their child but still a good number of respondents are there who have yet not provide these vaccines to their child (43%). It shows that either these diseases are not considered to be as severe by the respondents or awareness for availability of vaccine for these two diseases is low. Majority of

respondents (73%) were found to be are aware of free government services that is run by government in their area for diseases like AIDS, T.B and Malaria.

Discussion

Recall for AIDS advertisement was highest followed by TB and Malaria. Celebrities were found to be effective in PSAs. Celebrities were found to be high in attractiveness and thus adding more credibility to the campaign. Respondents believed that they gained useful information from the public service campaigns. Television was found to be the most effective media for PSAs. Overall effectiveness of all PSAs was found to be high. As evident from the above findings it can be concluded that people have good exposure to the public service campaigns and find advertisements to be relevant. People liked the PSAs. Clear factor structure has not emerged as compared to the standardized scale. Some dimensions were not deduced in case of all three cases. Differences were found amongst different demographic segments of consumers regarding perception towards the advertisements, signifying importance of tailoring the advertisements for different demographic segments. From the survey it was revealed that people have taken proper preventive measures after watching advertisement of public service campaigns. Most of the respondents have provided BCG & Malaria vaccine to their child but still a good number of respondents are there who have yet not provide these vaccines to their child. It shows that either these diseases are not considered to be as severe by the respondents or awareness for availability of vaccine for these two diseases is low. Thus it is imperative for government to promote vaccination for the said ailments. Awareness of free government services run by government in their area for diseases like AIDS, T.B and Malaria was found to be high.

Limitations and Future Research

Limitations associated with non probability sampling techniques go with this study also but due care was taken to make sample representative of the actual population. Further research can focus on lifestyle and personality factors of the respondents that might shape their perceptions towards the public service advertisements.

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Decision Support Systems Design and Analysis

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Abstract

Since their creation in the early 1960's, Decision Support Systems have evolved over the past decades and continues to do so today. Although Decision Support Systems have grown substantially since its inception, improvements still need to be made. New technologies have emerged. Consequently, Decision Support Systems need to keep pace with them. Further more knowledge tends to play a bigger role in forming today's decision making. In this paper, we will discuss design and analysis methods/techniques/issues related to Decision Support Systems followed by an exploration of three possible ways to enhance Decision Support Systems.

Introduction

Over the four decades of its history, decision support systems (DSSs) have moved from a radical movement that changed the way information systems were perceived in business, to a mainstream commercial information technology movement that all organizations engage. This interactive, flexible, and adaptable computer based information system derives from two main areas of research: the theoretical studies of organizational decision making done at the Carnegie Institute in the 1950's and early 1960's as well as the technical work on interactive computer systems which was mainly performed by the Massachusetts Institute of Technology (Keen & Morton, 1978).

DSSs began due to the importance of formalizing a record of ideas, people, systems and technologies implicated in this sector of applied information technology. But the history of this system is not precise due to the many individuals involved in different stages of DSSs and various industries while claiming to be pioneers of the system (Power, 2003; Arnott & Pervan, 2005). According to Arnott (2006), the DSS field began in the early 1970s as a radical alternative to large-scale management information systems (MIS). Over time, major changes in information technology have enabled new decision support movements. In the late 1980s and mid-1990s, multidimensional modeling, OLAP technology, and advances in storage technology and data modeling led to the deployment of large-scale executive information systems, data warehousing, and business intelligence. Now DSSs have become very sophisticated and stylish since the early pioneering research. Many new systems have expanded the frontiers established by these pioneers yet the core and basis of the system remains the same. Today, DSSs are used in the finance, accounting, marketing, medical, as well as many other fields.

The basic ingredients of a DSS can be stated as follows: the data management system, the model management system, the knowledge engine, the user interface and the users (Donciulescu et al., 2002). The database is a collection of current or historical data from a number of application groups. Databases can range in size from storing it in a PC that contains corporate data that has been downloaded, to a massive data warehouse that is continuously updated by major organizational transaction processing systems (TPSs). When referring to the model management system, it's primarily a stand-alone system that uses some type of model to perform "what if" and other kinds of analysis. This model must be easy to use, and therefore the design of such model is based on a strong theory or model combined with a good user interface.

A major component of a DSS is the knowledge engine. To develop an expert system requires input from one or more experts, this is where the knowledge engineers go to work, who can translate the knowledge as described by the expert into a set of rules. A knowledge engineer acts like a system analyst but has special expertise in eliciting information and expertise from other professionals (Laudon & Laudon, 2005).

The user interface is the part of the information system through which the end user interacts with the system; type of hardware and the series of on-screen command and responses required for a user to work with the system. An information system will be considered a failure if its design is not compatible with the structure, culture, and goals of the organization. Research must be conducted to design a close organizational fit, to create comfort and reliability between the system and user. In a DSS, the user is as much a part of the system as the hardware and software. The user can also take many roles such as decision maker, intermediary, maintainer, operator and feeder. A DSS may be the best one in its industry but it still requires a user to make the final decision.

Power (2003) introduced a conceptual level of DSSs, which contains five different categories. These categories include model-driven DSS, communication-driven DSS, data-driven DSS, document-driven DSS, and knowledge-driven DSS. Defining DSS is not always an easy task due to the many definitions available. Much of this problem is attributed to the different ways a DSS can be classified. At the user level, a DSS can be classified as passive, active, or cooperative.

Essentially, DSS is a computer-based system that provides help in the decision making process. However, this is a broad way of defining the subject. A better way of describing DSS is to say it is a flexible and interactive computer-based system that is developed for solving non-structured management problems. Basically, the system uses information inputted from the decision maker (data and parameters) to produce an output from the model that ultimately assists the decision maker in analyzing a situation. In the following sections, we first discuss design and analysis methods/techniques/issues related to DSSs. Then, the three possible ways to enhance DSSs will be explored. At the end, future trends in DSSs will be discussed.

Design and Analysis Methods/Techniques/Issues Related to DSSs

Design Methods

Today, DSSs hold a primary position in an organization's decision making by providing timely and relevant information to decision makers. It has become a key to the success or survival of many organizations. However, there is a high tally of failure in information systems development projects, even though they are a focal point of industrial concern (Goepf, Kiefer, & Geiskopf, 2006). Designing methods have become an important component that assures a successful information system design. This issue is in relevance to the design of a DSS.

There have been many different strategies employed for the design of a DSS, including the early decision-oriented design approach (Stabell, 1983). Current research on DDS design has witnessed the rapid expanding of object-oriented (OO) approach, which exploits object-oriented software engineering with unified modeling language (UML); knowledge management (KM) approach, which supports end-users by embedding declarative and/or procedural knowledge in software agents; structured modeling (SM) approach, which employs a hierarchically organized, partitioned, and attributed acyclic graph to represent models; and design science (DS) approach, which attempts to create artifacts that serve human purposes and solve organizational problems.

Object-Oriented (OO) approach. The characteristic of OO approach is to use object-oriented software engineering with UML in the design and implementation of a DSS. OO design concepts are based on software engineering in that knowledge encapsulation present in a set of objects in an object-oriented system, where subclasses show inheritance of the properties of the main class, is more compact and yet extensive compared to a logic-based system. Higher order logic is required to duplicate the performance of a simple object-oriented system (Pillutla & Nag, 1996). OO approach is considered a novel way of systems thinking. It provides designers and developers with easy analysis of complex systems and design of suitable software systems. It allows the developers and users to think in terms of objects and their behaviors instead of thinking about processes and process complexities. The main advantages are due to the features like data abstraction, encapsulation, inheritance, and polymorphism of OO approach (Nagarur & Kaewplan, 1999).

OO approach involves basically three major steps (Tian et al., 2005). The user's requirements are first captured by using a set of use case diagrams. These diagrams indicate all the functionalities of the system from the user's point of view. Then classes and their relationships are identified and described in class diagrams. Finally,

sequence diagrams or collaboration diagrams are developed, which describe the interaction between objects (instances of classes). Tian et al. (2005) designed a DSS with the OO approach for an organization, which was implemented successfully.

Knowledge Management (KM) approach. In some environment (non-preprogrammed applications), end-users, especially the less experienced end-users, need to have certain knowledge guiding them how to use the system. The KM design approach supports end-users by embedding declarative and/or procedural knowledge in software agents.

West Jr. and Hess (2002) used KM design approach to support end-users with spatially oriented decision-making by reporting on a specific spatial DSS that uses the approach. Procedural knowledge about performing spatial analysis was embedded in software agents that assist users with difficult and spatially oriented tasks. Because the system used a metadata repository, users were supported in some tasks by using the metadata repository directly and in others by using the software agents that access the metadata. According to West Jr. and Hess (2002), KM design approach provides better assistance to inexperienced users of spatial DSS, which requires a design approach that will prioritize knowledge support of the end-users' decision-making activities, and this approach, with the distribution of knowledge between metadata, agents, and end-users, has similar potential as a determinant of system success in any DSS (spatial or otherwise) where both declarative and procedural knowledge are needed to effectively accomplish the decision-making task. .

Structured Modeling (SM) approach. SM (Geoffrion, 1987) approach "uses a hierarchically organized, partitioned, and attributed acyclic graph to represent models" (Srinivasan & Sundaram, 2000, p. 598). It is a formal framework for describing models. SM identifies the basic components of models, the relationships among these components, and conditions under which a model may be termed structured (Lenard, 1993). It includes a language for describing a model schema and prescribes data tables for capturing the details of model instances.

SM decomposes a decision problem into genera and elements within genera in a hierarchic way, which forms a system that is sensitive to natural definitions of entities and objects in the problem (Pillutla & Nag, 1996). It consists of three levels: elemental structure, generic structure, and modular structure. The elemental structure intends to capture the definitional detail of a specific model instance. The generic structure targets at capturing the natural familial groupings of elements. The modular structure seeks to organize generic structure hierarchically according to commonality or semantic relatedness. The leveled structures allow the complexity of a model to be managed and ranked according to its hierarchies. The graph feature allows modelers and decision makers to understand the model better. A key advantage of SM is the ease with which structured models can be visualized (Srinivasan & Sundaram, 2000).

Srinivasan and Sundaram (2002) propose using SM in the design of model based DSS with the intention of solving existing design problems, such as lack of theory or design principles and domain specific issues, in other approaches. They select object relational database environment to implement SM, to be specific, they propose using SM to provide a systematic general framework for conceptual modeling and an object relational database management system (ORDBMS) to implement it. They believe an object relational platform for implementing structured models offers a development platform that is well suited to their needs. Such a platform is uniquely capable of meeting the conceptual requirements outlined by SM while satisfying many practical design concerns such as performance, persistence, and interoperability. They trust that their proposition of using SM approach for specific problem conceptualization and such a powerful environment as ORDBMS to implement it will provide design ideas that can potentially serve a very useful class of applications (Srinivasan & Sundaram, 2000).

Design Science (DS) approach. Arnott (2006) defines design science as an alternative, or complement, to the natural science approach which has been a dominant research methodology in information systems field. Natural science tries to understand reality, but design science attempts to create things that serve human purposes (March & Smith, 1995). In design science, researchers create and evaluate information technology artifacts that are intended to solve identified organizational problems (Hevner et al., 2004). Design science is especially relevant to information system research because it helps to address the role of the information technology artifact in information system

research and the low professional relevance of many information system studies (Benhasat & Zmud, 1999; Orlikowski & Iacono, 2001).

The functionality of a DSS evolves over a series of development cycles where both the end-users and the systems analyst are active contributors to the shape, nature, and logic of the system (Arnott, 2004). Yet system developers have little guidance about how to proceed with evolutionary DSS development. DSS developers are facing the fact that insufficient knowledge exists for design purpose, and designers must rely on intuition, experience, and trial-and-error methods. Design science approach, on the other hand, can facilitate developers to create and evaluate information technology artifacts that are intended to solve identified organizational problems (Hevner et al., 2004). Vaishnavi and Kuechler (as in Arnott, 2006) proposed a design science methodology with the major process steps of awareness of problem, suggestion, development, evaluation, and conclusion. Arnott (2006) proposed a five steps approach, which was adapted from Vaishnavi and Kuechler, for designing evolutionary DSS: problem recognition, suggestion, artifact development, evaluation, and reflection. A research project by Arnott indicates that design science approach can tackle problems of both theoretical and practical importance.

DSS Design Model: DSS Design Model is the most recent DSS design approach developed by Klashner and Sabet and is worthy of a discussion. According to Klashner and Sabet (2007), DSS Design Model differs from any other models and approaches in that it is a more comprehensive design approach to address domain and nondeterministic complexities arising from real-world decision-making requirements. Incorporating morphogenetic principles, the model reflectively and concurrently informs its own evolution and directly impacts the design of the proposed DSS under development “although this new DSS Design Model appears simple and straightforward” (Klashner & Sabet, 2007, p. 991).

The model consists of three major components: theory and analysis, simulation, decision/design. Within the theory and analysis component, multiple data from system domain are fed into theory and analysis. A relation between the theory and domain is maintained to continuously exchange synchronous data and update the theory. The simulation component interacts with the theoretical components to integrate the data feed. As to the decision/design component, the design decision-making process will inevitably be influenced by the effect of theoretical analysis and simulation combined to the degree of not violating the decision-makers’ shared understanding of the design goals. Then the newly integrated design decisions immediately act on the relationship between the system domain and information infrastructure, thus completing the first full iteration since the general iterative flow of data.

Klashner and Sabet (2007) argue that in early years of DSS research design choices were intuitively understood in most cases because of the straightforward nature of the stakeholder’s requirements. But today because stakeholder decisions have become highly subjective and complicated due to the increased problem complexity arising from various semi- to ill-structured problems (Nemati et al., 2002) a more comprehensive systems design approach is needed. Thus the new DSS Design model has been developed to address this issue. At present, the model application is domain specific, but it is currently being applied to another mission critical infrastructure design effort to test its generalizability to other domains where DSS plays a key role in daily operations (Klashner & Sabet, 2007).

Design Techniques

As we are advancing in information technologies, business decision makers can now have access to vast amount of information. On one hand they may gain necessary and important information for making informed decisions, but on the other hand they may also become overloaded by the information irrelevant to what they need. Thus, there is a pressing need for decision aiding tools that would effectively process, filter, and deliver the right information to the decision makers. Proper combination of DSSs and agent technologies could prove to be a very powerful tool for rendering decision support (Vahidov & Fazlollahi, Winter 2003/2004).

A software agent performs interactive tasks between the user and the system. The user instructs the system what he/she intends to accomplish. The software agent carries out the task. By analogy, a software agent mimics the role of an intelligent, dedicated and competent personal assistant in completing the user’s tasks (Bui & Lee, 1999). In the DSS environment, software agents have been more formally described as autonomous software

implementations of a task or goal that work independently, on behalf of the user or another agent (Hess, Rees, & Rakes, 2000). As the traditional, direct manipulation interface of our computing environment is much limited (Maes, 1994), software agents would seem to be a suitable and most needed solution for providing procedural assistance to end-users (West Jr. & Hess, 2002). "These 'robots of cyberspace' can be effectively utilized in automating many information processing tasks" (Vahidov & Fazlollahi, Winter 2003/2004, pp. 87-88).

In some DSS environment, such as spatial DSS (Sikder & Gangopadhyay, 2002; West Jr. & Hess, 2002), Internet-based DSS (Bui & Lee, 1999), and Web DSS (Vahidov & Fazlollahi, Winter 2003/2004), a multi-agent system should be designed and implemented in the DSS to facilitate the decision makers since decision making involves complex set of tasks that requires integration of supporting agents (Bui & Lee, 1999), and these agents should have behaviors to work in team (Norman & Long, 1994). Vahidov and Fazlollahi (Winter 2003/2004) developed architecture of multi-agent DSS for e-commerce (MADEC), in which Intelligence Team (Agents); Design Team (Agents); and Choice Team (Agents) were composed. The multi-agent system was implemented in a prototype of MADEC, which received higher user satisfaction.

Three Possible Ways to Enhance DSSs

Creating Knowledge Warehouses (KW)

Nemati (2002) proposed that a new generation of knowledge-enabled systems that provides the infrastructure required to capture, enhance, store, organize, leverage, analyze, and disseminate not only data and information but also knowledge (Nemati, 2002). Expanding data warehouses to encompass the knowledge needed in the decision making process is the creation of knowledge warehouses (KW). An important component of KW is a very complex process known as knowledge management. Knowledge management allows for knowledge to be converted from tacit to explicit through such processes as filtering, storing, retrieving, etc., thus allowing it to be utilized by decision makers.

The goal of KW is to give the decision maker an intelligent analysis standpoint that enhances all aspects of the knowledge management process. The main drawbacks of KW are the amount of time and money that need to be invested as well as some of the same problems that are found in successfully implementing DSSs. Among these factors are the users' involvement and participation, values and ethics, organization and political issues within the company, and other external issues. The development and implementation of KW still has much work to be done, however, DSSs seem to be headed toward knowledge enhancement in the future and KW looks to have a promising outlook in the upcoming years as a result.

Focusing on Decision Support

While knowledge management systems seem like a logical way to advance the shortcomings of DSSs, another view also exists. By removing the word "system" from DSSs and focusing on decision support, decision making might cause some interesting, new directions for research and practice. Decision support (DS) is the use of any plausible computerized or non-computerized means for improving sense making and/or decision making in a particular repetitive or non-repetitive business situation in a particular organization (Alter, 2004).

DS embodies a broader perspective that seems logical in environments where the user does not necessarily need the technical aspects of DSSs. This is based on the belief that most work systems of any significance include some form of computerized support for sense making and decision making (Alter, 2004). The difference between DSSs and DS is not too drastic but DS is a sensible option for many companies due to the increase in technology since the creation of DSSs; DSSs may not fit the needs of a business as it had in the past.

Integrating DSSs & KMSs

In line with Bolloju (2002), integrating decision support and knowledge management may correct some of the deficiencies of DSSs. The decision-making process itself results in improved understanding of the problem and the process, and generates new knowledge. In other words, the decision-making and knowledge creation processes are

interdependent. By integrating the two processes, the potential benefits that can be reaped make the concept seem more worthwhile.

Integrating DSSs and KMSs seems to be the best choice out of the three possible ways to enhance DSS. The reasoning behind this selection is that integrating the two seems to provide a way for including both options without sacrificing one for the other. More importantly, while KW appears to have a very bright future, KW currently requires a great amount of time and money. The combination of both areas allows for a better overall utilization in the present. In time, KW may not be as time consuming and costly as it is now. However, to achieve a better balance of usefulness and efficiency, the integration of DSSs and KMSs appears to be the smartest choice.

Future Trends

DSS in Business Analytics

The future of DSSs, Angus (2003) argued and supported by SAS (2004), is in the field of *business analytics* (BAs). BAs differ from that of the recently and previously more common business intelligence (BI). With the fast pace of business and life today it would only make sense for a shift to BA because it does focus on the many possibilities and the future outcomes for production and service.

BAs focus on the future of operations. Opposed to that of BI where it focuses on the past and what can be done to change the past if things were done wrong or repeat if things were done right. However, BAs let managers center on what future trends are developing, which allows them not to accumulate a surplus of inventory of outdated products. It also enables managers to change their prices before the market does, or introduce their new product before anyone else gets the chance to. This is known as first-to-market (Gnatovich, 2006). BAs give the companies that use it a tremendous advantage over their competitors in the market place.

Power-Hungry DSS

As everyone can see, the computing power is still accelerating. With its plan of “Itanium” processors, Intel is rushing towards its upcoming generation of 64 bit chips to support power-craving applications. Without any doubt, the power-hungry, large scale, integrated DSS application with dynamic calculation, background data mining, and high-end data visualization falls right into this end of the spectrum (Thomsen, 2003).

Web-Based DSS

The fast growing Internet and e-commerce have greatly impacted the way we conduct business. With the support of intelligent agents, DSS has been implemented for aiding decision makers in e-commerce. E-commerce combines transaction and decision support within an e-framework. Ultimately, the e-world is just another channel (Thomsen, 2003). If we can use the e-channels appropriately, integrate text engines within an overall DSS architecture and provide for interoperability between DSS components, we may actually learn a few things about all this data we are collecting and make better decisions – without losing our humanity (Thomsen, 2003).

DSS in Retailing Business

In the retailing business sector, the competition over customers grows fierce. A customer’s decision of buying from one retailer over another becomes the dividing factor in competition. Additionally, product mix between general and specialty retail is becoming homogenized. This expands the growth for more sophisticated and accurate decision support technology in the business (Rowen, 2005).

A few other trends in the retail business also call our attention. According to Rowen (2005) decision support solutions must interact with forecasting, allocation, and many other demand-chain applications from disparate vendors to increase margins. Additionally, we are being confronted with the coming onslaught of customer, events, and transactional data. Retailers are generating information at a volume that few can find significant use for today. Finally, forecasting and tracking anticipated sales has become another decision support

trend within retail. Such technology enables a retailer to investigate the situation at hand, determining if a product is available.

Research in DSS

In terms of trends in DSS research, in the late 1980s and early 1990s, data warehouse and data mining was one of the focuses of research in DSS field. Since then software agents, also known as intelligent agents, emerged as an interdisciplinary area involving researchers from such fields as expert systems, DSS, cognitive science, psychology, databases, etc. (Eom, 1999). Citations relevant to software agents in this paper support such a proposition.

Studies of design science have shown a significant number in recent years in DSS research (Arnott & Pervan, 2005). This research stream has been rapidly expanding with a range of new topics encouraged by technological advances, methodological innovations, and increased expectations for theory development and empirical analysis of the new artifacts (Banker & Kauffman, 2004), such as the design of auction mechanisms (Bapna et al., 2003; Kelly & Steinberg, 2000) and optimal strategies for investment in knowledge by using a market mechanism (Ba et al., 2001). It is likely that it will remain as a major topic in years to come.

According to Eom's (Eom, 1999) study, Web-based DSS is another emerging topic in the DSS area. Sikder and Gangopadhyay (2002) identified research issues on the design and implementation of a Web-based collaborative spatial decision support system. Vahidov and Fazlollahi (Winter 2003/2004) proposed architecture for a multi-agent DSS for e-commerce and described a prototype system for making online investment decisions with such a Web-based multi-agent DSS. In the pre-web era, DSS was primarily used in an "island" mode. In e-commerce applications today, DSS can be an integral part of the digital environment and directly support the actions of the involved parties (Vahidov and Fazlollahi, Winter 2003/2004).

Conclusion

Since their creation in the early 1960's, DSSs have evolved over the past four decades and continues to do so today. Although DSSs have grown substantially since its inception, improvements still need to be made. New technology has emerged and will continue to do so and, consequently, DSSs need to keep pace with it. Also, knowledge needs to play a bigger role in the form of decision making.

Shim (2002) emphasized that DSSs researchers and developers should (i) identify areas where tools are needed to transform uncertain and incomplete data, along with qualitative insights, into useful knowledge, (ii) be more prescriptive about effective decision making by using intelligent systems and methods, (iii) exploit advancing software tools to improve the productivity of working and decision making time, and (iv) assist and guide DSSs practitioners in improving their core knowledge of effective decision support.

The prior statement sums up the courses of action that need to be taken very well. The successful integration of DSSs and KMSs could revolutionize DSSs and propel it to even greater heights in the future. In closing, DSSs have a storied history that spans the course of four decades; however, the greatest mark may be made in the not so distant future as DSSs continue to evolve.

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E-Commerce in Slovakia

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Abstract

E-Commerce in Slovakia, as well as throughout the world, has undergone many changes since its inception. The main objective of the article is to present Slovak Internet market situation and display cross-section of the most successful companies, which operate on it. Further it reveals some specifics and shortcomings that define trends and future of E-Commerce in Slovakia. The paper then shows how companies are trying to attract the attention of Slovak consumers, what items are purchased the most in Slovakia and what the average price per order is. Summarized advantages and disadvantages and statistics obtained in it will serve as comprehensive view of Slovak Internet market.

Introduction

E-commerce and e-business are sometimes misinterpreted as synonyms. “E-commerce (EC) is the process of buying, selling, transferring, or exchanging products, services, or information via computer networks, including Internet. E-business is a broader definition of EC that includes not just the buying and selling of goods and services, but also servicing customers, collaborating with business partners, and conducting electronic transaction within an organization” [1]

Pioneer in e-commerce is of course the well-known American e-shop Amazon.com. It was created in by American Jeff Bezos in 1994. Due to his idea not to show profit for the first 4 or 5 years it helped him survive the bursting of the dot.com bubble. Bezos comprehended several benefits of online shopping that are very well-known nowadays.

E-commerce allows consumers exchange goods and services via internet with no barriers of time or distance. On the Internet it can be purchased almost everything, online sellers have pushed prices to a level where local shops cannot compete, fixed costs are close to zero, offers of online stores are virtually inexhaustible, the demand has been constantly rising. Lack of confidence in online shopping almost completely disappeared and companies that were the biggest opponents to the Internet a few years ago are now shedding in such trading. Online shopping has become an integral part of the life of Slovak households.

Shopping on the Internet is certainly popular; E-commerce has grown into a huge industry world widely, also in Slovakia it is progressing rapidly. It has many advantages for businesses as well as for customers, therefore more development of this form of commerce can be assumed. Like all forms of commerce also E-commerce has its own risks, however, with application of the E-commerce principles they can be eliminate almost to zero values. [2]

In our article we would like to focus primarily on E-commerce in Slovakia. According Economist Intelligence Unit data (The Economist) E-commerce sector in Slovakia ranks in the top half of European countries in terms of companies and citizens using different types of e-business and e-government services: B2B and B2C. E-commerce is common among Slovaks.

The paper describes situation and specifics of Slovak E-commerce. At first we investigate this concept from historical overview till current situation, point out the most popular and most visited e-shops. We would like to verify credibility and popularity of online shopping among Slovaks according to various statistics, online researches, scientific reports and articles, observation and interviews with people involved in this sector.

In our research we examine attitudes, behavior and preferences of Slovak customers towards e-shops and their products and the whole process of online shopping. Based on research we will draw conclusion and mark some trends in online shopping to the future.

Specifics of E-Commerce in Slovakia

History of E-Commerce in Slovakia

The first Slovak commercial online projects were dated between the end of 90thies and the beginning of the new millennium. The very first e-shop was Dunaj.sk, it started with selling books and later it added music, perfumes, films, tours and other products in 1996. For many years it was number one among e-shops in Slovakia. Others had emerged very slowly. First serious competitor became the online bookstore Martinus.sk, founded in 2001. Since its inception, it has experienced rapid growth and in recent years it is regularly placed on the highest positions in ratings of popularity. However, it has not diversified as majority of other Slovak e-shops, over 90% of its offer are still books.

In 2003 other e-shop Hej.sk became the biggest direct competitor of Dunaj.sk. Hej.sk offers all categories of possible goods, from household appliances, audio / video, up to the perfumes, products for household and garden. Rapid growth and development of Internet helped of course the first start-ups e-shops in Slovakia. Nowadays they are the largest and the most successful Internet companies with annual increase achieved in tens of percent. Current development of E-commerce in Slovakia is supported by the media, that show various examples of success stories of Slovak Internet companies and many people searching for quick profits are establishing e-shops. Unfortunately, many of these projects are ending within the three years. [3]

Current situation and overview of the largest e-shops in Slovakia

In recent years there is noticeable increase in interest in online shopping. Increasing Internet population in Slovakia and increased confidence in online shopping is due various certificates. There are various umbrella organizations for the quality of e-shops and consumer protection. One of them is the SAEC (Slovak Association for Internet), which grants the e-shops with security certificates to their website. At the present, 49 e-stores own the certificate of the association SAEC. Another organization is AZIO (Association of Internet and mail order business).

Success and progress of E-commerce in Slovakia is supported by the fact that during this year's ceremony, Ernst & Young Entrepreneur of the Year 2010, Gramblička Alexander, co-owner of e-shop InterStore.sk, received award "Start-up Entrepreneur of the Year". Currently the company is the broadest Internet Slovak hypermarket, offering 1,500 brands from more than 300 suppliers. [4] In the Top 5 Finalists for 2010 were also placed another e-shop - Martinus.sk. The positive trend in Slovak Internet situation was confirmed by other representatives in TOP 5 - companies AZET.sk and Monogram - creating also websites for e-shops. Managing director of Monogram, Ján Jenča, became entrepreneur of 2010 in terms of innovation. In 2009 Táňa Kyselová from e-shop Pelikan.sk received the prize "Emerging Entrepreneur of the Year".

Besides the above mentioned companies, among other major players in the Slovak E-Commerce belongs Mall.sk which came to Slovakia from neighboring Czech Republic and on its site also offers specialized shops of different kinds of goods. Gorila.sk is the second largest Internet portal selling books and movies, aimed mostly at younger consumers. Among the strong companies operating on the Internet we can also include Nayelectrodom.sk, which offers a wide range of household appliances and electronics. Besides it has the largest network of brick & mortar stores selling electronics in Slovakia. In recent years comes to the forefront another company focused on almost the entire range of goods – Alza.sk.

Slovak e-shops are now using different types of marketing activities to acquire customers, which include primarily direct mail (Newsletter), banners on different web portals, Google Ads and AdWords, as well as various actions on social networking site Facebook. The ads are recognized nearly by two thirds of Slovak buyers on the Internet, mostly just in the form of banners, contextual ads, email advertising, or newsletter. [5]

Comparing with countries of V4

Survey E-commerce 2009, focused on the V4 countries – Slovakia, Czech Republic, Hungary and Poland, showed that the most internet users from these countries had heard about the possibility of shopping via internet. In Slovakia, even 100% of respondents, and many of them have already purchased online. Regarding the number of online shoppers, the survey showed that leaders are Czech Internet users: 81% of respondents from the Czech Republic states that have purchased on the Internet yet, followed by Slovaks (76%), Poles (69%) and Hungarians (66%). The survey results showed that all four nationalities have rather positive attitude for online shopping and they are attracted mainly by low prices and convenience of online shopping. In addition, some respondents from the V4 countries also have some difficulties with online purchasing and the highest percentage of people who have negative experiences with buying over the Internet are from Poland. [6]

Objective and Methods

The aim of the article is to analyze the situation and specifics of E-commerce in Slovakia from the development of this concept to present. In the research part we would like to examine the views and opinions of Slovak customers on online stores.

Information used in this article came from professional books and scientific articles, from unstructured interviews with managers of online shops who have their own observation and experiences from the business in this area. In the quantitative research were gathered information from news agencies Mediaresearch, TNS, SAEC, from professional journals and articles on the Internet. We used information from marketing surveys of currently available resources. A survey "E-Commerce 2010" of the agency Mediaresearch was conducted by questionnaire technique via Internet, collecting answers from a sample of 1011 respondents of Slovak Internet population older than 15 years. Quantitative Internet ad-hoc research "Internet and Shopping" of the agency TNS was created by a sample of 1113 respondents Internet population older than 18 years. Both surveys represent approximately 2.2 million citizens of Slovakia. From association SAEC were used press releases of the years 2009, 2010 and the 2011.

Gathering of information lasted from October 2010 until February 2011, inclusive. Conclusions were based on evaluation of the whole survey compiled by the authors of the article.

Results and Discussion

In this section we would like to describe E-commerce situation in Slovakia and draw some trends and recommendation to the future. This part primary focuses on four areas: How Slovak consumers buy on the Internet; Online stores vs. Brick&mortar stores; Where and which goods Slovaks purchase on the Internet; Trends in E-commerce in Slovakia.

How Slovak consumers buy on the Internet

World economic crisis did not cause a reduction of Slovak's interest in online shopping. On the contrary, from the survey we can state that crisis had an impact on Internet users in the form of an increase in the number of items purchased on the Internet – mainly due to lower prices offered on Internet portals. The biggest potential of increase in consumption over the Internet is just in goods that are not used for everyday consumption. [7]

Several e-shops recorded a triple increase in sales during the Christmas season. For some stores that period of year means one third of annual sales volume. In 2010, pre-Christmas shopping spree was higher still for more than 20% than in year 2009. 26% of Slovak Internet users purchased the gifts on the Web. [8]

Slovaks prefer to shop online from the comfort of their households. Up to 84% of consumers with online experience have purchased from their home. On the other hand, just 8% of people is shopping while they are at work. Slovaks buying on the Internet from home frequently make their orders from the living room (38%), followed by a workroom (30%) and then bedrooms (14%). Regarding the time of shopping, half of consumers do not prefer any particular part of the day, but over 30% indicate the evening as an ideal time for online shopping. The night was represented by 6%. The weather plays an important role in Slovak Internet population's spending. Especially on

weekends. At the sunny weekend people usually do not tend to buy a lot, they rather go to the nature. On the other hand, rainy weather helps to increase sales by 15 to 20%. [9]

Average order value

Slovak Association for Electronic Commerce (SAEC) publishes the results of its members (certified e-shops) in sales of goods and services via the Internet every year. Results from previous periods proved that neither the adverse effect of financial and economic crisis did not stop the gradual growth of sales in this distribution channel, statistics from 2010 indicate further positive changes in consumer behavior and a gradual return to high growth of Internet purchases.

Total turnover of the online stores - SAEC members, reached at the specific period the value of €35.77 million and it is 24.9% more than a year ago. The average purchase amount was reduced from €166 to €125. This reflected the increasing convenience of e-shops, when delivery costs or burden for lower value purchases in a way that would disadvantage them in comparison to shopping in stores. Higher amount of money than the average was spent by entrepreneurs, people with higher education, from large cities, the younger age group.

While talking about the amount spent on the Internet in the past 12 months, the interesting fact is that almost half of consumers (45%) spent more than 200 Euros. 10% of them spent even more than 1000 Euros. Less than 100 Euros spent about one third of buyers on the Internet. [10]

Methods of payment and delivery of orders

Cash on delivery prefers more than half of consumers (52%), almost a quarter uses payment by bank transfer (23%). The remaining methods are payment by card via Internet, payment when taking the goods personally in the store and so on.

For 38% of consumers, the most used method of delivery is courier service, 37% use a services of Slovak Post Office and for almost a fifth of people a mail order / delivery service. Every tenth person picks up the good personally. For 43% of those who purchase on the Internet, the tolerable delivery time is 4 – 6 days, up to 3 days represent 35%. 21% of shoppers do not mind waiting for more than a week. [10]

Frequency of shopping

As we can see from the Fig.1, over the past 12 months, 34% of consumers made 5 or more purchases at the online stores. One fifth of those buying at e-shops made 2 purchases over the last year. Most of Internet population purchased goods (98,7%) and 4 of 10 consumers purchased services.

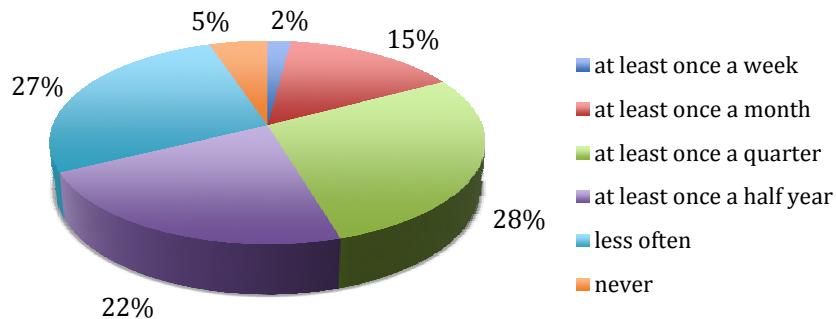


FIG. 1: FREQUENCY OF SHOPPING AT ONLINE STORES

It is evident that 95% of the Internet population purchases at online stores, only 5% of it does not. Men buy in e-shops more often than women. Also better educated people, people with higher income and from bigger cities make orders at e-shops more often. The most frequently purchase people aged 25 – 34 (60% at least once a quarter),

the least often buy older people (aged 45+). The group of those who have never purchased on the Internet is made of people with low income and people over 45 years-old. [10]

Online stores vs. Brick&mortar stores

Purchasing at brick&mortar stores prefer more women than men, older people and people living in villages or small towns. At the online stores prefer to buy younger people, better educated and entrepreneurs.

For the Internet stores the good news is fact that 23% of customers, who have already made a purchase on the Internet, have the best experience and 72% of Internet population indicates that the experience of shopping at e-shops were good and met their expectations. On the contrary, bad experience with online stores has had just over 2% of consumers. Also, 95% of customers considered the level of e-shops as good, very good respectively.

Short shelf life products, consumer products and those that the should be tried on personally people buy more at brick&mortar stores than on the Internet – those products are food / beverages, alcohol, medicines, newspapers / magazines, flowers, clothing / footwear and products for beauty, cosmetics, drugstore products, fragrances. Food, beverages and alcohol people almost do not purchase on the Internet.

Goods that people rather bought on the Internet than at brick&mortar stores in the last 12 months: flight tickets, tickets to events, books and erotic equipment. The following statistics show the reason why the most of the Internet population prefers shopping at e-shops than at brick&mortar stores.

Fig. 2 shows, what customers think about these two different types of purchasing goods. Most of the Internet population claims that online stores often offer better prices and wider range of products than brick&mortat stores have. 77% of customers consider purchasing on the Internet as more comfortable and a tenth has no time to go to brick&mortar stores. Preferences of people meet with the fact that they can choose from the comfort of their home and purchased goods can be delivered to their households. [10]

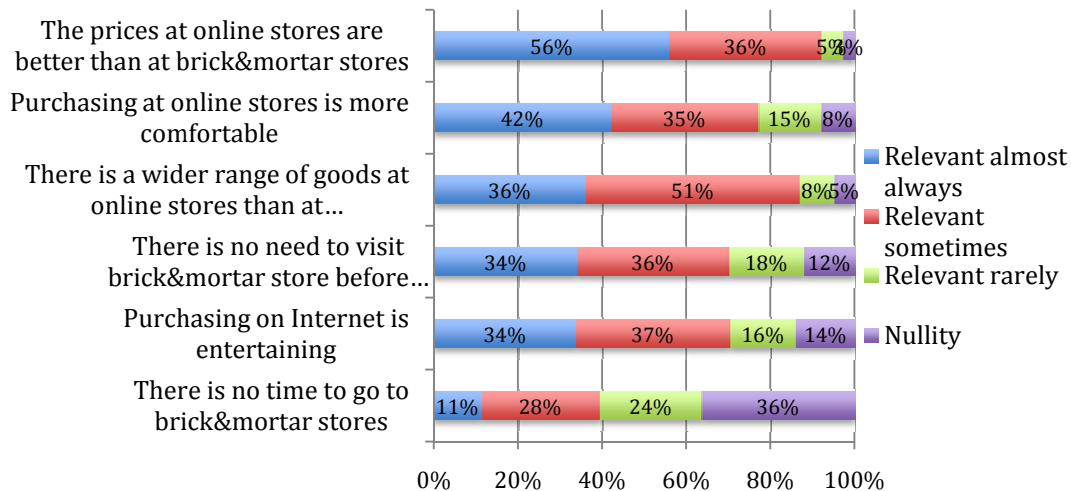


FIG. 2: RELEVANCY OF STATEMENTS ABOUT ONLINE STORES VS. BRICK&MORTAR STORES

Disadvantages of online shopping

The reasons why people are afraid to shop on the Internet, respectively they are dissatisfied with it, are failure to deliver goods in the declared period (63%), followed by th lack of ongoing communication on the status of orders (37%), inaccurate or false information about products (33%) and poor quality of the delivered goods (21%).

According to survey of a portal Heureka.sk (29.000 participants) 32% of respondents do not purchase goods on Internet because they fear problems with a guarantee and claims, and 42% of buyers are afraid of complicated claims process. The largest e-shop in Slovakia, HeJ.sk, deals with approximately 3000 claims a year. The most claims are recorded in the first month and 2 month after the purchase of goods, only 2% of buyers are

giving claims one year after purchase. The survey showed that 27% of all product failures are apparent within the first month of purchase. In 2010 Slovaks returned to portal Hej.sk about 1.7% of goods purchased in e-shops, in Martinus.sk there are just about 0,6% claims - it should be noted that the book is a product that essentially can not be broken. Reasons of claims, however, in the majority of cases were not damaged goods, respectively wrong delivery, but the fact that customers for example returned cloths due to bad estimation of size, or not compatible electronics. According to these findings, claims should not be the reason for low confidence in online shopping, but 57 % Slovaks have no confidence in shopping online because of claims. In Slovakia, possibility of returning of the product is 7 days. [11]

Where and which goods Slovaks purchase on the Internet

On the most consumers' top of mind – the first brand the customer recognizes - is internet shop Hej.sk (14%), followed by Martinus.sk (12%) and then Aukro.sk (4%). Hej.sk is set to the first place mainly by men, people with primary and secondary education and in the age group 25 – 34 and 45 and more years-old. On the contrary, Martinus.sk as the first report women and the youngest users of Internet. Nayelectrodom.sk win in the minds of university graduates and people from 35 to 44 years-old.

Table 1 shows that the total spontaneous knowledge won Hej.sk, (one third of respondents). In second place there was Martinus.sk (30%), in the third place was Nayelectrodom.sk (21%).

TABLE 1: TOTAL SPONTANEOUS KNOWLEDGE OF INTERNET STORES

TOP of Mind + Other Spontaneous Knowledge	
Hej.sk	33%
Martinus.sk	30%
Nayelectrodom.sk	21%
Gorila.sk	13%
Quelle	13%
Pixmania.sk	11%
Alza.sk	11%
Aukro.sk	10%
Mall.sk	10%
Datart.sk	9%

In case that customer recognizes the company and even shops in it, the highest position has Martinus.sk (35%). It is followed by Ticketportal.sk (32%) and Hej.sk (22%). Slovaks who shop at online stores, make the most orders at Martinus.sk, which has 13% lead before second Hej.sk (7%) and third Gorila.sk (4%). The next Fig. 3 shows that among the most visited and relatively the best rated Internet stores belong: Martinus.sk, Hej.sk, Neckermann.sk, Ticketportal.sk and Alza.sk.

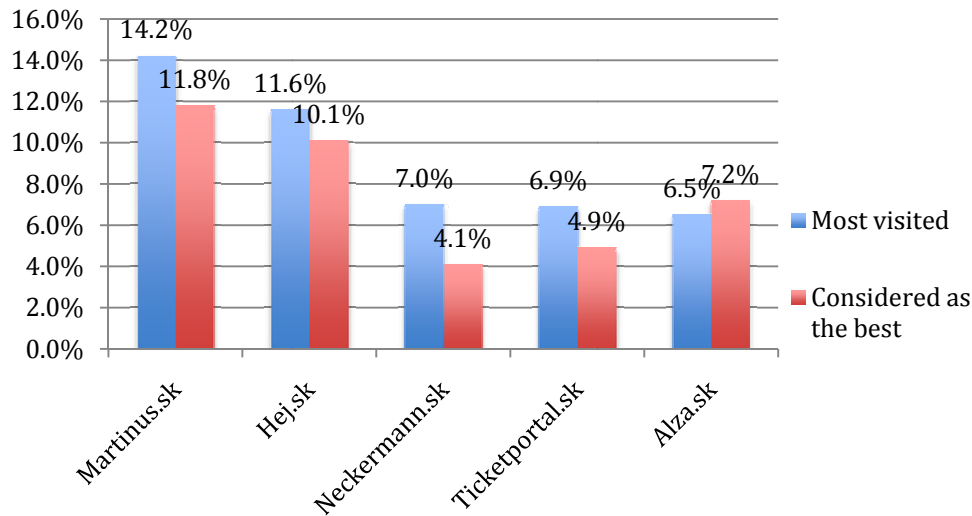


FIG. 3: THE MOST VISITED AND THE BEST RATED INTERNET STORES

Criteria and preferences in the selection of e-shop

The most important criterion in selecting e-shops is the price. Consumers in Slovakia are more aware of different prices in e-shops and more often compare offers. This result is from the last survey of portal Pricemania.sk, which dedicates the online shopping and gives consumers the possibility of price comparisons for particular goods from e-shops. Its database currently contains over 500,000 products offered over 900 e-shops. Price comparators are used by 27% of people in almost every search on the Internet, approximately 50% consumers use them sometimes and only 24% of Internet population do not use them, nor recognizes these services. The most important elements of e-shops are well-described product information, quality visualization of goods and previous good experience with that e-shop. For people is important a wide range of goods, the lowest prices, product in stock and free shipping. [12]

The most purchased goods

Among the three most frequent purchased products for the last 12 months are books (41%), clothes and footwear (34%) and ticket for events (29%), displayed at Fig. 4. Books are bought primarily by women and by university educated people. The most frequently men buy books (33%), tickets for events (32%) and computers / notebooks, hardware (30%). Women buy books (50%), clothing and footwear (44%) and cosmetics perfumes (31%).

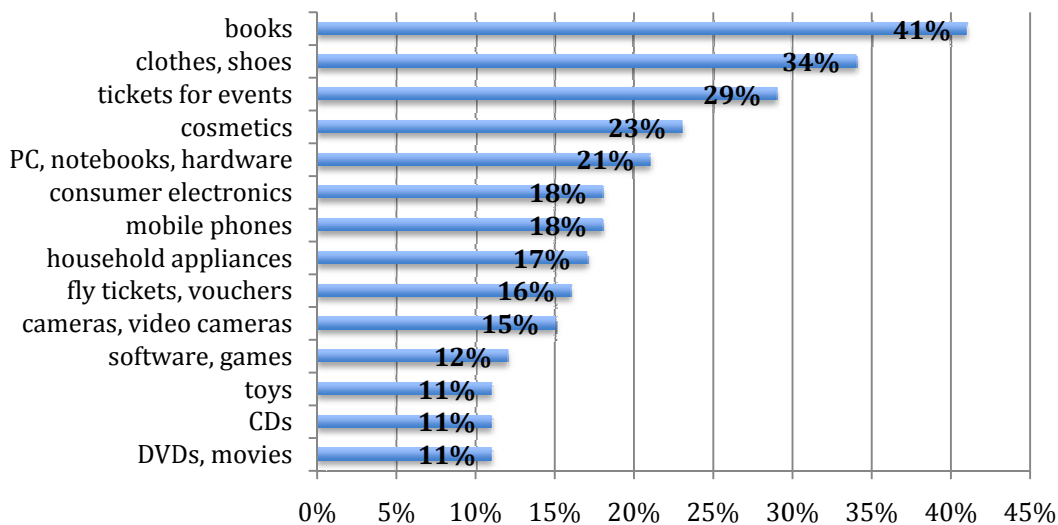


FIG. 4: THE MOST PURCHASED GOODS AT ONLINE STORES

Frequently missing products and services

Approximately 40% of Internet shoppers mention at least one type of product or service e-shops lack. Most often: food, clothes (luxury, outlet), furniture and textiles. 2,1% of consumers declare they do not miss any products or goods in the range of goods at online stores. Fig. 5 shows also other lack of goods at Internet stores.

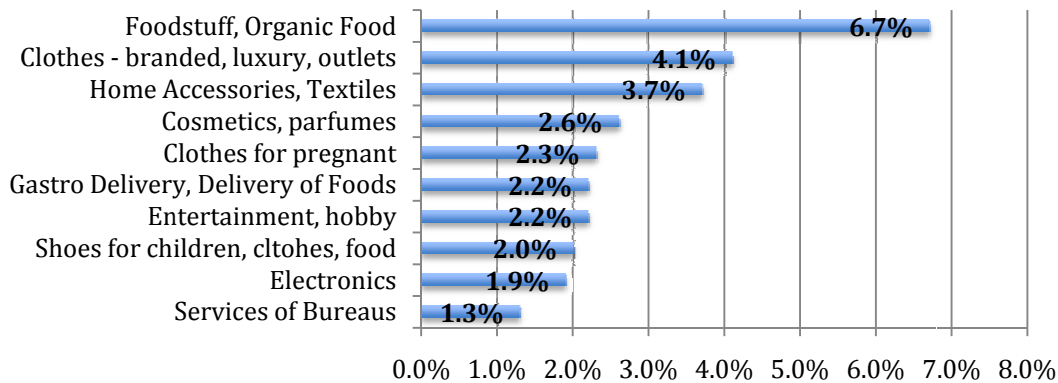


FIG. 5: FREQUENTLY MISSING PRODUCTS AND SERVICES

Trends in E-commerce in Slovakia and recommendation

In the last year Slovaks bought and spent more money in e-shops than in 2009. From the Slovak Association for Electronic Commerce (SAEC) information e-shops Cetelem.sk, Hej.sk, Hop.sk, Mall.sk, Martinus.sk, Obchodny-dom.sk and Pelikan.sk had together 586 000 orders, it was an increase of 46%. Trend of online shopping is that in the next year there will be an increase in the number of orders. 29% of the online population said they will buy more, while only 17% will buy less and 9% is not going to shop online next year.

There is estimated growth in online shopping in Slovakia especially for mobile phones, laptops, flat screen TVs, cameras and compact cameras, but also for hobby products, garden and sport. Customers will prefer product of technological innovation which are the latest models of mobile phones, laptops and 3D TVs. However, interest will

also be in the latest news of electronic appliances that were very popular during Christmas season 2010. [13]

Among the major trends for the future is clearly necessary to include the fact that customers want small local stores of Internet companies. Customers have started to feel really great disadvantage that they cannot physically try the product. E-shops are therefore forced to give customers a new kind of shopping - mashopping, which is the name for a combination of virtual and physical shopping. Slovakia has a number of online shops with a local store, but they mostly serves to customers as the place, where they can only pick their goods up. But consumers also need "physical" contact with the shop. One of the few Slovak Internet players, who understands the up-coming trend, is also Martinus.sk.

Slovaks particularly feel the absence of food in the offers of e-shops. Rest of the world suggests that there will be a great boom in this product range. For instance, in Britain there is expected doubling of turnover by 2015. [14] Slovak customers (6.7%) are missing food in e-shops, but there are few shops, (Potraviny.sk, Berkana.sk) already operating also outside the capital Bratislava, offering this kind of goods. There is ever-increasing supply and goods are changing their character to day-to-consumer items, e.g. not only tea, coffee, but also meat and bakery products.

Power of Internet is comprehended also by the biggest companies, hypermarket chains like Tesco Stores and Makro (in Slovakia under name Metro). Online sales through its own e-shop chains are planning to run in the neighboring Czech Republic later this year or next (Tesco-shop.cz). According to the companies, opening such channels is the only way to increase sales. Basics range will form mainly on the Internet lack of food supply and drugstores. Of course, this trend can be expected after the Czech Republic also in Slovakia.

In the recent months, group shopping has become a hit in Slovakia – very interesting and among people very popular discounts on certain goods. People have the opportunity to try services and attractions in the surroundings of their towns, which they normally can not afford, for the prices roughly 40 – 90% lower. In Slovakia, there is over 10 such websites focusing on group shopping – Zlavovekupon.sk, Zlavenky.sk, Zlavadna.sk. They are bought by 20 – 40 years-old Slovaks who use social networks Facebook and Twitter. [15]

Conclusion

The results from research confirmed that E-commerce in Slovakia has a great potential and Internet market is still growing. Even the world economic crisis did not cause a reduction of Slovak's interest in online shopping, but Slovaks shop on Internet even more. Constantly increasing number of orders suggests that customers are profiting from lower prices, conformability to shop from their living room. Internet stores has begun to understand all the needs of its customers, they have started increasing their quality and offered range of goods. Findings and facts suggest that the Internet population in the near future will increase, the number of orders will grow, but the average value of orders decline - due to more common day-to-consumer goods offered by online stores. It can be seen constantly increasing confidence in online shopping, and because of mobile operators offering Internet services, online shopping can even try people from the smallest villages in Slovakia. Gradually, also Slovaks older than 45 to 50 years will use Internet more and more.

The big players have become even bigger, but they could be threatened in the case of a well thought out project with a large capital input and strongly marketing support. Based on all the statistics and results, the largest companies on the Slovak Internet market are Martinus.sk and Hej.sk. Many small "garage" sellers can keep their services on Internet, because the Slovak market is not so small that it could be fully filled only by large firms. However, they will still serve their customers from their living room and dispatch from their garage, with no major ambitions to expand. In the case of large expand, the 5-6 biggest players will forced them to end their operation or acquire them.

In the method of payment, there is a space for improvement of the payment in advance via Internet banking, although surveys indicate that the Slovaks apparently still have some doubts and want to pay up when they get the goods into their own hands. Slovaks also like to use the payment option for cash on delivery because they do not have to pay shipping and try to avoid any increase in price of order.

The reason why a part of Slovak Internet population does not shop on the Internet is because they need physical contact with the product, respectively they are sufficient with shopping in brick&mortar stores. In a very

high level they have fear of complications with complaints and return goods, although there are relatively good statistics online stores. Goods, that online shoppers miss, indicate that those shoppers are trying to avoid going local shop, which they had to visit when they wanted to obtain a product, as much as possible. This trend may cause that some types of brick&mortar shops completely disappear. Almost all the factors favor E-commerce business.

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A Factor Analysis of the tourism in the mexican province of Michoacan

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1. Introduction

In Mexico, tourism has been a leading industry in the service sectors since 2009. It ranks third among the sources of incomes (\$9.221 million of dollars). However, oil exports and remittances rank first and second, respectively (\$30.901 and \$21.181 million dollars) (BANXICO, 2010). Tourism represents higher incomes for workers that on average they are paid 30% higher wages than in other sectors of the economy (Carral, 2006). In Michoacan, as in many provinces of Mexico, tourism represents a significant percentage of its gross domestic product (GDP) (17.2% in 2006) (Secretaría de Turismo, 2006). The evolution of economic indicators, geographical location, diversity of attractions, the history and culture, cultural heritage and the magical towns (declared by UNESCO), make the province of Michoacan an important case of study in relation to tourism where its competitiveness constitute a priority when identifying its advantages and disadvantages at national and international levels.

Due to the diversity of variables that impact on tourism, it is needed analyses of alternative effects of tourism on the economy and a detailed study of competitiveness. In this sense, 41 variables were selected to analyze the degree of competitiveness of tourism in the most important municipalities of Michoacan. The variables used to measure the competitiveness of the sector were grouped into six dimensions: cultural resources, tourism infrastructure, natural resources, people flow, additional services, economic indicators and social welfare this last one dimension with the objective of link tourism competitiveness with their impact on this essential part of any society. Dimensions with their corresponding variables are as follows:

- a. Cultural Resources: library number, number of historical monuments, temples and shrines number with tourism potential, traditional festivals number, number of museums and houses of culture.
- b. Infrastructure: lodging establishments, lodging establishments with a five star category, lodging establishments with a four star category, lodging establishments with a three star category, lodging establishments uncategorized, total rooms, total hotels, total motels, total units of accommodation, total alternative suites, total inns, total trailer parks, other units of accommodation, rooms per 1000 habitants, and occupancy rate.
- c. Natural Resources: jungle surface area per hectare, and forest surface area per hectare.
- d. Flow of People: total visitors, domestic visitors, and foreign visitors.
- e. Additional Services: number of travel agencies, and restaurants.
- f. Economic Indicators: GDP in dollars, GDP at current prices, GDP per capita, GDP per capita at current prices, percentage of workers in the tertiary sector, percentage of male workers in the tourism sector, and percentage of female workers in the tourism sector.
- g. Social Welfare: total population, men and women, PEA and Human Development Index (HDI).

2. Correspondence Factor Analysis

In this research, the study of the competitiveness of tourism was conducted through the correspondence factor analysis, a multivariate statistical analysis that solves the problem of structure analysis of the interrelationships (correlations) that exist in a large number of variables and cases. In this approach, the

correspondence factor analysis defines a number of common underlying dimensions known as components. The objective of this technique is to represent the underlying structure characterized by a set of variables through the analysis of dependence between variables and the association between attributes that lead to get insight on the intensity of attraction and repulsion that express the behavior of these variables. One of the advantages of correspondences analysis over other methods is the not imposition of initial parameter values. Actually, it is not needed in advance any kind classified information that results from the formation factor. Information itself is given, so we can get the maximum reliability of the information processed, as well as the conclusions that emerge from the analysis.

In this sense, the analysis of similarity (proximity) between the modalities of an attribute (variable), represented by the respective frequency distributions, are conditioned by the distribution of the forms of other attribute allowing to analyze the homogeneity of these two different spaces (p and q dimensions). This analysis is introduced using the Benzecri distance approach which is a balancing of the points in inverse proportion to their frequencies. The analysis of the association between patterns of two different attributes will be the result of connecting these two spaces and, therefore, projecting a three-dimensional common space where proximity is interpreted as an attraction and repulsion away as applying for this Analysis Principal Components (Kruskal & Wish, 1981).

2.1. Commonalities and sedimentation chart variables

The next step in the Factorial Analysis of Correspondences is a table of commonality. This is a useful tool that shows the degree of dispersion of each variable under analysis. This step allows us for identifying the validity they have in the study. If the level of extraction that shows the table of communalities is less than (0.500) means that the variable to study is not explained well within the model, because it does not have a significant level of representation, the closer-to-one variable is best represented (Navarro & Zamora, 2009).

The present study shows that the extraction column has a significant degree of representation for each of the variables. The variable that has a lower level of representation is PERCENTAGE OF MEN PEA with a value of (0.683). While having a greater degree of representation is the occupancy rate with a number of (0.997).

TABLE 1: COMMUNALITIES

	Initial	Extraction
LIBRARY NUMBER	1,000	,748
MONUMENTS	1,000	,765
TEMPLES AND SHRINES	1,000	,787
TRADITIONAL FESTIVALS	1,000	,691
MUSEUMS	1,000	,783
JUNGLE	1,000	,831
FOREST	1,000	,702
TOTAL VISITORS	1,000	,952
DOMESTIC VISITORS	1,000	,948
FOREIGN VISITORS	1,000	,956
AGENCIES	1,000	,979
RESTAURANTS	1,000	,988

LODGING	1,000	,988
LODGING 5*	1,000	,962
LODGING 4*	1,000	,987
LODGING 3*	1,000	,952
LODGING UNCAT.	1,000	,995
ROOMS TOTAL	1,000	,985
HOTELS	1,000	,985
MOTELS	1,000	,832
TOTAL UNITS	1,000	,977
GUEST HOUSES	1,000	,800
ALTERNATIVE ACCOMMODATION	1,000	,839
SUITES	1,000	,966
INNS TOTAL	1,000	,877
TRAILER PARK	1,000	,899
OTHER ACCOMMODATION 1000 HABITANTS	1,000	,734
	1,000	,948
% OCCUPANCY RATE	1,000	,997
TOTAL POPULATION	1,000	,983
MEN	1,000	,983
WOMEN	1,000	,983
PEA	1,000	,985
% PEA MAN	1,000	,683
% PEA WOMAN	1,000	,817
HDI	1,000	,996
GDP	1,000	,991
GDP per capita	1,000	,996
GDP AT CURRENT PRICES	1,000	,991
GDP per capita in U.S. dollars	1,000	,862
% PEA IN TERTIARY SECTOR	1,000	,936

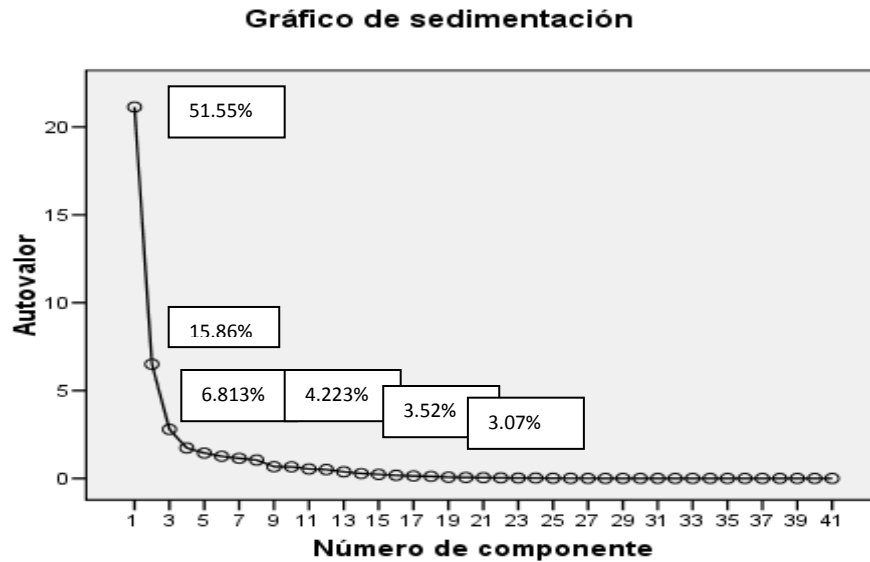
Source: Authors' calculations based on the results of the Factorial Analysis of Correspondences

2.2. Sedimentation chart

The second measure of reliability performed in this analysis is the number of components or dimensions to be considered. Each dimension shows a percentage of the variables, being that the first dimensions always will have a greater degree of representation, these is expressed in the screen plot as a greater distance on the vertical axis to zero. The screen plot -originally proposed by Cattell- showsif you are leaving out some important component (Cox & Cox, 1994). The number of components that will be considered for this work is eight, because the sum

represents a cumulative value of 90.39 percent of the total variance. The first dimension has a value of 51.557 percent, the second dimension or factor the 15.86 percent, the third factor the 6.813 percent, the fourth dimension 4.223 percent, 3,523 percent the fifth, sixth 3,069 percent, seventh the 2,796 percent and finally the eighth dimension has a value of 2,548 per cent (see chart 1).

CHART 1: SEDIMENTATION CHART



Source: Authors' calculations based on the results of the Factorial Analysis of Correspondences.

2.3. Rotated component matrix

The first results of Correspondence Factor Analysis are in the Matrix Components and Matrix of Rotated Components which indicate the direction in space where the variables, the positive and negative signs that show the space dimension, are positioned variables, as well as correlation levels (Navarro & Zamora, 2009). In the rotated component matrix is take the data from the matrix of components and applies a process of standardization by the Varimax method, which allows a better representation of variables. The effect of rotation is to redistribute the variance to obtain a pattern of factors or components of greater significance. Varimax rotation criterion focuses on simplifying the maximum column vector of factors (components), the maximum simplification is achieved by reaching values as +1 or -1 and other charges close to 0, which contributes to a better understanding of the variables. The values will show a positive or negative association between the variables and the component or a lack of association if the number thrown is zero (Santos, Muñoz, Justice, & Curtis, 2003).

Once each variable is located in a dimensional space, we can appreciate the degree of correlation of each of these variables in relation to others. So, the first component variables that best explained are: number of temples and shrines, many museums, total visitors, national visitors, foreign visitors, agencies, restaurants, lodging establishments, lodging establishments five stars category, lodging establishments four stars category, lodging establishments three stars category, total rooms, number of hotels, number motels, total units of alternative accommodation, guest houses, suites, total population, men, women, PEA, GDP and GDP at current prices.

For the second component variables that better explain are uncategorized lodging establishments, rooms per 1000 habitants, occupancy rate, percentage of the economically active men in the tourism sector, and percentage of the economically active women in the tourism sector, Human Development Index (HDI), and GDP per capita.

TABLE 2: ROTATED COMPONENT MATRIX

	Component							
	1	2	3	4	5	6	7	8
LIBRARY NUMBER	,355	-,044	,150	,029	,731	-,030	,189	-,160
MONUMENTS	,462	,020	,348	,098	-,089	,004	,642	,024
TEMPLES AND SHRINES	,739	-,016	,047	,035	-,185	-,101	,422	,117
TRADITIONAL FESTIVALS	,205	-,066	-,063	,003	,159	-,040	,783	,026
MUSEUMS	,730	-,037	,297	,184	-,128	,041	,322	-,070
JUNGLE FOREST	-,049	-,038	,020	,028	-,114	-,110	,052	,894
TOTAL VISITORS	,228	,054	-,146	-,085	,469	,320	-,048	,542
DOMESTIC VISITORS	,896	,047	,169	,131	,266	,038	,170	-,019
FOREIGN VISITORS	,891	-,043	,168	,116	,275	,036	,183	-,021
AGENCIES	,864	-,046	,083	,425	,101	,055	,076	-,030
RESTAURANTS	,974	,032	,051	-,127	-,012	-,027	,099	-,015
LODGING	,967	,215	-,014	,017	,035	,022	,063	,000
LODGING 5*	,894	-,080	,107	,315	,215	,143	,072	,006
LODGING 4*	,945	,040	-,030	,140	-,216	,015	-,018	,007
LODGING 3*	,959	,133	,040	,217	,025	,006	,008	,004
LODGING UNCAT.	,729	,200	,121	,564	,126	,152	,094	-,013
ROOMS TOTAL	,059	,986	-,138	,009	,013	,007	-,018	,004
HOTELS	,948	,043	,136	,149	,190	-,005	,089	-,013
MOTELS	,946	-,054	,150	,164	,175	-,003	,081	-,012
TOTAL UNITS	,759	,019	,150	-,116	,411	,005	,225	-,011
GUEST HOUSES	,904	-,073	-,025	,225	,099	,303	-,005	,026
ALTERNATIVE ACCOMMODATION	,833	-,059	-,001	,013	,204	,180	,161	,047
SUITES	,075	-,040	-,028	,362	,139	,823	-,019	-,053
INNS TOTAL	,952	,002	-,069	-,091	-,209	-,053	-,035	,011
TRAILER PARK	-,008	-,027	-,018	,020	-,088	,931	-,036	,000
OTHER UNITS ACCOMMODATION	,089	-,013	,029	,904	-,012	,257	,076	-,019
1000 HABITANTS	,124	-,032	,064	,566	,615	,002	-,100	,076
% OCCUPANCY RATE	,022	,967	,044	-,008	-,026	,010	-,093	,032
TOTAL POPULATION	,021	,987	-,148	-,003	-,012	-,018	-,012	-,001
MEN	,962	,011	,159	-,044	,147	-,020	,089	,013
	,956	,127	,140	-,044	,151	-,025	,085	,014

WOMEN	,962	,035	,157	-,045	,142	-,019	,090	,012
PEA	,958	-,075	,176	-,043	,147	-,029	,086	,004
% PEA MAN	-,131	-,624	,336	-,052	-,048	,100	-,324	,208
% PEA WOMAN	,198	-,500	,713	,050	,035	,023	,011	-,122
HDI	,021	,991	-,112	-,005	-,015	-,013	-,030	,006
GDP	,982	-,064	,115	-,065	,022	-,052	,046	,001
GDP per capita	,021	,991	-,112	-,005	-,015	-,013	-,030	,006
GDP AT CURRENT PRICES	,982	-,064	,115	-,065	,022	-,052	,046	,001
GDP per capita in U.S. dollars	,440	-,398	,696	-,015	,086	-,130	-,021	,035
% PEA IN TERTIARY SECTOR	,397	-,370	,765	,106	,160	-,029	,137	,027

Source: Authors' calculations based on the results of the Factorial Analysis of Correspondences.

3. Scoring charts by municipalities and variables

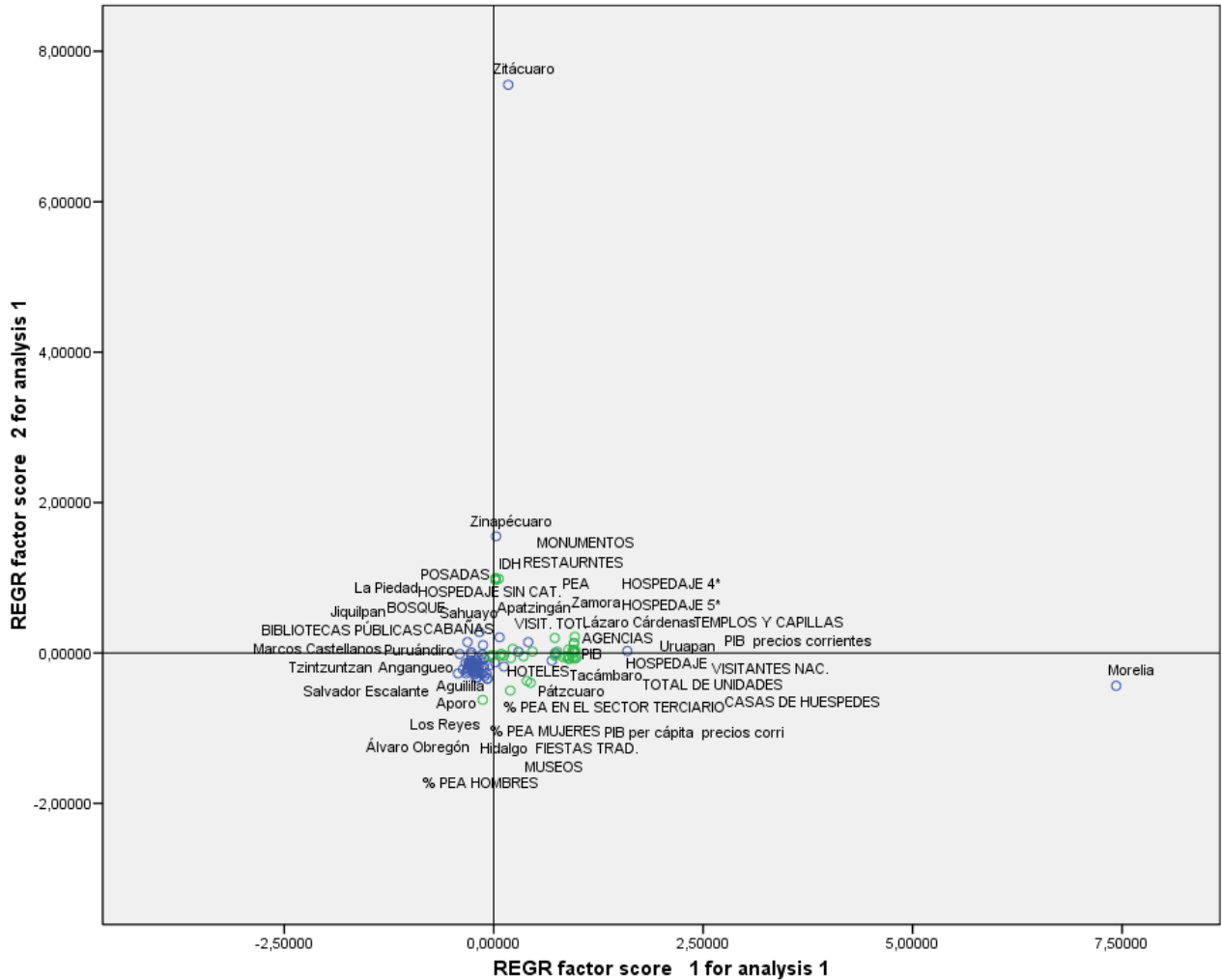
The Factorial Analysis of Correspondences is interdependent, i.e. all variables are considered simultaneously, the variables are interrelated and form factors that maximize the explanation of all the variables, identifying the structure that exists between them (Santemas, 1998). The scores plot shows (in a plane with two axes) is precisely the space where each case is at a point given by coordinates (X, Y) of the two dimensions represented. These coordinates are influenced by the proximity or remoteness to the variables, so this figure expresses the correlation of the cases (municipalities) with the variables; if the cases are affected or benefited by these variables, if the variables are opposed, juxtaposed etc.

3.1. Tourism sector competitiveness and social welfare in Michoacan

From the score plot can be seen as each of the municipalities is projected into a multidimensional space as a point given by the coordinates of the X, Y. In Figure 3 are projected along the analyzed variables and cases (municipalities), in order to understand the position of the municipalities for variable. The X axis shows the variables corresponding to the dimensions: tourism infrastructure, flow of people, and complementary services. While in the Y axis the dimensions considered are the economic indicators, and social welfare.

Municipalities with more tourist infrastructure, visitors, and great number of complementary services are positioned to the right of the axis of X. While the municipalities that account for the economic indicators and improved social welfare in tourism will be located at the bottom of the Y axis (see Figure 3).

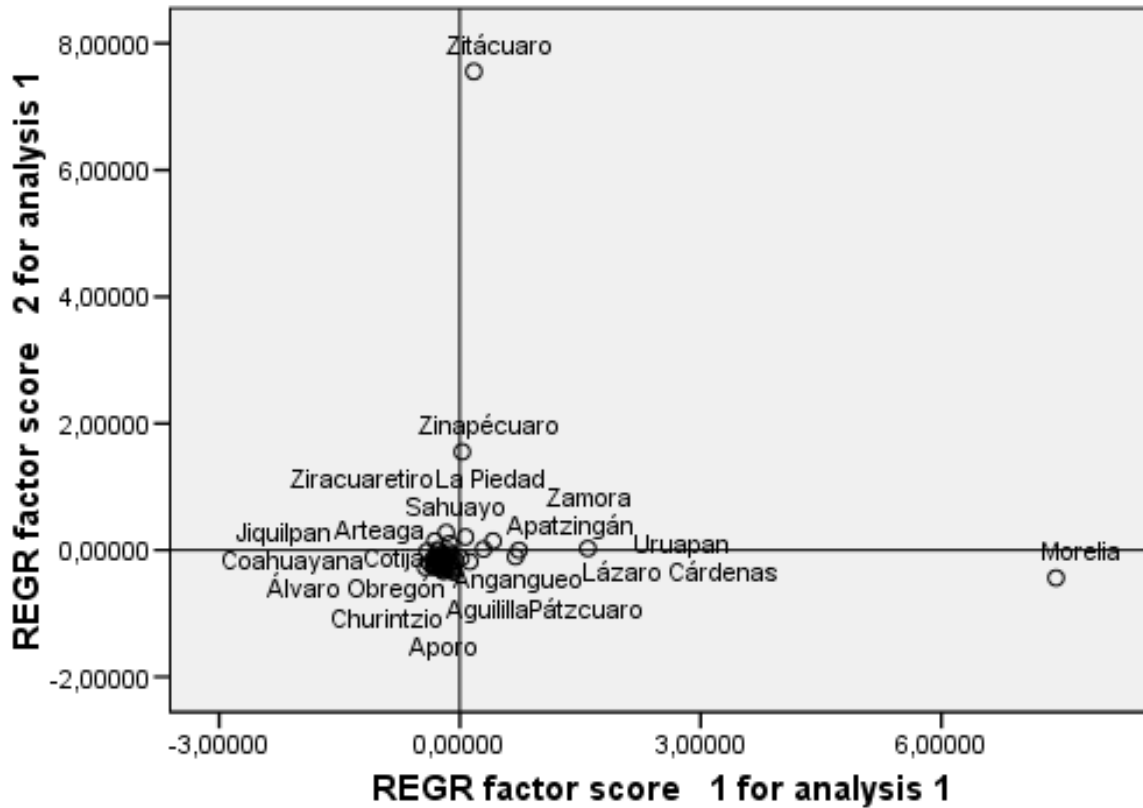
FIG. 3: SCORING CHARTS



Source: Authors' calculations based on the results of the Factorial Analysis of Correspondences.

Taking disaggregated data, we can identify the location of the variables of each respective dimension, as well as the position of the municipalities under study (Figure 4). Municipalities associated with tourism competitiveness are Morelia, Uruapan, Patzcuaro, Lazaro Cardenas, Angangueo and Zamora. These municipalities are placed on the right side of the X axis. The towns associated with social welfare are Morelia, Patzcuaro, Angangueo, Hidalgo, Uruapan, Lazaro Cardenas. Therefore, the dimensions that account for tourism competitiveness are associated with the dimensions of social welfare, where the occupation generated in this sector is an expression of these trends.

FIG. 4: SCORING CHARTS



Source: Authors' calculations based on the results of the Factorial Analysis of Correspondences.

4. Conclusions

Factor Analysis is a multivariate statistical technique whose goal is the definition of an underlying structure in a data matrix. Factor analysis can solve the problem of analyzing the structure of interrelationships in a large number of variables and cases, define a number of common underlying dimensions known as components. One advantage of this approach is that the researcher does not preset the relationships expected but on the contrary, the variables and cases converge consistent with the attributes of each case—municipalities—.

The results of these correlations are reflected in the rotated component matrix, which shows the dimension of each variable, as well as the direction into space that is projected. Finally the score plots show in the two-dimensional analysis of the axes (X, Y) demonstrates that the variable located within the tourism infrastructure, flow of people, and complementary services are directly correlated. On the other hand, the dimensions and economic indicators of social welfare interrelate with each other, as is expressed by the factor 2.

In the Cartesian plane, competitiveness of the tourism sector is explained by the aforementioned dimensions and is given by those cases-municipalities- , which are located in this space, where the variables that stand out are: restaurants, lodging with five and four stars category, visitors foreign share of the EAP in the tertiary sector, percentage of EAP women, percentage of economically active men and GDP per capita.

The analysis of the Human Development Index (HDI) is not associated with tourism variables because even though the sector accounts for variables referenced in this case, the HDI affects all economic sectors. Within municipalities associated with tourism competitiveness are Morelia, Uruapan, Patzcuaro, Lazaro Cardenas, Angangueo and Zamora. Place them on the right side of the axis of X. While in the towns associated with social welfare are products of the tourism sector to Morelia, Patzcuaro, Angangueo, Hidalgo, Uruapan to Lazaro Cardenas and are at the bottom of the axis Y. The study reflects the importance of tourism in the state sector since the spill generated by the concept of job is outstanding; in addition to that there are several municipalities that have a substantial infrastructure around it and thus are benefiting from it. On the economically active population (EAP) dedicated to the tourism sector points out that women are more dedicated to this area than men. It should be noted that tourism generates over 2.5 million jobs, in addition, Mexico is the first recipient of cruise tourists worldwide, with an economic flow that reaches 600 million dollars.

Although tourism is an important economic source for many municipalities the lack of tourism infrastructure is obvious, because while Morelia is the municipality with the highest level of infrastructure indicators, municipalities as Angangueo despite having a strong sector of the population working in this area do not count on these variables. The tourism competitiveness asymmetries that reflect the municipalities in the province of Michoacan such as Tourism Infrastructure, Flow of People and Complementary Services contrasted with the dimensions of Social Indicators and Welfare through correspondences analysis, lead to the immediate need to move around more effective public policies to enhance the province in tourism.

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Making a difference: Combating the critical shortage of GPs in rural & remote Australia

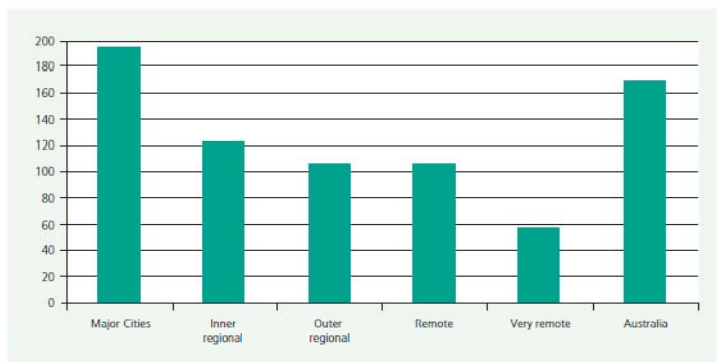
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Abstract

The rural medical workforce is short of at least 1800 doctors according to the latest report (Feb 2010) of Rural Doctors' Association of Australia based on doctor to population ratios. Despite a 20% increase in the medical workforce overall there is still a significant shortage of GPs in rural and remote Australia. Rural Clinic Schools Program (RCS), University Department Rural Health Program (UDRH) & GP Super Clinics program were designed during last decade to address the shortage of health practitioners within rural and remote Australia. These programs have some evidence of directly improving the range or quality of health care services in rural & remote areas; however, a continuing workforce shortage is predicted despite these initiatives. The shortage of intern places and teachers due to 'intern tsunami', which is expected to hit the class of 2008 graduates – in 2012, is another concern. Further criticism of Section 19AB (10-year moratorium) and existing division of responsibilities between different levels of government in Australia breeds resentment among professional associations representing doctors. This paper briefly synthesises the literature on the above said initiatives of Australian government, their evaluation and the discussion regarding how these programs can combat the critical shortage of GPs in rural & remote areas and make a positive difference.

Introduction

The rural health workforce in Australia is decreasing and remains in a state of overall shortage. A continuation of national trends, such as a decline in the provision of generalist, procedural and small-town services, solo practices, and a reduction in the clinical hours worked per week, add to discouraging projections suggesting that, by 2012, the shortfall of doctors in rural and remote areas could reach 1182 (MDS-National Minimum Data Set Report 2006). In 2007 it was estimated that 59 per cent of Australians live in an area with a shortage of available doctors. Workforce shortages are most acute outside Australia's major cities. The number of GPs per 100,000 head of population varies from under 60 in very remote Australia through to almost 200 GPs per 100,000 people in major cities (NHHN Report-2010).



Source: Australian Institute of Health and Welfare, Health and Community Services Workforce 2006, 2009.

FIGURE 1: GENERAL PRACTITIONERS PER 1, 00,000 POPULATIONS

Public and private hospital combined admissions have risen by 16% since 2004-05 to over 8 million admissions in 2008-09, according to the Australian hospital statistics 2008-09 annual report on hospitals released on 17th June 2010 by the Australian Institute of Health and Welfare (AIHW). It estimated that potentially preventable hospitalisations represented 9.3 per cent of all hospitalisations in 2007-08. This equates to around 441,000 potentially preventable hospitalisations in public hospitals. The average cost of a hospitalisation in a public hospital is around \$4,230 per episode of care. Because people cannot always access GPs and primary health care, many of these end up as patients in hospital, when this could have been avoided with better care in the community. This paper highlights major initiatives and programs which were implemented and the issues which affect the healthcare reforms scenario during the last decade followed by a discussion regarding their subsequent impact on combating the critical shortage of GPs in rural and remote Australia.

University Departments of Rural Health Program (UDRH) and the Rural Clinical Schools Program (RCS)

A student's rural background has been found to be one of the strongest factors to influence in beginning a rural career (Lee & Mackenzie, 2003; Heaney, Tolhurst & Baines, 2004; Devine, 2006; Harding, Whitehead, Aslani & Chen, 2006; Playford et al., 2006; Dalton et al., 2008;). However, undergraduate rural fieldwork placement has been reported to have a positive effect on students from urban backgrounds (Dalton et al.). Rural and remote health education during undergraduate training is a strategy to tackle the shortage of rural health professionals (Causby, 2003; Devine, 2006; Dalton, Routley & Peek, 2008). This undergraduate rural exposure has been found to be beneficial in improving students' perceptions towards rural and remote practice as well as students' decisions to work in these areas (Russell, Clark & Barney, 1996; Veitch, Underhill & Hays, 2006; Dalton et al., 2008). The UDRH Program and RCS Program were designed in 1997 and 2000 respectively as workforce strategies to address the shortage of health practitioners within rural and remote Australia. Their separate but parallel development in the late 1990s followed a growing recognition of the worsening shortage of medical and other health practitioners in rural Australia. These Programs have established significant infrastructures in rural settings, comprising national network of academic centres, ICT and infrastructure to implement innovative solutions to health workforce education and training, creating and driving solutions to meet different levels of health service demand. These two programs also drive and support e-Health, e-Learning and e-Research through a number of training opportunities and programs, in which to provide a high level of training and support to health students and health professionals.

UDRH Program

At present, there are eleven UDRHs across Australia. Each UDRH is a member of the Australian Rural Health Education Network (ARHEN), which operates as a peak professional body.

TABLE 1: UNIVERSITY DEPARTMENT OF RURAL HEALTH SITE NAMES AND ACRONYMS

UNIVERSITY	UDRH SITE LOCATION	UDRH SITE NAME	SITE ACRONYM
Flinders University	Alice Springs	Centre for Remote Health	CRH
Flinders University	Warmambool	Greater Green Triangle University Department of Rural Health	GGT UDRH

James Cook University	Mt. Isa	Mt.isa Centre for Rural and Remote Health	MICRRH
Monash University	Moe	Monash University Department of Rural and Indigenous Health	MUDRIH
University of South Australia	Whyalla	Spencer Gulf Rural Health School	SGRHS
University of Melbourne	Shepparton	School of Rural Health	SRH
University of Newcastle	Tamworth	Northern NSW University Department of Rural Health	NORTHERN NSW UDRH
University of Sydney	Broken hill	Department of Rural Health	BHUDRH
University of Sydney	Lismore	Northern Rivers Department of Rural Health	NRUDRH
University of Tasmania	Launceston	University Department of Rural Health, Tasmania	UDRH UTAS
University of western Australia	Geraldton	Combined Universities Centre for Rural Health	CUCRH

The UDRH Program aims to encourage future health professionals to consider practising in a rural area through providing short placement and training opportunities for health science students from the nursing, medical and a range of allied health disciplines. The Program also provides support to health professionals currently practising in rural settings. In general, the UDRH Program has a greater multidisciplinary focus than the RCS.

UDRH objectives are as follows:

- (i) Endeavour to progress the rural health by increasing and improving rural experiences for undergraduate students in the health professions by creating innovative service delivery models in rural and remote health ;
- (ii) Undertake research into rural and remote health issues through collaborations with universities, health services and professional and community organisations, including Indigenous communities;
- (iii) Provide training and support for rural health professionals;

According to the Evaluation of the UDRH Program and the RCS Program Final Report (November 2008) all UDRHs are currently meeting their objectives as required in their contractual arrangements with the Commonwealth; regular three-year funding agreements and their corresponding reporting mechanisms have ensured that key performance indicators (KPIs) are monitored.

The Following table summarises the extent to which the collective UDRHs are addressing their key result areas, and shows selected performance indicators. The table provides a snapshot of the level of activity undertaken by the UDRHs and the increase in volume of activity over the years 2004-2007.

TABLE 2: UNIVERSITY DEPARTMENT OF RURAL HEALTH PERFORMANCE INDICATORS

S.No	Key Result Area	Selected Performance Indicators	2004	2005	2006	2007
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1	Increase and improve rural experiences for health science students	No. students (undergraduate postgraduate) undertaking placements	3,529	3,817	3,856	4,398
		Total no. student weeks	14,427	16,675	18,451	17,663
2	Expand educational opportunities that are relevant for rural and remote practice	(i) Vocational units or course; total no. of enrolments	390	768	723	1,198
		(ii) Undergraduate units or courses; total no. of enrolments	2,422	2,080	1,623	4,021
		(iii) Postgraduate units or courses; total no. of enrolments	830	672	1105	661
3	Undertake research and related activities in rural and remote health issues	No. of new research and developmental projects	106	97	109	122
		Value to UDRH(\$)	2,652,308	9,685,272	7,871,614	9,237,275
4	Support for rural health professionals, consumers and communities	Total no. Participants in development activities	9,755	13,045	13,924	14,537
5	Contribute to innovation in education, research and service development through collaborations	Total no. collaborations in which UDRHs were actively engaged during the July to December reporting period of a given year	396	399	500	464
6	Embrace a strong public or population health focus; and contribute to the development of innovative service delivery models in rural and remote health	Increased workforce capacity increased training and support for the rural health workforce	NA	NA	NA	NA
7	Endeavour to progress the rural health agenda within the medical and other health sciences faculties or departments	Increased rural health research capability and output & relations with other initiatives and with key stakeholders.	NA	NA	NA	NA

Source: Evaluation of the UDRH Program and the RCS Program Final Report 2008

There is anecdotal evidence that rural student placements reinforce student intentions to practice rurally, and also evidence that some practitioners have been recruited to rural practice because of the presence of the UDRH. There is also evidence that the UDRHs have influenced rural and remote practitioners to remain in practice, through providing additional professional and personal networking and support, professional development opportunities, access to university resources, and incentives to undertake research. (Urbis Final Report June 2010)

Overall, UDRHs have demonstrated strategic leadership and vision in creating a rural university infrastructure which can influence the development and improvement of rural health services, and have increased communication and knowledge transfer through increased information technology. Challenges to the

Program include funding constraints, disciplinary silos, and difficulties in recruiting staff and ensuring the capacity for clinical placements. However, each UDRH has sought to minimise these limitations and to maximise their capacity to strengthen the rural health workforce.

The Rural Clinical Schools Program (RCS)

The Rural Clinical Schools (RCS) Program was launched in 2000 to improve the supply of medical professionals to non-metropolitan Australia by creating medical education infrastructure in rural and regional centres, and by providing 25% of Australian Government-supported medical students with a rural focus for at least one year of their clinical training (Eley et al 2008).

The RCS Program complements other placement programs which provide students with short-term opportunities to experience rural medical practice, and in many instances students who have undertaken short-term placements have been inspired to apply to an RCS for part of their training. The development of the Rural Clinical Schools Program has allowed construction and furnishing of teaching and learning facilities and student accommodation in dozens of rural and regional locations across Australia.

According to Evaluation of the University Departments of Rural Health Program and the Rural Clinical Schools Program 2008, rural clinical schools exist to:

- encourage medical students (and medical professionals) to take up a career in rural and remote practice;
- encourage rural health professionals to take up academic positions;
- improve the range of rural health care services in rural communities across Australia; and
- strengthen the health workforce in rural communities across Australia

Of the 14 rural clinical schools across Australia, 10 were established between 2000-2001 and another four were launched in 2006-2007. This second round of RCS funding (including additional funding for the older RCSs) occurred in the wake of the 2006 announcement from COAG (Council of Australian Governments) that 25% of all Commonwealth-funded medical students are to undertake at least one year of their clinical training in rural and regional communities. This decision recognised the influence of rural exposure during medical training upon students' decisions to undertake rural medical practice. A majority of medical schools in Australia are now in receipt of RCS funding.

TABLE 3: RURAL CLINICAL SCHOOL SITE NAMES AND ACRONYMS

UNIVERSITY	RCS SITE LOCATION	RCS SITE NAME	RCS SITE ACRONYM
Australian National University	Canberra	Australian National University Rural Clinical School	ANU RCS
Flinders University	Katherine	Northern Territory Rural Clinical School	NTRCS
Flinders University	Renmark	Flinders University Rural Clinical School	FURCS
James Cook University	Mackay	James Cook University Rural Clinical School	JCU RCS
Monash University	Bendigo	Monash Rural Clinical School	Monash RCS
University of Adelaide	Whyalla	Spencer Gulf Rural Health School	SGRCS

University of Melbourne	Shepparton	School of Rural Health	SRH
University of New South Wales	Wagga	University of New South Wales Rural Clinical School	UNSW RCS
University of Newcastle	Tamworth	Northern NSW Rural Clinical School	Northern NSW RCS
University of Queensland	Toowoomba	University of Queensland Rural Clinical School	UQ RCS
University of Sydney	Dubbo	School of Rural Health	SRH
University of Tasmania	Burnie	University of Tasmania Rural Clinical School	UTA RCS
University of Western Australia	Kalgoorlie	Rural Clinical School Western Australia	RCSWA
University of Wollongong	Wollongong	University of Wollongong Rural Clinical School	UOW RCS

Source: RCS-UDRH Final Report Nov 2008

The numbers of students studying in the Rural Clinical School have grown significantly since its commencement. In 2009, there were a total of 115 students across Years 4, 5 and 6 at the rural campuses. 52 students entered Medicine through the Rural Student Entry Scheme in 2009, and 4 students entered through the Indigenous Pre-Medicine Program. Of graduating students, 46 had spent a year or more studying at a Rural Clinical School campus. Eight of these students stayed at a rural campus for one year, 25 for two years, and 13 for three years. During 2009 there was 16.7 paid FTE academic staff, 21.5 paid FTE general staff and 131 conjoint staff. Registrars in hospitals also provided valuable teaching for students. (Rural Clinical School Annual Report 2009)

The UDRH and RCS Programs have been described as part of a 'rural health education revolution' (Wing 2007:344). The result of this 'revolution' has been the creation of a rural health infrastructure where none existed, with resulting opportunities for students, academics, and clinicians to contribute to improving rural health services. Evidence is mounting of the positive impact of UDRH and RCS on the health workforce. For example, academic performance among students studying in rural and urban settings is comparable, (Worley P, Strasser R, Prideaux D. 2004; Waters B, Hughes J, Forbes K, Wilkinson D. 2006; Young L, Rego P, Peterson R., 2008) and increased interest in rural health careers as a consequence of the rural clinical schools program (Eley DS, Baker PG 2007) and UDRH rural health modules. (Critchley J, DeWitt DE, Khan MA, Liaw S., 2007) are reported. Likewise, increasing numbers of graduates are choosing non-metropolitan teaching hospitals for their intern year. (Wilkinson D, Birks J, Davies L; et al. 2004; Eley D, Baker P., 2006).

The benefits which have accrued can be summarised broadly as the following:

- (i) Increased number of health students gaining exposure to rural health services and rural health issues;
- (ii) The establishment of educational infrastructure, with facilities which are available to a range of health providers and community groups as well as teachers and students;
- (iii) Some recent nursing and allied health graduates choosing to take up rural employment as a result of their exposure through a UDRH, and some medical students seeking rural internships or vocational training placements as a result of their exposure through an RCS;
- (iv) Some clinicians – nursing, allied health, and medical – choosing to relocate from the city because of the opportunity to accept a joint academic and clinical position; and

- (v) Enhanced visibility of rural health and its challenges within the university environment and increased number of publications with a rural or remote focus.

GP Super Clinics

Partnerships between rural health services, universities, governments and communities are the key to more equitable and sustainable health service delivery. Whereas, UDRH & RCS initiatives are to revolutionise rural health education, the Australian government has invested in the establishment of GP ‘Super Clinics’ to improve the rural hospital infrastructure which is poor and the lion’s share of infrastructure funding has been allocated to metropolitan hospitals.

The concept of GP Super Clinics was first articulated by the Australian Labour Party (ALP) in its health policy paper in August 2007 when it was in Opposition. Upon winning the federal election in November 2007, the newly elected government set about implementing the GP Super Clinics program by allocating \$242.1 million to establish 31 clinics over four years in the 2008-09 budget.

The number of clinics to be funded under the program was subsequently expanded in the latter half of 2009 to 36 with a total funding commitment of \$275.2 million (Department of Health & Ageing; 2007-08 GP Super Clinic Commitments). In the 2010-11 Budget the Australian Government committed a further \$370.2 million to improve the quality and accessibility of primary health care services by supporting the establishment of 28 new GP Super Clinics and providing funding to upgrade and extend around 425 general practices, primary care and community health services, and Aboriginal Medical Services to improve access to integrated GP and primary health care (Department of Health & Ageing; 2010-11 GP Super Clinic Commitments).

GP Super Clinics around Australia has as one of its core objectives to support the future primary care workforce by providing high quality education and training opportunities supported by infrastructure for trainee consulting rooms, teaching rooms and training facilities to make general practice attractive to students, thus removing shortage of GPs in Australia. GP Super Clinics main aim was to provide GPs with more flexibility in their career and working conditions than traditional models of general practice, particularly in regional areas.

There are currently eight GP Super Clinics in operation:

- in Ballan (Victoria), which commenced operations on 14 September 2009;
- in Strathpine (Queensland) which opened on 29 January 2010;
- in Port Stephens (NSW), which was officially opened on 17 May 2010;
- in Devonport (Tasmania) which was officially opened on 22 July 2010;
- in Geelong (VIC), which commenced operations on 30 August 2010;
- in Palmerston (NT), which commenced operations on 4 October 2010;
- in Ipswich (QLD), which commenced stage 1 operations on 18 October 2010; and
- in Southern Lake Macquarie, which opened on 15 December 2010

General practitioners enjoy teaching; a report from the Australian Institute of Health and Welfare, General practice activity in Australia 2009–10, showed that 65% of GPs taught medical students and 91% worked in an accredited practice. Though GP Super Clinics will provide some additional space for teaching in general practice through explicitly identified building and infrastructure funding for new teaching space, including extra consulting rooms for students and trainees, and seminar rooms, but with only 31 GP Super Clinics, less than 1% of nearly 5000 general practice clinics in Australia, this space may not make a significant difference to teaching capacity across the country. Currently, there are no alternative funding streams within the GP Super Clinics program to support an expanded teaching role and provide protected time to teach.

10-Year Moratorium (Section 19AB)

This section of the Health Insurance Act came into force through an amendment made to the Act in 1996 to influence distribution of the medical workforce in rural and remote areas of Australia; ensuring communities in remote locations have access to a GPs. This is commonly referred to as the '10-year moratorium'. At that time it was assumed that there were too many doctors when in fact shortages were emerging. In 1996 when the Howard government came to power, it set out to correct those problems and section 19AB was one of the changes implemented. The change meant that overseas trained doctors who started work in Australia from 1 January 1997 and who wished to access Medicare benefits for their services needed to practise in rural and remote areas, areas of health workforce shortages, for a period of 10 years.

The 10-year moratorium proved to be an effective mechanism in ensuring that overseas trained doctors provide services to those communities in greatest need, which tend to be rural and remote. Because of this policy the proportion of overseas trained doctors increased in rural and remote areas. In fact, 41 per cent of all doctors in these areas were trained overseas, but it was ineffective in attracting sufficient Australian graduates to rural practice (Second Reading - Roxon, Minister for Health and Ageing, Health Insurance Amendment - New Zealand Overseas Trained Doctors Bill October, 2009).

Under this amended Act (1996) New Zealand citizens and permanent resident doctors from other countries practising in Australia were subject to the above mentioned restriction. The main drawback of the Act was that overseas trained doctors may be granted an exemption from these restrictions if they are working in a district of workforce shortage (DWS). With staffing crises reaching into the suburbs, more and more Australia was classified as DWS, and Section 19AB exemptions were considered vital to filling outer metropolitan GP vacancies. The number of exemptions under section 19AB rose to 4381 for the 12 months ended October 31 2009, as compared with 2718 for the same period four years earlier. During that time, the percentage of the population and land area deemed to have a doctor shortage remained relatively steady, indicating overseas-trained doctors are still being used to fill gaps in the medical workforce, if only to prevent the problem from getting worse (Sean Parnell, *The Australian* newspaper, April 03, 2010).

New Amendments (October 2009) in Section 19AB

A report commissioned by the DH&A (Department of Health & Ageing) in year 2006, which was never made public, laid emphasis upon the need for attention to the factors leading to shortages, and how the department should assess District of Workforce Shortages and applications for an exemption from Section 19AB. In Oct 2009, the Health Insurance Amendment (New Zealand Overseas Trained Doctors) Bill 2009 was proposed to streamline the operation of section 19AB of the Health Insurance Act 1973 (the act)

The bill proposed to lift restrictions of 10-year moratorium on New Zealand citizens and permanent resident doctors who obtain their primary medical degree from an Australian or New Zealand medical school. The bill also proposed that the 10-year restriction will commence from the time the medical practitioner is first registered as a medical practitioner in Australia, and will cease after 10 years, provided that the medical practitioner has gained Australian permanent residency or citizenship during that period. As part of \$134 million rural package in the 2009 budget, it was further proposed that the 10-year moratorium would also be scaled, so that the more remote GPs go, the shorter would be the moratorium. The proposed bill came into effect in April 2010 and was assumed to complement the workforce reforms already underway at that time —making the system more transparent, fairer and consistent with government policy.

Medical Intern Tsunami

Currently Australia is training more students than it has intern places for. The 'intern tsunami' is expected to hit as the class of 2008 graduates – in 2012, and continue with each and every year of graduates. The Australian Medical Association said last August 2010 the situation had reached a national crisis point. The following figure shows the dramatic rise in the number of medical school graduates that we are seeing in Australia. While the upsurge in graduates is one of the key issues the medical education system needs to address, it is worthwhile recognising that the graph also shows the previous chronic undersupply of clinicians to the Australian public.

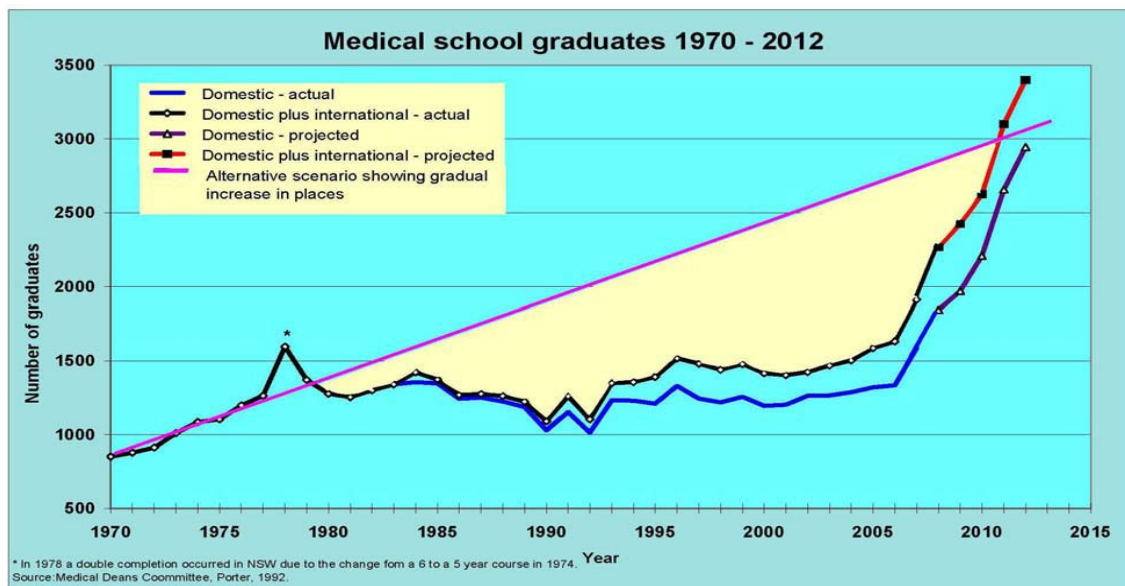


FIGURE 2 - MEDICAL SCHOOL GRADUATES

This is of concern to Commonwealth, because as the medical student numbers are growing rapidly, the number of supervisors in Australian public hospitals remains relatively static and the time allocated for teaching, training and assessment activities remains unchanged. Going by the current trends in 2014, the number of domestic graduates from medical schools will grow to 3108 per annum – which compares to 1287 per annum in 2004. Taking into account international full fee paying students, the total number of graduates from Australian medical schools in 2014 will be 3786. This presents Australia with a real opportunity to not only reduce overall medical workforce shortages, but to also address more specific workforce issues such as the lack of access to medical care in rural and remote areas (Medical Training Review Panel, Thirteenth Report , April 2010).

An increase in student numbers (both graduates from Australia & IMGs), while the supply of clinical teachers and patients for teaching remains static, challenges the traditional apprenticeship model for learning medicine. Coupled with this is the requirement of medical schools to provide compulsory rural clinical placements for all students under the Rural Undergraduate Support and Coordination (RUSC) program. The situation is further compounded by the proliferation of long term rural, state and federal bonded scholarships, and the eventual increase in the number of postgraduate trainees.

The number of training medical students has increased commendably, and that's needed and that's great, but Australian government hasn't indulged in efforts to commensurate improvement in the ability to train the increased numbers of students coming through the system. Increasing the number of medical school places will be ineffective in addressing medical workforce shortages unless there is a coordinated increase in:

- clinical training places for medical students;
- intern and prevocational training places; and
- Vocational (specialist) training places.

The current problem can be attributed to the dysfunction that have been created due to the - the split responsibilities between the Commonwealth and States – it has meant that Australian healthcare has got a complete dislocation between the number of medical students that are being trained in universities and the facilities and infrastructure which is available to train them once they graduate and get into the hospitals. Moreover, existing mechanisms to allocate intern numbers across the country are inefficient and often

result in medical graduates applying for positions in multiple states. Under these arrangements some states have difficulty filling all the intern positions that they offer, while others are unable to provide enough places for all applicants.

Some steps have already been taken towards meeting these challenges. In 2008 the Council of Australian Governments (COAG) announced a \$1.64 billion package to support undergraduate clinical training for the health workforce. More recently, the Commonwealth committed \$640m to support a significant expansion in prevocational and vocational GP training positions as well as additional specialist training positions in the private sector. There has also been a commitment to increase training positions in Emergency Medicine. The need is for a really good fundamental sit-down with all the players around the table, recognising that there's a split responsibility between the Commonwealth and States, and to have a coordinated strategy to make sure that the effort is now put in to train these doctors and nurses that will be coming through.

The Blame Game

The existing division of responsibilities in health in Australia creates the potential for cost-shifting between different levels of government, and gives rise to frequent claims of blame-shifting and buck-passing. In 2007, Kevin Rudd, as the newly established Labour leader, staked his reputation on his commitment to eradicating the "blame game" on health. He assured that the endemic blame-shifting and cost-shifting between the government and the states would become a thing of the past.

On 9th March 2010 he proposed a National Health and Hospitals Network (NHHN) for Australia's future healthcare reforms. This reform policy aimed at one level of government — the Commonwealth — will be responsible and accountable for the strategic direction, planning and public funding of primary health care, as recommended by the National Health and Hospitals Reform Commission (NHHRC). The main focus was to reduce duplication of services, improving efficiency and thus providing a commendable solution to shortage of GPs in Australia. To give it credit, various healthcare organisation and clinicians felt that the federal government has recognised the importance of primary health care, for example training more GPs and other health workers, and proposing Medicare Locals. It was hailed as a bold blueprint to take Australia's health system forward.

But on 13th Feb 2011, after 12 months of wrangling with the states and the signing of a historic health funding agreement in Canberra last year, prime minister Julia Gillard discarded Kevin Rudd's historic reforms and put pen to paper at Council of Australian Governments (COAG) meeting with state and territory leaders with a national agreement in place for a health reform plan under which Federal and State Governments will contribute money on equal basis into a national funding pool to pay for the health system. The funds will then be paid out to the states and territories on the basis of how many operations or procedures they perform. The new health reform deal with the states abandons its bid to take on full responsibility and 100 per cent funding of primary healthcare. This loses the crucial opportunity to create a single (more rational and fair) primary health care system.

Critical Analysis

There is anecdotal evidence, from the Evaluation of the UDRH Program and the RCS Program Final Report 2008, regarding workforce benefits from the RCSs& UDRHs through the attraction and retention of clinicians involved in teaching and supervision. .In summary, there are some promising signs but no definitive answers to whether RCSs& UDRHs in Australia have (or have not) yielded higher rates of rural practice among participating students and in a way combated critical shortage of doctors in rural and remote Australia, however, there is evidence of positive attitudinal shifts towards rural training and practice . A continuing workforce shortage is predicted despite these initiatives and the early indications of their success. Some studies have suggested that an increasing number of students are seeking rural internships (Playford et al 2008, Wilkinson et al 2004), although these figures should be approached with caution as it is not clear to what extent this will translate into career decisions.

GP Super Clinics also have been put down by load of criticism with most of the professional association representing doctors, arguing if there is a place for Government funding of clinics to provide GP services to communities then Super Clinics should be set up in areas where there are not existing general practices, and that there is no way that the existing general practices, if they are there, could meet the needs of the community. As shortage of GPs and a rapid increase in the number of medical students has accentuated the education and training gap for clinical placements and the time available for GPs to commit to teaching (Australian Government Productivity Commission, 2006; Thistlethwaite JE, Leeder SR, Kidd MR, Shaw T, 2006), the GP Super Clinics should have been equipped with providing solutions to this problem. Currently, there are no alternative funding streams within the GP Super Clinics program to support an expanded teaching role and provide protected time to teach.

Whereas Section 19 AB according to Australian Medical Association (AMA) president Andrew Pesce, who initially supported the moratorium -- joined other groups (RDAA, RACGP) in condemning the Act and terming it as a form of conscription affecting people who don't have professional support, political clout or community sympathy. They believe this rule is unjust and have called for the scrapping of the 10-year moratorium. The reason being that IMGs or OTDs don't necessarily have to work in a rural/remote or regional area. There are plenty of DWS in inner city areas/outer metro areas to make the mockery of the demarcation. With a better knowledge of geographical demarcation and through doctor connect website the doctors can easily find those DWS areas. There are areas outside large metros that are classed as in need. If they want to get a particular area as classed in need the practice simply applies to the DH&A (Department of Health & Ageing) and it can be done quickly. But it would be difficult to overturn Section 19 AB without massive ramifications. Potentially, it could deplete rural and remote Australia of large number of IMGs who are only working there because of this section. If the Section 19AB is withdrawn, most of the IMGs may abandon the rural and remote areas for a metropolitan suburb and create an even bigger workforce maldistribution than currently exists.

With the implementation of historic health funding agreement, on 13th Feb 2011 at Council of Australian Governments (COAG) meeting, under which Federal and State Governments will contribute money on equal basis into a national funding pool to pay for the health system, the ambitious health reform policy's bid by NHHN to take on full responsibility and 100 per cent funding of primary healthcare was defeated. Thus losing the crucial opportunity to create a single (more rational and fair) primary health care system.

Improving delivery of primary care is the linchpin of any health reform advance and this policy is not actually a health reform. This agreement will not do more to prevent people getting sick, and they will not do more to treat people early and support them with their chronic diseases in the community. Such moves would have decreased the number of people needing to go to hospital. That would have been health reform. Further it would have impacted the chronic problem of GPs shortage in rural and remote areas, especially for marginalised populations. The increase in hospital funding will make a small but welcome dent in this overall, but there is no funding formula to place money where it is most needed.

Conclusion

That is where Australia find itself on health reform regarding combating critical shortage of doctors in rural and remote areas.. Rudd's crusade of 2007 to create a new, more accountable system of health delivery - which he messed up after his initial pronouncements - concluded in incremental, rather than revolutionary, policy improvements via a deal driven by various political needs.

The need of the hour is to develop an effective mechanism to ensure that the number of medical school places across the country is determined by robust workforce modelling and a proper assessment of the resources that will be needed to provide not only the required undergraduate clinical training places, but also sufficient downstream prevocational and vocational training places. This process should be undertaken in full consultation with medical schools and other stakeholders. It should be ensured that the funding provided to the states and territories for teaching includes a component that specifically recognises the costs of protected teaching time for clinicians and requires the states and territories to set aside quarantined funding to support hospitals to meet appropriate benchmarks in this regard. Moreover a nationally consistent intern allocation processes has to be developed which should allow jurisdictions to share information on intern applications and acceptances in order to better inform the recruitment and selection processes in each state/territory. This would include a national “wash-up” process that identifies those graduates that accept more than one offer of an intern position and asks them to confirm a final choice to free up places that can be accessed by other applicants.

New models for funding teaching are required to free up more GPs to teach. Teaching capacity in general practice could be increased by the establishment of dedicated teaching practices funded to ensure financial sustainability while still operating clinically under the fee-for-service model. Remuneration of teaching doctors with salaries, supported by additional funding to education providers, such as universities or regional training providers, is another alternative to afford protected time to teach. GP Super Clinics will need adequate recurrent funding if they are to play a lead role in the establishment of better teaching practices. A responsive and flexible workplace culture, improved payment, and targeted resources and support are needed to make a positive difference and combat the critical shortage of doctors in rural and remote Australia.

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Measuring Regulatory Restrictiveness on Mobility of Human Capital in Healthcare (Nursing) Services

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Abstract

Services are the fastest growing sectors of the Indian economy. From services export perspective cross-border movement of human capital to provide services is very important for India, given its large skilled/semi-skilled workforce and English speaking population. The export performance, however, depends upon restrictions imposed by its major trading partners. This paper focuses on regulatory barriers affecting cross-border movement of Indian human capital in Healthcare (Nursing) services to selected developed country markets. This research contributes to the existing body of literature by developing a template to quantify the qualitative nature of regulatory barriers, by constructing restrictiveness indices for the pre and post recession periods and by assessing the post recession changes in regulatory environment affecting such mobility. It finds that the selected developed country markets have become more protective after current global slowdown. The empirical estimation also suggests that qualification related recognition barriers are very important contributor towards regulatory restrictiveness affecting such mobility.

1. Introduction

Services sector is one of the fastest growing sectors of the Indian economy. India has witnessed rapid growth in its services sector output as well as exports during the last two decades. The contribution of services in India's GDP is continuously increasing and it has risen from about 43% in 1990-91 to more than 60% in 2009-10 (Ministry Of Finance, Government of India, 2010). During the same period, the share of services in total exports has grown from 20% to 36% (UNCTAD Handbook of Statistics, 2010) and is likely to surpass merchandise exports by 2012 (FICCI Survey, 2007). From the services export perspective, Mode 4¹ of service delivery, i.e., temporary movement of human capital to provide services, is very important for India as India has a comparative advantage in contrast to other countries given its large skilled and semi skilled human capital and English speaking population. One of the key drivers in India's enhanced services export performance is its ability to provide highly skilled services such as Healthcare (Nursing) services, IT and IT enabled services, etc. at a low cost viz-a-viz other developing and developed countries. Indian export performance, however, depends upon protection and regulatory barriers imposed by its major trading partners on movement of Indian human capital for delivering these services in the concerned markets.

This study identifies the nature of such regulatory restrictiveness affecting temporary movement of Indian human capital in Healthcare (Nursing) services to its major destination markets. It quantifies the incidence of such regulatory restrictiveness and makes a cross country as well as pre and post recession comparison to identify the main regulatory barriers hindering free movement of Indian nursing professionals.

This research study contributes to the existing body of literature in many ways. Firstly, it originates and develops a template to quantify the qualitative nature of regulatory barriers affecting movement of human capital, i.e., Mode 4 of service delivery in international trade. Most of the existing studies on Mode 4 had a qualitative description of various regulatory barriers and there are as yet no noteworthy studies to quantify restrictiveness in Mode 4. Secondly, this research study constructs trade restrictiveness indices for the pre and post recession periods to assess the effect of the recent recession on protectionism affecting cross-border mobility of human capital. This is particularly important at this point of time as the recent recession has compelled many countries to impose stricter regulations on temporary and permanent movement of foreign professionals in order to protect their domestic markets. Lastly, as Mode 4 is one of the main export and revenue generating modes in services trade for developing countries like India, this study is likely to help the policy makers by bringing forward the real nature of regulatory barriers and by suggesting policy prescriptions to enhance trade and welfare of the countries involved.

The rest of the paper is structured as follows. The next section outlines the scope and motivation for this research. Section 3 presents the literature review and the conceptual framework for understanding various types of regulations affecting mobility of human capital. Section 4 provides an overview of the methodology sources of information. Section 5 provides empirical results and estimated indices for each of the overseas markets and discusses the main findings based on these restrictiveness indices. Section 6 discusses the post recession changes in existing regulatory environment in these countries. Section 7 provides some broad policy insights for the policy makers. Section 8 bring forward some limitations of the study and concludes the paper.

2. Research Scope and Motivation

This research study focuses on barriers faced by Indian nursing professionals in overseas markets, i.e., barriers affecting India's Mode 4 (movement of human capital) based services exports for nursing services. It involves a detailed examination of regulatory barriers in selected OECD countries which are host to Indian service providers. It quantifies the incidence of these regulatory barriers and their likely impact on the movement of Indian nursing professionals to these countries. The choice of this service sector is motivated by the fact that for nursing services, Mode 4 of service delivery, i.e., movement of human capital is very important as provision of these services require some kind of direct client interface. Nursing being a labour intensive activity requiring personal care of patients, the movement of either service provider or consumer is must.

Apart from it, there are huge shortages of nursing professionals in the developed world and there is known migration from India to serve overseas markets. According to the American Nurses Association, in the year 2004, 3.5 percent of US nurses are foreign born and out of these foreign born nurses, half were from Philippines and 1.3 percent have an Indian diploma (Pranav and Simi, 2008). Khadria (2007) reported in his study that India was ranked 6th in terms of the number of registered nurse applicants aspiring for the US licensure. However, it has improved its ranking after 2003 onwards and has been ranked 2nd after the Philippines. He also reported that record 10,000 Indian nurses were reported to be in the process of applying to migrate to the USA in 2004-2005. Similarly, there is a continuous increase in Indian trained nurses registered per annum in the UK. The following table shows this trend for the period 1998-2005. Precise data is not available for other developed countries but informal estimates suggest that these countries also have significant number of Indian trained nurses working there in different capacities.

Table1: Indian trained Nurses Registered per annum in UK for the period 1998-2004

Year	No. of Indian trained Nurses registered in the UK
1998-1999	30
1999-2000	96
2000-2001	289
2001-2002	994
2002-2003	1833
2003-2004	3073
2004-2005	3690

Source: Nursing and Midwifery Council (NMC), UK as cited in Pranav and Simi (2008)

Developed countries are facing severe demand supply gap for nursing services and the demand is continuously outstripping supply of nursing services. This is primarily due to ageing of population, ageing and retirement of presently working nurses and low student enrolment for nursing studies in these countries (American Association of Colleges of Nursing, 2010).

This study considers USA, Canada, UK and Australia as the host countries to identify the regulations on movement of Indian nursing professionals. These countries are considered for the analysis as they are facing severe shortages in the selected service sectors. The expected shortage and the foreign nurses' contribution in the selected countries' workforce are given in the following table.

Table2: Employment of Registered Nurses (RNs), Predicted Shortfall and Foreign Nurses' Contribution

Country	No. of RNs in the Workforce (Year)	Predicted Shortfall (Shortfall Year)	Foreign Nurses as percent of Workforce
Australia	179,200 (1999)	40,000 (2010)	@
Canada	230,300 (2001)	78,000 (2011)	6
UK	500,000 (2001)	53,000 (2010)	8
USA	2,202,000 (2000)	275,000 (2010)	4

@ Data not available

Source: Author's compilation from Exhibit-1 (Host Country Registered Nurse (RN) Workforce and Foreign Nurses' Contributions) of paper "Trends in international nurse migration" by Aiken LH, Buchan J, Sochalski J, Nichols B, Powell M published in Health Affairs 2004, 23(3):69-77

This country choice is also motivated by the fact that these countries are facing severe public discontent over working of Indians in their domestic markets as their unemployment level is rising after the recent global financial crisis. As a result, these countries have imposed stricter regulatory barriers to curb number of Indian service providers entering their territories in spite of having acute shortages.

3. Literature Review and Conceptual Framework

Winters (2003) found that as population in advanced countries is ageing and there is no substitute for human labour, at least in some occupations, the demand for movement of human capital, i.e., Mode 4 of service delivery in these countries is high and likely to remain high over time. The ageing of the population in OECD countries and the resulting shortage of healthcare workers is creating new opportunities in healthcare sector for countries like India. This ageing has resulted in a huge demand for nurses in OECD countries, giving opportunities to developing countries to supply such professionals (Pranav and Simi, 2008). In a recent report on health systems, the OECD highlighted increasing concerns about nursing shortages in many of its member countries. Some recent examples of OECD country assessments of nursing shortages include Canada, where the shortfall of nurses was quantified at around 78,000 nurses by 2011ⁱⁱ, and Australia, which projected a shortage of 40,000 nurses by 2010ⁱⁱⁱ. Although the Philippines is considered as the main source country for nurses, India is fast emerging as another important source country to fulfill the rising global demand of nurses (Matsuno, 2008).

Chanda (1999) and Mattoo (2003) had discussed the regulatory barriers applicable for Mode 4. These regulatory barriers fall into three categories. The first type of barriers falls into the broad category of 'Immigration Barriers'. As Mode 4 of service delivery only includes temporary movements of natural persons, it comes under the purview of immigration authorities and labor market policies rather than purely international trade. These immigration barriers can be in the form of quantitative restrictions on movement of natural persons like H1B Visa regulations in USA, economic needs tests, wage parity requirements etc.

The other category of regulations is related to 'Discretionary Treatment' of service providers in these host country markets. These regulations may range from citizenship or residency requirements to social security contribution and double taxation. Discrimination may also take the form of preferences in government procurements granted to domestic service providers over foreigners.

The third category of regulatory barriers relates to 'Recognition of Qualification'. Inadequate recognition of professional qualifications, post and pre qualification experiences, training etc. are likely to impact services like healthcare and the movement of professionals in this sector. Though, sometimes the higher standards for qualifications and experiences are imposed to meet certain public policy objectives, they may also become prominent tool for protectionist purposes.

Thus, there are different types of regulatory barriers on movement of professionals (Mode 4). Hoekman and Braga (1997) and Mattoo and Stern (2008) also highlighted the importance of regulatory measures such as licensing and qualification requirements; standards; codes of conduct; and registration, approval, and authorization requirements. These studies also note that although many regulations in services are aimed at realizing certain public policy objectives, they often become impediments to trade in services due to their onerous nature and the way in which they are administered and implemented.

Liberalization of these regulatory barriers can lead to significant welfare gains. Robinson et al (2008) estimated the potential welfare gains from even a 50 percent reduction in barriers affecting services trade to be five times larger than the gains from non services sector trade liberalization. Winters (2003) argued that the liberalization of regulatory barriers may lead to significant gains for the world economy which can be shared among economies. He estimated that an increase in quota equivalent to 3 percent of their work force on inward movement of skilled and unskilled temporary workers by industrial countries would increase global welfare by around US\$150 billion a year.

4. Methodology and Data Sources

The methodology for this research relied on the collection and analysis of primary and secondary data and construction of some empirical indices. Primary data was obtained through interviews with different stakeholders in nursing services. This helped in incorporating their viewpoints regarding how domestic regulatory barriers in the selected developed countries are affecting the flows of Indian nursing professionals to the countries under consideration.

Secondary data sources included information and published reports by government authorities and multilateral, regional and country agencies. These reports were sourced of various Government publications and policy documents, information from immigration authorities and licensing bodies of the countries selected, Trade Policy Reviews available on the WTO website and information available at websites of various immigration help and placement agencies in India and outside.

4.1 Primary Survey

A primary survey was conducted of various stakeholders during the period of July-September 2010. The survey was conducted by having face to face interview and in-depth discussions with the respondents and also through web by generating an electronic version of the physical questionnaire. The questionnaire was a semi structured one with both close and open ended questions. The respondents were based at Bangalore, Chennai, Delhi and Mumbai. The respondents included senior officials in nursing section of hospitals, the nurses who actually had worked for sometime in these countries and immigration firms dealing with overseas placements of Indian nurses. The details of respondents are given in the following tables.

Table3: Profile of Respondents Surveyed

Organization	Respondent's Designation	Remark
Apollo Hospital	Nurse In-charge	Worked temporarily in these countries
Apollo Hospital	Director Nursing	
Apollo Hospital	Nurse	Worked temporarily in these countries
Apollo Hospital	Staff Nurse	Worked temporarily in these countries
Colombia Asia	General Manager (Nursing Education & Training)	
Fortis Hospital	Nurse In-charge	
Immigration Firm	Director	

Source: Based on Primary Survey Conducted by the Author

The basic aim of conducting this primary survey was to get industry insights and feedback on various regulations affecting temporary movement of Indian nursing professionals to the selected developed country markets. It also helped in weighing various regulatory barriers imposed by these countries as not all regulatory barriers affect such movement equally.

A two stage method was used for weighing various regulatory barriers. In the first stage, all the regulatory barriers were classified into three broad categories, namely, 'Immigration Barriers', 'Discriminatory Treatment barriers' and Recognition of Qualification Barriers'. The respondents in were required to rank the three kinds of barriers according to their "relative importance" in determining overall restrictiveness on movement of Indian nursing professionals on a scale of 1 to 3, 1 being the least important and 3 being the most important. The sum of all respondents' score for each of these broad categories was divided by the aggregate score of all three broad categories. This gave the relative weights for these three categories of regulatory barriers with a sum total of one for all three categories.

The second stage consisted of weighing individual regulatory parameters within each of these three broad types of regulatory barriers. The respondents were confronted with specific regulatory barriers and were required to rate these regulatory barriers according to their importance in determining overall restrictiveness affecting such movement using a 5 point Likert's scale (1 being the least important and 5 being the most important). The total of all respondents' score for each barrier was divided by the aggregate score of all barriers within that category across all respondents. These weights had been further scaled down so as to make the sum of all weights within each individual category equal to the relative weight of that particular category as obtained in stage one of the weighing process.

4.2 Secondary Data Sources

The secondary data sources included published reports and information available at websites of immigration and licensing authorities of the selected developed country markets. A list of various organizations referred to for getting secondary data is given as below. Apart from these organizations and websites, other industry bodies and immigration organizations working in India were referred to for getting information about prevailing regulatory barriers affecting professionals' movement in these two services. These included VFS Global, Indian Nursing Council, nurses-career-abroad.com etc.

Table4: Data Sources

Country	Government	Private and Others
Australia	Australian Nursery and Midwifery Council (ANMC) Australian Government Department of Immigration and Citizenship Commonwealth of Australia Law (COMLAW) Australian Health Practitioner Regulation Agency(AHPRA)	workpermit.com visabureau.com www.australia-migration.com
Canada	Citizenship and Immigration Canada (CIC) Human Resources and Skills Development Canada (HRSDC) Canadian Nurses Association (CNA)	Workpermit.com Canadaworkvisa.ca Globalvisas.com
UK	Nursing and Midwifery Council (NMC) UK Border Agency (UKBA)	workpermit.com migrationexpert.com visabureau.com
USA	US Citizenship and Immigration Services (USCIS) Internal Revenue Service (IRS) Department of Labour (DOL) National Archives and Records Administration (NARA) American Association of Colleges of Nursing (AACN)	workpermit.com visabureau.com healthstaff.org

Source: Author's Compilation

4.3 Construction of Empirical Indices

As mentioned earlier, this study develops a template for measuring and quantifying the incidence of regulatory restrictiveness prevailing in each of these countries. This template is constructed after carefully evaluating all the relevant regulations applicable for movement of human capital by having literature search, in-depth discussions with various stakeholders and referring to immigration authorities for prevailing regulations. It constructs a '**Mode 4 Total Restrictiveness Index**' and also calculates separately the restrictiveness arising out of three broad categories of regulatory barriers used in survey method for classifying these barriers by constructing '**Immigration Restrictiveness Index**', '**Discriminatory Treatment Restrictiveness Index**' and '**Recognition of Qualification Restrictiveness Index**'. The information for constructing indices is updated till September 2010.

The following steps have been followed for constructing restrictiveness indices for the selected services.

- **Step 1.** Collection of information from different government agencies and regulatory bodies for various regulatory barriers pertaining to nursing services in different countries.
- **Step 2.** Collection of information from various other sources such as study reports of WTO, OECD, independent research organizations and different immigration organizations.
- **Step 3.** Construction of template using all these regulatory barriers and defining sub parameters for each barrier indicating its intensity and severity.
- **Step 4.** Assigning scores to each type of regulation based on prevailing regulatory environment. Scores range from a minimum of zero for the least restrictive to a maximum of one for the most restrictive.
- **Step 5.** Constructing indices by multiplying scores arrived at in step 4 with the weights obtained from the primary survey with the relevant stakeholders in that service sector.

5. Empirical Results and Analysis

This paper focuses on regulatory barriers imposed on Indian nurses going overseas as 'Independent Professional'. The reason for choosing this category is that corporate movement of Indian nurses to overseas countries is very insignificant and most of the nurses go abroad through private placement agencies by putting their own efforts.

The table below provides information about the visa types available for nursing professionals going to these countries.

Table5: Visa Types Available For Nursing Professionals

Country	Visa Category
Australia	Visa 457
Canada	Temporary Foreign Worker Program
UK	Tier-2 (General)
USA	H1B*

Source: Author's Compilation

* HIC visa was available for temporary movement of nurses till December 2009.

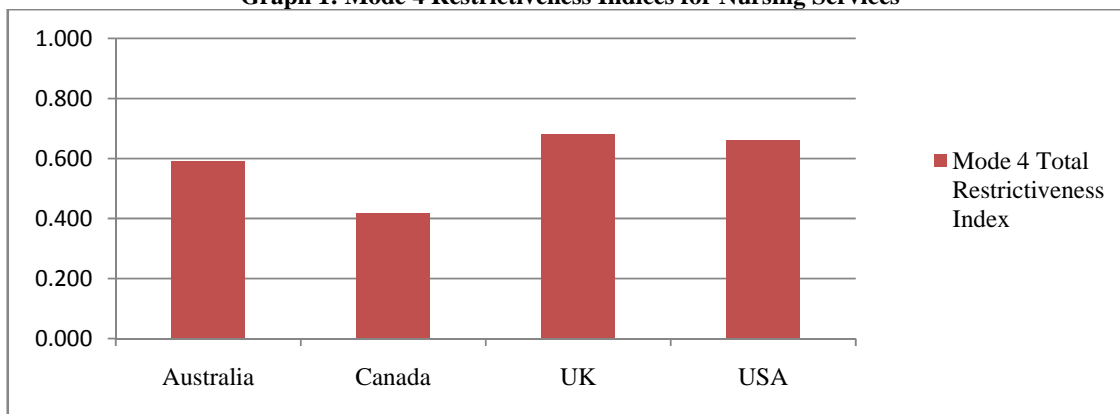
The following paragraphs discuss and analyse the results of empirical estimation of regulatory barriers imposed by the selected developed country markets on movement of Indian nursing professionals.

Table 6: Mode 4 Restrictiveness Indices for Nursing Services

Country	Mode 4 Total Restrictiveness Index	Immigration Restrictiveness Index	Discriminatory Treatment Restrictiveness Index	Recognition of Qualification Restrictiveness Index
Australia	0.591	0.103	0.181	0.308
Canada	0.419	0.102	0.111	0.206
UK	0.682	0.169	0.254	0.259
USA	0.660	0.120	0.291	0.250

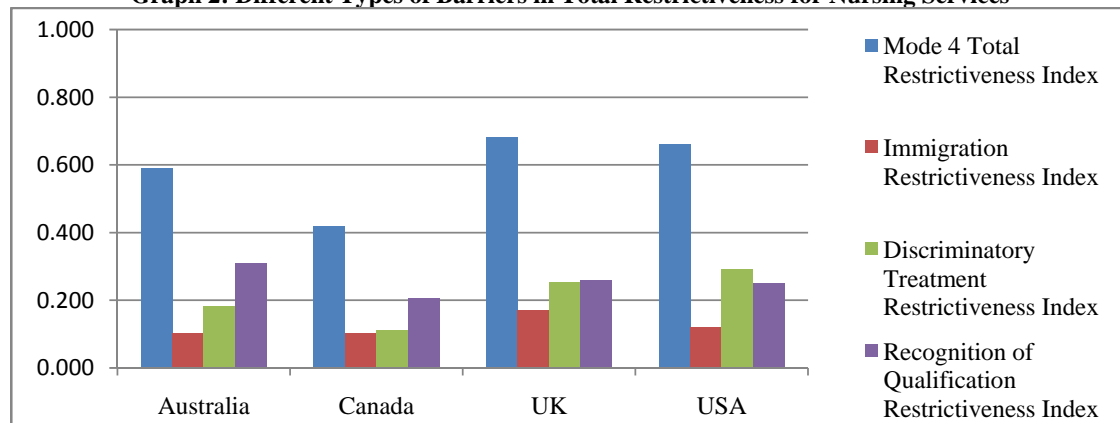
Source: Author's Calculations

Graph 1: Mode 4 Restrictiveness Indices for Nursing Services



Source: Author's Calculations

Graph 2: Different Types of Barriers in Total Restrictiveness for Nursing Services



Source: Author's Calculations

The UK is the most restrictive country and the restrictions come from all three broad types of barriers, i.e., immigration, discriminatory treatment and recognition of qualification barriers. It imposes a very restrictive environment due to health concerns raised by National Health System (NHS), professional bodies and the common public. These restrictions are related to their ability to speak English, to have adequate maintenance funds, health examination including chest X-ray, minimum wage requirements, etc. The US is the second most restrictive country. It also imposes strict qualification-related recognition barriers as in the case of UK, except for minimum experience requirements. Australia is the third most restrictive and the restrictiveness comes primarily from recognition of qualification and discriminatory barriers. Canada is the least restrictive country but here too qualification barriers are the most important.

To work in Australia, nurses need to be registered or enrolled by the nurse regulatory body in the State or Territory in which they want to work. Nurses need to be in good health and have a certain level of education and experience. Canadian health care employers are facing an ever-growing shortage of health professionals and

this is perhaps the reason for relatively low value of the restrictiveness index. However, recognition requirements are very important even for Canada. To be eligible for providing nursing services, all candidates must possess a Bachelor of Science in Nursing (BSN) Degree from a recognized educational program, minimum of two years current work experience in a hospital setting, current PRC Registration, a clear criminal record and good health, as a mandatory physical examination is required for immigration purposes. In order to be eligible to practice as a Registered Nurse in Canada, foreign nurses must write the Canadian Registered Nurses Examination (CRNE). The CRNE can only be taken in Canada.

In order to practice as a nurse or midwife in the UK, one must be registered with the Nursing and Midwifery Council (NMC) and have the necessary visa/work permit. The Nursing and Midwifery Council (NMC) is the regulatory body and competent authority for the register of nurses, midwives and specialist community public health nurses. All overseas nurses who are trained outside the EU, EEA and Switzerland have to sit for the International English Language Test (IELTS) before they start the NMC application process. They have to achieve a score of at least 7.0 in the listening and reading sections, at least 7.0 in the writing and speaking sections and an overall average score of 7 (out of a possible 9). One must be practicing as a registered nurse or midwife for at least 12 months (full-time or the part-time equivalent) after qualifying before applying to NMC for registration.

The H-1C non-immigrant temporary worker classification was for foreign nurses coming to the United States temporarily to perform services as a registered nurse in a health professional shortage area as determined by the Department of Labor (DOL). However, this visa category was terminated in December 2009 and now the nurses are required to apply for H1B visa to move to the US on a temporary basis. To qualify, a nurse must have a full and unrestricted nursing license in the country where the nursing education was obtained, or have received a nursing education and license in the United States, must be authorized by the appropriate U.S. State Board of Nursing to practice within the state, have passed the examination given by the Commission on Graduates for Foreign Nursing Schools (CGFNS), or have a full and unrestricted license to practice as a Registered Nurse in the state where he/she will work, or have a full and unrestricted Registered Nurse's license in any state and have received temporary authorization to practice as a Registered Nurse in the state where he/she will work and have been fully qualified and eligible under the state laws of the state of intended employment to practice as a Registered Nurse immediately upon admission to the United States.

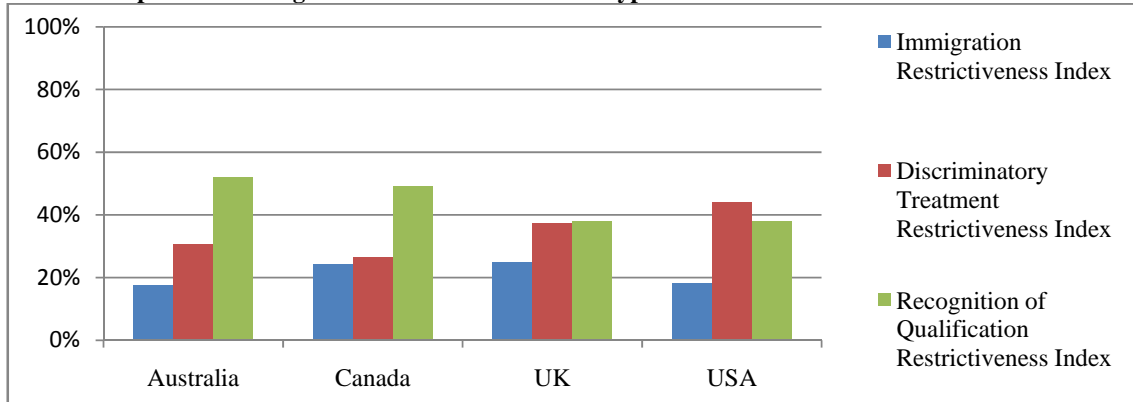
The contribution of qualification related recognition barriers varies from 38% in the case of the US and UK to 52% for Australia. Indian nurses are required to pass additional exams in the host countries. In addition to this, they have to be members of professional associations in the respective countries which is generally obtained by paying a discriminatory (higher) fee as against domestic nurses in the host country. They are also required to have a very high score in IELTS exam, which is used for English language proficiency. The contribution of various barriers is shown in Table 7 and Graph 3.

Table 7: Percentage Contribution of Different Types of Barriers in Total Restrictiveness

Country	Immigration Restrictions	Discriminatory Treatment Restrictions	Recognition of Qualification Restrictions
Australia	17%	31%	52%
Canada	24%	26%	49%
UK	25%	37%	38%
USA	18%	44%	38%

Source: Author's Calculations

Graph 3: Percentage Contribution of Different Types of Barriers in Total Restrictiveness



Source: Author's Calculations

The preceding table and graph show that immigration barriers are contributing the least towards total restrictiveness in nursing services in each of these countries. Discriminatory barriers are relatively more important and for the US and the UK, they contribute around 40%. These discriminatory barriers are imposed in the form of compulsory social security contributions, levies on employers for employing foreign professionals, preference in government procurement, etc. These regulations are so severe in the US that they contribute more than qualification-related barriers in the total restrictiveness index. Australia has the highest score for qualification related barriers both absolute and percentage terms. Canada has the lowest absolute qualification related restrictiveness score among these countries but in percentage terms, it is second highest, which implies that immigration and discriminatory barriers are not very severe in Canada.

6. Post-Recession Changes in Regulatory Environment affecting Mobility of Human Capital in Nursing Services

The recent recession and consequent global slowdown has compelled many countries of the world to protect their domestic markets and impose severe regulatory barriers on foreigners. This study also constructs a Mode 4 Regulatory Restrictiveness Index for 2007, a pre-recession period, to assess whether recession has made these four selected countries more protectionist as compared to the pre-recession period. It is to be noted that while the 2007 index value reflects the prevailing regulatory restrictions at that time, the 2010 index value reflects all the policy and regulatory changes that have occurred during 2007-2010 period. Thus, the 2010 data shows changes not only in 2010 but during the aforesaid period. This is not a serious issue as firstly the aim of this exercise is to compare the pre-recession period with the post-recession one and hence it hardly matters whether the change has occurred in 2010 or in 2009. Secondly, policy changes, by their nature, are discrete in time and so any analysis of policy changes has to take this fact into account.

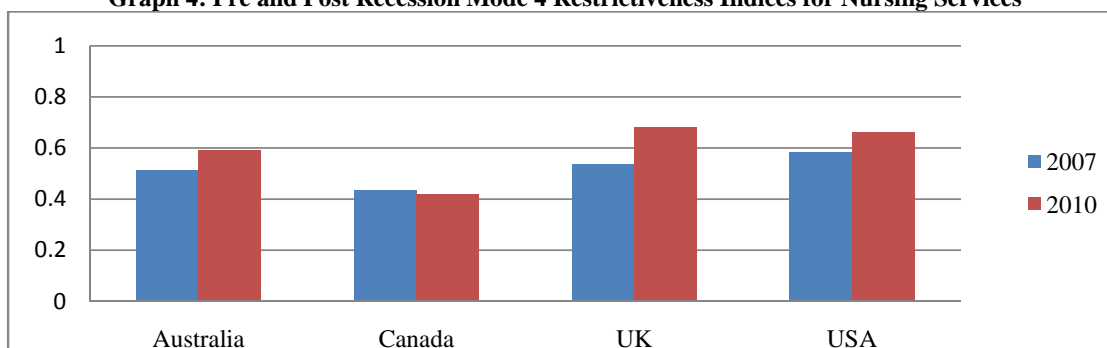
The incidence of protectionism has also increased in nursing services. The subsequent paragraphs discuss the underlying factors behind this enhanced restrictiveness and the possible consequences for the movement of Indian nursing professionals to these countries.

Table8: Pre and Post Recession Mode 4 Restrictiveness Indices for Nursing Services

Country	Mode 4 Total Restrictiveness Index		Immigration Restrictiveness Index		Discriminatory Treatment Restrictiveness Index		Recognition of Qualification Restrictiveness Index	
	2007	2010	2007	2010	2007	2010	2007	2010
Australia	0.513	0.591	0.083	0.103	0.181	0.181	0.250	0.308
Canada	0.433	0.419	0.116	0.102	0.111	0.111	0.206	0.206
UK	0.538	0.682	0.095	0.169	0.184	0.254	0.259	0.259
USA	0.582	0.660	0.112	0.120	0.221	0.291	0.250	0.250

Source: Author's Calculations

Graph 4: Pre and Post Recession Mode 4 Restrictiveness Indices for Nursing Services



Source: Author's Calculations

As shown in Table 8 and Graph 4, the selected developed countries have witnessed an increase in protectionism in the post-recession period except Canada. There is a slight decrease in regulatory restrictiveness for Canada in the post-recession period as compared to the pre-recession period. This is primarily because of an increase in the initial and total duration of the visa in 2007. Previously, those under the program were required to leave Canada after a 12 month period with the requirement of waiting four months before re-applying. Under the new changes, they are allowed to stay for two years before being required to request an extension. But it is to be noticed that this liberal environment is going to end soon as the Canadian government has recently announced that there will be tougher regulatory requirement for this type of visa starting April 2011. There will be limits to the length of a Canadian work visa and a worker who has already been in Canada for four years would not be eligible to work in Canada for six years.

Australia has imposed requirements of paying market rate salary and a minimum score in IELTS exam to prove English language proficiency. The UK has seen many changes in the regulatory environment affecting movement of nurses post-recession. The important ones are the recent introduction of annual numerical cap on the number of visas, introduction of an Economic Needs Test (ENT), changes in advertisement requirements, permanent residency and maintenance funds and imposition of levy on employer in the form of a licensing fee. It is to be noticed that previously nursing was in the 'Shortage Occupation List' (SOL) and most of the different categories of nurses were included in this SOL. Hence, the employers were not required to conduct Economic Needs Test and prior adequate search for employing foreign nursing professionals. However, this SOL list has been curtailed drastically and as per the SOL released in August 2010, there are only a very few nursing categories which are exempted from ENT. These exempted categories of nurses are specialist nurse working in operating theatres, operating department practitioner and specialist nurse working in neonatal intensive care units. All other categories of nurses are subject to ENT and prior adequate search before employing foreign nurses.

The US is different from other countries in the sense that it has changed the entire visa category applicable for granting visa to foreign nurses for working temporarily. Previously, a specialist visa category H1C was dedicated for the nursing profession. However, this visa facility was terminated in December 2009 and now the only visa option available for temporary movement of nursing professionals is H1B visa. A comparative study of these two visa categories reveals that H1B is more protectionist than the H1C category of visa. This increased protection is due to an increase in the visa fee, condition on re-entry after a maximum allowable period, and levies on employers applying for H1B visa.

As the regulatory environment is very strict, particularly in the UK and the US, and it has become more protectionist over the years, a new trend is emerging among potential nurses desirous of going to these countries. They go on student visa to study nursing education in these countries, do some part-time work and after getting the required qualifications and degrees, take full time jobs. Another important aspect is that due to severe regulatory restrictiveness in these countries, most of the working nurses prefer to go to Gulf region either on government contracts or in their private capacity. The nurses, who become successful in getting visas to work as nurses in these developed countries, generally settle down there permanently unless they are compulsorily asked to go back or other personal reasons.

Based on the above discussion and analysis, it can be said that there has been an increase in the incidence of protectionism in all these countries, except Canada, in the post-recession period. However, this increased protection and highly regulatory environment is contrary to the existing realities of these economies. The enhanced protectionism is primarily due to political reasons and not for economic reasons as there is an acute shortage of nursing professionals in these countries. There may be an increase in the general unemployment rate in these countries after the recent slowdown but this general unemployment is not relevant

for nursing services. The unemployment rate in this sector is either very low or in some specialist occupations, there remain actual shortages. However, the governments are reluctant to accept this reality due to political compulsions and are imposing stricter regulations to demonstrate that governments are concerned with domestic conditions and are protecting home markets.

7. Policy Implications

As the incidence of restrictiveness increases, the businesses tend to seek innovative methods to cope with the new regulations. However, there are transaction costs and deadweight loss associated with increased government intervention. This is likely to reduce welfare of the nationals of the host country as it is they who are the final victims of increased costs and lower productivity. The public policy objectives may compel some regulations to be imposed but other barriers which are imposed with the primary intention of restricting foreign professionals to protect domestic markets should not be imposed.

As India is negotiating with these countries in various bilateral, plurilateral and multilateral discussions for opening up Indian market, the policy makers may ask for removing those barriers which are not intended for serving public policy objectives thereby allowing greater freedom for movement of Indian nursing professionals. This study suggests the following points which can be put forward by the negotiators while having discussions with these countries.

There are some barriers which are common to all these countries and hence may become common to all negotiating discussions. On the other hand there are country specific barriers which need to be negotiated with the individual countries while opening up Indian market to them. The prime example of the former is the compulsory deduction of social security contributions from salaries of Indian service providers. Indian nurses temporarily working in these countries are paying heavily for social security contributions. These nurses are not able to avail the benefits of social security contribution as there is a minimum period of 10 years after which only can these benefits be availed. These countries impose restrictions on permanent residency after temporary work visa. Therefore, these nurses have to come back compulsorily after their visa duration is over and have to sacrifice a significant part of their income once they return. Therefore, the government should negotiate with these countries to have social security contributions exemption treaties for visits of short durations, say up to 4-5 years, along the lines of treaties signed with Switzerland and some other European countries. The government is already having discussions with the US and Canada for such totalization agreements.

The IELTS score should be valid for a period of minimum 3 years. At present, if a nurse is not able to get a visa in one particular year and he/she applies again next year, he/she has to appear once again for the IELTS exam. This induces an extra financial burden on the nurses. As the nursing profession is not a highly paid profession in India, any extra financial burden is likely to affect the nurse's ability to move to the foreign country.

The government should also negotiate to have Mutual Recognition Agreements (MRAs) with these countries to accept Indian qualifications and do away with the requirement of passing an exam before practising nursing in these countries. If they are required to write additional exams, efforts should be made to conduct these exams in India. Another important issue is that Indian nurses are required to pay a higher fee to become a member of licensing authorities in these countries as compared to fee applicable to the host country nurses. This is a discriminatory practice. The government should have discussions with the concerned authorities in the respective countries to eliminate such discriminatory practices.

As far as country specific barriers are concerned, there is an urgent need to negotiate with the US and the UK for the removal of many of the recently introduced regulatory changes as most of these changes are introduced more for protecting their markets. For the US, three major negotiating points could be increase or eliminate the annual numerical limit on H1B visa, reintroduction of H1C visa category, specifically meant for the temporary movement of foreign nurses, and improved certainty of the visa processing time.

For the UK, there are differences in gross wages paid to Indian nurses and host country nurses in the UK. The host country nurses are entitled for other benefits and allowances, such as housing allowance etc. whereas Indian nurses are being deprived of such extra benefits. Such discrimination should be eliminated.

As far as Australia is concerned, the emphasis of negotiations should be on the creation of a separate class of visas for nursing services. At present, there is no specific category for nursing services in Australia. The rules and regulations should be tailored according to the profession instead of having one class of visas for all professions.

Thus, this paper is likely to provide certain policy directions which could be useful for India's discussions with the selected developed countries with regard to facilitating the temporary movement of Indian nursing professionals. The analysis of post-recessionary changes in the regulatory environment in these countries provides further evidence which can help designing India's negotiating strategies with these countries in the post crisis period.

8. Conclusion

This study quantifies the qualitative nature of regulatory barriers affecting mobility of human capital in nursing services. The quantification exercise highlights some important aspects of the prevailing regulatory environment in Australia, Canada, UK and USA affecting temporary movement of Indian service providers in nursing services. These countries have a restrictive environment stemming mainly from qualification related recognition barriers. The recent financial crisis and consequent increased unemployment has further enhanced the level of restrictiveness in these countries affecting the temporary movement of Indian nurses to these markets. The severity of barriers jeopardises the movement of Indian nurses to these countries and at present, most of the movement by Indian nurses is to the Gulf countries probably due to the less severe regulatory environment in the latter and also due to the foreign government sponsored visa available to Indian nurses in these markets. On the contrary, the selected developed countries have a very restrictive environment in spite of having a huge shortage of nurses. There are some barriers which may be accepted due to public policy objectives, yet, there is ample scope to liberalize on some others. For instance, the requirement to pass a qualifying exam only in the host country severely restricts the decision of Indian nurses to move on a temporary basis to these countries as not all nurses have the financial and other resources to go and appear for qualifying exam in these countries.

This study is subject to certain limitations. The primary limitation of the study comes from weighing of various regulations which is the usual limitations for any quantification exercise of qualitative data. Though, the weights are obtained through expert opinion by conducting primary survey and thereafter performing statistical analysis, some degree of subjectivity cannot be denied. The study considers various regulatory policy changes at a particular point of time though it may not have occurred in that year rather immediately preceding year. As explained earlier, policy changes are discrete in nature and the purpose of this study is not to analyse yearly changes rather to assess post recession period effect on protectionism, therefore it very well captures these 'over the period' changes in the construction of restrictiveness indices.

Conclusively, there is scope to relax the regulatory environment affecting mobility of human capital in nursing services prevailing in these countries. Easier movement is likely to benefit not only India but also increase productivity and efficiency in these countries. Negotiations with these countries could focus on removing those restrictions which do not directly cater to public policy objectives, such as having to take qualifying exam only in the host country, discriminatory fees for becoming member of professional bodies, in exchange for greater access to Indian market for these developed countries.

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ⁱAs per the WTO classification, international trade in services can occur via four modes: cross-border trade, consumption abroad, commercial presence, and presence of natural persons. **Mode 1 or Cross-border supply** is defined as services flows from the territory of one Member into the territory of another Member (e.g. banking or architectural services transmitted via telecommunications or mail); **Mode 2 or Consumption abroad** occurs when a consumer (e.g. tourist or patient) moves into another Member's territory to obtain a service; **Mode 3 or Commercial presence** occurs when a service supplier of one Member establishes a territorial presence, including through ownership or lease of premises, in another Member's territory to provide a service (e.g. domestic subsidiaries of foreign insurance companies or hotel chains); and **Mode 4 or Presence of natural persons** consists of persons of one Member entering the territory of another Member to supply a service (e.g. accountants, doctors or teachers). The Annex on Movement of Natural Persons specifies, however, that Members remain free to operate measures regarding citizenship, residence or access to the employment market on a permanent basis. (WTO website www.wto.org)

ⁱⁱ Canadian Nurses Association, 2004

Governance of Triple Helix Relationships: Principles of Intermediation, or Who is in Control When the State, the University and the Industry Interact?

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Abstract

This paper introduces the concept of intermediation and its role in the political realm of Government intervention with the economy and the university sector. Urgent issues of sustainability and growth and stimulation of innovation have exposed the lack of scientific knowledge within the governance literature that can support and justify the government involvement. Corporate governance theory addresses issues of control of private production assets. The innovation literature reflects on financing innovation and the restructuring of the University sector. The emerging literature on Triple Helix relationships has generated multilayered accounts and cases of dyadic and multilateral interactions between the state, the industry, and the university sector. However, none of these knowledge fields has addressed the fact that governance requires multiple intermediaries. This paper aims to review the literature on intermediation and governance at the intersection between the public and the private sector and the literature on the triple helix model and governance of innovation.

Introduction: Challenges to Governance of Innovation

The literature on sustainable growth and development of knowledge-base economy has recognised the critical role of university links and active transfer of knowledge and technology. Innovation takes place both in the public (university) and in the private (industry) sectors. The competitiveness and performance of firms is increasingly dependent on successful R&D collaboration with universities and on sharing knowledge and technology outputs, or absorbing and commercialising knowledge and technology, generated by public sector research establishments. A new knowledge-based economy results from the evolution in the university-industry-government relationships, where knowledge is the main pillar for the success of the economy itself and contributes to the development of new technologies disseminated through commercial enterprises. These new trilateral relationships are represented by a model defined as Triple Helix, which is characterized by complexity of interactions and interdependencies between actors and a high flow of knowledge from one actor (university) to the other (industry), and vice versa, called Knowledge and Technology Transfer (KTT).

The KTT process raises significant governance questions and is increasingly associated with intermediation and facilitation by a variety of organisational establishments. The intermediaries emerge to facilitate communication between different parties, or to translate messages from one economic actor to another, and to facilitate partner searching and matching as well as negotiations across the public and the private sphere of the innovation process. Examples of such intermediaries are law firms, facilitating in contract agreements, consultants, assisting public and private sector organisations (and the Government itself) in procurement, financing, and assessment of innovation capabilities of firms, universities, or other organisations. Finally, intermediaries are various service firms, including business and legal services, accounting and management, or communication and representation services. Service outsourcing from the public and the private sector has created a large pool of intermediaries that are actively delivering intermediation and facilitation services, and yet, the literature on intermediation is extremely scarce.

This paper aims to review the literature on intermediation and governance at the intersection between the public and the private sector and the literature on the triple helix model and the role of government. We present a theoretical model that incorporates intermediation into the dynamics of Triple Helix interactions and offers a framework for the analysis of the boundaries of governance, coordination and control.

Corporate Governance, Public Governance and the Role of Government

The literature on governance comes from two streams of thought – corporate governance and public administration and regulation theory. There have not been many attempts to integrate these two streams. The discussion on corporate governance has been driven by scholarship research that focuses attention on the Anglo-American corporate system based on publicly traded assets, distributed ownership, separation of ownership from control at corporate level, and the distribution of rents among investors and other residual claimants. The discussion has been dominated by concerns with the effectiveness of the Boards of Directors that represent shareholders' interests, and exercise a monitoring and control function against the opportunistic behaviour of managers (Todeva, 2005)

Corporate governance in this literature refers to: a process of supervision and control over company management; economic agents giving overall direction to firms; the sum of control and co-ordination activities that compose of the internal regulation of business in compliance with external obligations; the system by which companies are directed and controlled; the system of external and internal checks and balances that ensures companies discharge their accountability to shareholders and stakeholders (Tricker, 1984, The Cadbury Report, 1992, Cannon, 1994, Parkinson, 1994, Solomon, *et.al.*, 2004). There are more integrated definitions that describe corporate governance as a system / mechanism for allocation of capital and corporate resources and for co-ordination and control of economic activities at firm level that facilitates strategic direction, accountability, transparency and wealth creation (Todeva, 2005).

The *corporate governance* literature has focused on structures that substitute or compensate for the inefficiencies that emerge from the separation between the ownership and control of assets, and the agency costs associated with this. Hill & Jones (1992) summarise three sources of agency costs from the perspective of agency theory: a) principal's monitoring expenditure (including the design and management of corporate governance system, appointment and running of Board of Directors, and all types of shareholder activism); b) agents' bonding expenditure (managing the intra-corporate accounting process, plus all risks of managing relationships with the other stakeholders); and c) residual loss (supplementing for risks, taken beyond the home market, or beyond the home corporate governance system and contract enforcement practices. Contract enforcement is seen as the remedy to all agency problems. Exit strategies by customers, suppliers, employees, or indeed investors are discussed as sanctions that complement contract enforcement.

This literature ignores two major issues. These are first, that corporate governance involves coordination and control not only of resources (assets and capital), but also of relationships and production activities. Second, governance involves facilitation of relationships and activities, and not merely control. Fligstein and Freeland (1995) stylise from the literature a number of internal control problems and external control issues that are associated with coordination and control of relationships: 1) the control relationships between management and workers; 2) relationships between management and shareholders; 3) division of labour and the subsequent division of power and responsibilities within the corporation or intra-corporate intra-management relationships; 4) relationships with investors and capital markets; 5) relationships with suppliers; 6) relationships with competitors; 7) relationships with the state, with governments and other public institutions. If we look at the corporate governance as a mechanism for allocation of resources in the corporation and the economy and as a mechanism for wealth creation and generation of value-added, then we need to consider all relations between economic agents that are critical in determining productivity and efficiency. Facilitation and coordination across these relationships is critical.

Regulation theory, on the other hand, promotes the idea that regulation of a socio-economic system requires a legitimate government that has authority and power, as well as the capacity and capabilities, to generate the rules that govern economic behaviour within the system of their jurisdiction. Regulation via rules and laws is seen as an effective coordination of behaviour of economic actors. The rules and the laws are facilitating mechanisms enabling governments to distribute incentives and sanctions across the entire system of economic actors.

There is a shared view among many theoretical perspectives that public administration is simultaneously: a) governance of the society and economy within national boundaries; b) management of the resource allocation process; and c) institutionalisation of justice in the public domain, where public administrators are seen as agents carrying out the public interest with their authority (Wamsley, 1990, pp. 21-29). The leading public administration theories that aim to explain the functioning of public organisations, and the relationships that emerge in relation to the definition and fulfilment of public interests, are: the *public choice theory*; the *social contract theory*; and the *principle-agent theory* (Todeva, 2010).

The *public choice theory* infers that the public chooses the type of the system of governance and mode of regulation through voting the agents that can deliver such system and hence granting power to these agents while in government. The theory advances the discussion on innovation support vs. bureaucratic authoritative allocation of resources, where it is assumed that bureaucratic government is based on hierarchy and command in regulation and decision making, while the innovation in government implies experimentation and the working of a 'free market' (Russell and Waste, 1998; McNutt, 2002; Mueller, 2003). Changing government during elections is seen as bringing innovation in the governance process, rather than as bringing populism and short-termism in the coordination and control of resources, relationships and activities in the economy and society.

The *social contract theory* reflects on the agreement between the public and the government as enacted through democratic elections. Government efficiency in fulfilment of the social contract is measured in terms of democratic accountability (Wilson, 1987). Again, contract enforcement is executed via democratic elections, but there is a substitution in the theory between effective contract enforcement practice and effective and efficient governance of the economy and society.

Principle-agent theory is an extension to the behaviourism in public administration and advocates that the government is composed of elected officials as 'principles', and appointed administrators as 'agents'. Issues of accountability, communications and interactions between 'principles' and 'agents', as well as the role of political incentives and information asymmetries in decision making, are discussed within this theoretical perspective. Researchers are convinced that the policy choices of the 'principles' are 'framed' by the information provided by appointed and entrusted administrators (acting as agents), alongside with the bureaucratic discretion of the latter (Hill, 1985; Bendor, 1990; Selden, et. al., 1999). Authors conclude that change of policy direction by the 'principles' is constrained by the monitoring and control costs, associated with a particular structure of principle-agent relationships. The real representation of public interests appears to be driven by the bureaucratic 'agents', rather than by the democratically elected 'principles' in government. The concept of agents is the first recognition that the execution of governance requires certain level of intermediation.

While regulation implies intervention activities at system level, governance, implies intervention at the level of individual economic actors. Governance involves design and implementation of incentives and constraints in order to manage the motives and strategic behaviour of actors. Economic governance is a system/mechanism for allocation of resources, control and co-ordination of economic activities at firm level that facilitates strategic direction, accountability, transparency and wealth creation (Todeva, 2005). The effectiveness of governance depends on solving the agency problem or the problem of intermediation in control and depends on clear allocation of rights to individual agents clear rules establishing rights and responsibilities, and rewards for compliance with these rules.

According to Frances *et.al.* (1991) co-ordination implies the bringing into a relationship of otherwise disparate activities or events. Co-ordination therefore aims at making compatible the efforts of actors that are involved in competitive or co-operative economic activities. Leading questions are *who decides* on the rules and regulations that establish the co-ordination mechanism, *how* this mechanism is *implemented* in a society, *what range of activities* are externally co-ordinated, and which activities are left under *self-co-ordination*, or who are the coordinating agents and the capabilities they require in order to execute effective coordination (Todeva, 2010).

Here we would like to distinguish between external co-ordination, which implies agency, power, and politics, vs. self-co-ordination, which is an expression of the free choices of economic actors, and is interpreted as a spontaneously emergent agreements, compliance practices, or rules and principles that facilitate impartial economic transactions between autonomous and free economic actors. Economic actors in self-coordination enact self-constraints based on their relationships, values, and mutual agreements. The two forms of external governance and internal self-coordination may be congruent within a socio-economic system when one is an extension of the other (Todeva, 2010).

Overall, there are many possible scenarios of coordination mechanisms in the literature - markets, hierarchies (bureaucratic co-ordination), networks, community (ethical co-ordination), self-governing co-ordination, family co-ordination, political coordination, or any combination between them (Levacic, 1991; Todeva, 1998; Todeva, 2010). These mechanisms evolve during the phase of their implementation and practice, and their design is not the ultimate end of the policy and governance process, as they are 'means-to-an-end', where the end is represented by political objectives. Each mechanism implies a different logic of co-ordination and leads to a variety of outcomes and costs. Each mechanism can be implemented by variety of rules and

practices, which can lead to different sets of incentives and constraints, and hence, limiting the actors in their free choices (Todeva, 1998). The governance of innovation hence can employ multiple mechanisms for allocation of resources and coordination and facilitation of behaviour of innovation actors.

Financing Innovation and the Role of Government and Industry

Most of the literature on governance, regulation and public administration refers to coordination of incentives and constraints in the private, commercial sector, or the industry. There is little of this theoretical contribution that is applicable to the governance of the public sector, such as the universities, the health care and social care systems, or the so-called ‘public-private-partnerships’ (PPPs), all of which require finance by the government. Universities need finance to carry out their mission for knowledge creation and knowledge dissemination, to lead students towards academic progression and development, to develop new research ideas and technologies, to provide knowledge solutions to industry and society as a whole, and to increase the knowledge transfer and collaboration with public and private sector organisations. Industries, on the other hand, need financial support for risky R&D and for innovation that is directed towards serving public needs, as well as to interact and collaborate with universities, or to invest in exploitation of fundamental and basic research. Models of financing innovation focus on the balance between the public and the private sector contributions, as well as the allocation and the direction of R&D in the universities and industry.

Previous work has identified four potential sources of financing R&D: The *government*, which has multiple motivations (knowledge benefits, wealth creation, national development, etc.); Independent *foundations* and charity organisations that receive funds from private citizens, from the government, or from industries; *Banks*, which offer loans and credits for R&D activities; *Venture capital organisation* (VCs), which provide funding for new firms such as spin-offs from universities or large corporations (Kolfsten et al., 1999). It is widely recognised that these alternative funding agents have preferences in their financial practices.

Most of the *basic or fundamental research* is essentially undertaken in universities and public sector laboratories and is financed by the government or by foundations, given that it has low market potential and requires risk-free money. The goals and incentives of government and foundations are equally aligned, as they are not for profit organizations aiming at carrying out activities for public benefit. *Applied research* is undertaken both in universities and public sector laboratories as well as in private sector establishments, and it is predominantly financed by foundations, specialised charity organisations and the government, where all actors are sharing the risks. Banks and VCs are very unlikely to invest money in applied research in universities and other research institution, as they tend to be risk-averse. Experimental and developmental research is carried out mainly in private sector laboratories and is financed particularly by banks and VCs organisations with a significant contribution from government (Rebecca Henderson, MIT, 2002).

The role of government has been acknowledged no only in relation to financing innovation and R&D in the public and the private sector, but also in the areas of policies, support infrastructure, and facilitation for the diffusion of innovation. The innovation policies of government are broadly divided into *infrastructural policies*, *diffusion and technology transfer policies*, *mission policies*, and developing *technological districts and clusters*.

The *infrastructural policies* have played a central role throughout the history of the debates on ‘National Innovation Systems’ (NIS) and the role of Government. In addition to direct investment in technical infrastructure for universities, Justman and Teubal (1996) have described the role of government in the technological development process through its role in building technological capabilities in the university sector and making them available for a variety of applications by companies or other public institutions. In the more advanced countries, this has led to the creation of a wide structure of education services and technological services at the interface of three types of protagonists: the producers of innovation (universities and research laboratories); the collective users of innovation (economic organizations, chambers of commerce, industrial associations); and the autonomous institutions created specifically for dealing with technological transfer (agencies, information centres, incubators).

The *diffusion and technology transfer policies* are the most traditional initiatives by governments. They have been based initially on grants (through subsidies or tax credits) for the purchase of new machinery or equipment incorporating innovations. Throughout the 1980s the emphasis was shifted on measures aimed at favouring the transfer of knowledge with particular attention to small firms. Dodgson and Bessant (1996) point out that these policies may be of little use, if the capability gap that often prevents the smaller companies from making use of external know-how is not filled. For this reason the most recent objectives of these policies have

become to promote research within the universities and the small firms; the collaboration between companies and between companies and universities, and the creation of new technology-based firms.

Mission policies consist of setting priority targets and offering financial support for research (grants and funds) into cutting edge technologies, whether carried out by research institutes or firms. The principal objectives of these initiatives are to concentrate State financial resources on both fundamental research and on applied research at a pre-competitive level.

A recent line of support has focused on the development of *technological districts and clusters*. The main target for these initiatives have been technology-based SMEs, where government finances co-location, networking and explicit R&D activities. The formation of regional clusters and networks between private and public bodies, firms and universities, has been the main way to stimulate innovation in SMEs and to extend the dissemination of R&D outputs (Antonelli, 1999).

All four government policies require financial support for their implementation. However, their implementation goes beyond the allocation of resources for innovation. The implementation of innovation policies requires vast facilitation, collaboration and coordination, demanding the involvement of a wide variety of intermediary actors that assist in this implementation process. In addition to finance, the governance of innovation, requires facilitation and intermediation of the knowledge-creation, and the knowledge-transfer, diffusion and commercialisation. Managing complex knowledge-based relationships between the university sector and the industry has been critical both for the rate of innovation, and for the scale and scope of diffusion and transfer of knowledge and technology across public and private spaces. The literature on innovation and KTT explicitly focuses on the motivations of actors and their absorptive capacity to translate and acquire tacit knowledge. Institutional intermediation is seen as the main support mechanism in the KTT process.

The innovation process itself is very diverse with multiple heterogeneous steps. Throughout the innovation process, individual steps have different requirements of time and resources that can not be fully met by individual firms. Between the beginning of innovation (a product research) and the end of it (a product commercialization) the long process requires multiple competences at the level of basic and fundamental research, through applied research, through concept testing, and then through product testing and market testing. This process goes beyond the university sector or the commercial sector by themselves, requiring various forms of collaboration and resource and activities links. Different policies are suitable for different stages and different actors, so there could not be any prescriptive rules and regulations on managing such process. The role of government hence, is evolving and encompasses prescribed roles of executing all four types of intervention described above. Such dynamic and complex regulatory presence is described in the current thinking of Triple Helix interactions, or co-evolving behaviour of the industry-university-government actors.

Triple Helix Theory and the Role of University, Government and Industry Interactions

In the Triple Helix model, the main domains of the knowledge-based economy have been defined as university, industry, and government (Etzkowitz & Leydesdorff, 1995). The model is represented by an expanding network system of interactive spirals generated by the university, industry, and government interactions that promote economic development and innovation in the economy. The mission of economic development is increasingly associated with the reproduction of the knowledge base and the systematic production of scientific novelty (Etzkowitz and Leydesdorff, 1995), as well as with the knowledge flows and the transfer of knowledge and technology in the system. In the context of the Triple Helix constellation, the universities adopt a new and third entrepreneurial role that transcends from the previous academic mission of education and research. This role requires an active participation not only in the innovation and KTT process, but also in the association with these market process and political process, whereby successful commercialisation of university technologies is seen as governments and public institutions meeting their political objectives and performance targets..

The Triple Helix model was developed to reflect on the complex university, industry, and government relations and to offers a new organizational paradigm for the analysis of innovation and new business formation and the expansion of the role of knowledge in society and of the role of universities in the economy (Lissenburgh and Harding, 2000). The triple Helix model induces a new role of government for the creation of new boundary-spanning mechanisms, that facilitate academic-industry relations and bridge across the public and the private domains. Such boundary spanning mechanisms facilitate interactions between reflexive and academic sciences and commercial technology, where university and industry begin to be in a continuing flux,

assuming tasks that before were largely the province of the other side and with ever increasing quantity and quality of the knowledge exchanged and interactions.

While the whole knowledge-based system of developed market economies can itself be considered as an outcome of interaction among different social elements (market, knowledge production, and public/private governance), the Triple Helix model of university-industry-government relationships provides a heuristic model for studying these complex dynamics. We use the Triple Helix model as a foundation for our discussion of intermediation and its representation in Fig. 1. This interpretation of the Triple Helix model is co-aligned with previous work on the knowledge-based economy, and the three essential components of geography, economy and knowledge, whose interface creates wealth and economic growth. The interactions between these dimensions generates knowledge infrastructure that supports innovation, which supports sustainable growth in the political economy (Leydesdorff, 2006).

The Triple Helix model brings dynamics and complexity into previous innovation models, such as the 19th century idea of linear relationships between the academia and the industry, or the later '*etatistic*' model of the government embraces academia and industry with its regulatory role, directly managing the relations between the knowledge and the commercial sector. The Triple Helix model differs also from the '*laissez-faire*' model, where the university-industry-government relations consists of separate institutional spheres with strong borders and highly distant relations (MacLane, 1996; Leydesdorff and Etzkowitz, 1998).

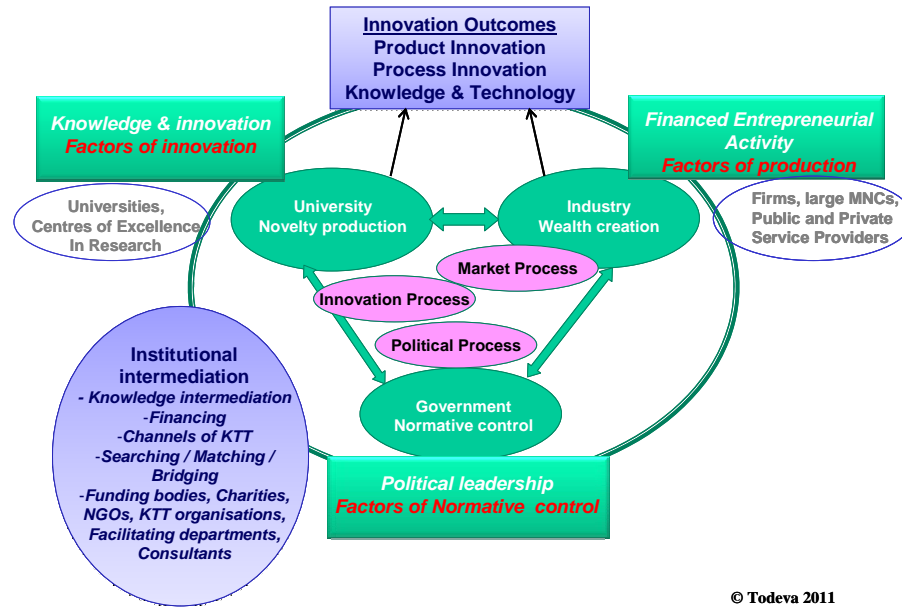
The Triple Helix model focuses on the knowledge infrastructure of overlapping institutional spheres, with each institution taking the role of the other and with hybrid organizations emerging at the interface. Thus, universities start to hold roles which previously were strictly tied to business (such as new entrepreneurial tasks, marketing, company spin-offs, licenses, and registration of patents), while firms move closer to universities, developing an academic dimension, sharing knowledge, engaging in collaborative projects with universities, involving managers in university's activities, and co-training university's graduates or employees at higher practical skill levels inside their businesses. Finally, government is more and more engaged in universities and business activities, with the aim of facilitating their success.

The literature on the Triple Helix model has contributed to the development of an heuristic model that explains the emerging structure of governance for a new mode of production and diffusion of scientific knowledge. Among the main advantages of this model are the following:

- The arrangements between industry and government no longer need to be conceptualized as exclusively between national governments and specific industrial sectors. Strategic alliance can cut across traditional sectors and countries (Frenken, 2000).
- The driving force of the interactions can be identified with the expectation of benefit / or profit, which can have several meanings: knowledge, money, employment and economic growth (Leydesdorff and Van Besselaar, 1998).
- The foundation of the model in terms of expectations gives a strong idea of uncertainties and the role of chance in the iteration of links between actors (Bruckner et al., 1994).
- The expansion and improvement of the higher education sector have provided society with a realm in which different representations of sustainability can be entertained, whereby optimisation of profits and benefits across the system and continuous improvement are required (Etzkowitz and Leydesdorff, 1995).
- The tensions in relationships between university-industry-and government need not to be resolved, given that the source of life is in the perturbations and interactions among actors (Etzkowitz and Leydesdorff, 1995).
- The helices communicate recursively over time in terms of each other's own code, where economic expectations (such as profit, growth) and scientific expectations (such as knowledge and publications) have to be related and have to convert into one another. Moreover, they can also take the role of each other, to a certain extent (Cowan and Foray, 1997).
- The model is consistent with the neo-institutional model of stakeholder arrangements and can be used as a methodological framework for case study analysis. Given the new mode of knowledge production, case studies can be enriched by raising the relevance of the three major dimensions of the model and various subdynamics stemming from their interactions.
- The model also can be informed by the increasing understanding of complex dynamics and can be utilised by simulation studies, or by evolutionary economics (e.g., Malerba *et al.*, 1999; Windrum, 1999).

- The model is represented as a meta-biological model and induces evolutionary thinking to the economic and sociological notions of governance, innovation, interaction, facilitation and the transfer of knowledge among different institutional agents (Luhmann, 1984; Leydesdorff, 2001).

FIG. 1. INTERMEDIATION OF TRIPLE HELIX RELATIONSHIPS



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In our extension to the Triple Helix model, we have put emphasis on four additional aspects. *First*, this is the fact that the dynamics in the Triple Helix interactions stems from even deeper interaction and overlap between the market process of competition and competitiveness, the political process of priority setting, defining missions and political objectives, or allocation of resources, and the innovation process of invention, creativity and exploitation of new knowledge and technology (indicated on Fig. 1. by the small spheres inside the Triple Helix). The outcomes from the simultaneous enactment of these processes result in complex motivations and complex behavioural orientations of all actors. *Second*, this is the interpretation of the three helixes in terms of factors of production (industry), factors of innovation (university), and factors of normative control and regulatory activity (government). Economic growth and sustainable development requires utilisation of all three factors, where factors of production change under the influence of factors of innovation, factors of innovation are enabled by factors of production, factors of normative control are employed for the management of both factors of innovation and factors of production, while the latter underpin the very existence of government. *Third*, the dynamics of the Triple Helix generate innovation outcomes (product and process innovation, or knowledge and technology transfer), which further feeds into subsequent circles of change and interaction across the Helix. Finally, the *fourth* extension to the Triple Helix model, is the role of intermediaries, or these agents that help university-industry-and government to perform their role, and translate the message from one helix to another, while helping them to engage in direct knowledge and technology transfer, or to finance the interim steps of it. Overall the model induces assertions about complex and indirect influences between multiple agents representing heterogeneous types of institutional formations, which require multi-layered facilitation and intermediation for their interactions.

Intermediation, Facilitation and Accountability

Intermediaries are actors that place themselves in the middle of relationships between other actors (i.e. university-industry-government) and facilitate the whole process of interaction. Historically, intermediaries, such as wholesalers, retailers and financial institutions have emerged because they reduced search and other

transaction costs for sellers and buyers. Intermediated markets, where intermediaries purchase products from sellers and sell them to buyers have demonstrated higher efficiencies, compared with search markets, where sellers and buyers meet and negotiate directly (Gehrig, 1993). Although intermediaries charge a fee for their services, they can reduce the transaction costs associated with search and bargaining. Several other aspects of intermediation are also discussed in literature. For example, Garella (1980) emphasizes the role of a middleman in mitigating market failures caused by asymmetric information. Rubinstein and Wolinsky (1987) analyze the function of intermediaries, using a search-theoretic model, where intermediaries are viable when they increase the chances of a seller finding a customer. Agrawal (2001) specifies the meaning of search and bargaining costs as the time and other resources necessary to search for potential collaboration partners and the costs associated with the negotiation and the coordination with potential partners, where it is often necessary to deal with asymmetric information and other transaction costs related to motivation and incentive problems with regard to each of the collaborating agents. In other words, intermediaries are entities that facilitate the university-industry links (UILs), reducing the individual search and bargaining costs for each collaboration partner, creating opportunities for meeting potential partners, and directly coordinating joint research projects or other collaborative activities through management and consultation. Intermediaries, such as banks, also are engaged in financing activities, which contributes directly to the integration of factors of production of innovation, and of normative control and the mitigation of risk and uncertainty about future results from the joint projects.

Intermediaries may initiate relationships and facilitate the creation of links between a university and a company. They may finance the KTT channels and they promote the innovation that emerges from this interaction. Intermediaries are vital to reach for possible partners and to offer a third-party evaluation of their capabilities or the potential synergies. Various classifications of intermediaries refer to a number of types: 1) *institutional intermediaries* are public agencies that offer finance and incentives to encourage knowledge transfer; they offer also a variety of services in order to facilitate interaction among researchers and firms, to stimulate new market entries by leveraging IP from universities, and to promote the circulation of tacit knowledge by placing university graduates in SMEs; 2) *general purpose intermediaries*, such as legal firms that facilitate patent protection and licensing, or other private sector consulting organisations that specialise in evaluation, research and intermediation; 3) *specialized intermediaries*, such as the university Technology Licensing Office (TLO) or Technology Transfer Office (TTO), that seeks out internal innovations, and helps to codify research outputs via patenting, and licence agreements to commercial users; 4) *financial intermediaries*, such as, Venture Capital organisations (VCs) or Business Angels that supply risk capital to commercial establishments that employ research active staff (Yusuf, 2008). Frequently, such a provider brings additional tacit knowledge in the form of managerial know-how, contacts, troubleshooting skills or risk assessment skills, which can assist start-ups (Hellman and Puri, 2002).

All of these types of intermediaries differ substantially from one another in terms of facilitation initiatives, knowledge and technology transfer channels, purposes, activities, and the kind of knowledge they facilitate (tacit or codified). The differences between intermediaries relate to three issues: the type of activities, type of channels for knowledge transfer, and the type of knowledge. There are several channels through which knowledge and technology are exchanged between partners and each channel requires different type of intermediation. The main channels described in the literature through which knowledge is transferred from one partner to another are: patents, licensing, collaborative and contract research, scientific publications, consultancy, co-operation in graduate education, and the creation of spin-off companies from the university sector.

Patents enable a firm to exploits invention developed by academic researchers, or by a commercial firm. The commercial outcomes from this innovation are expropriated by a particular actor. Patenting scientific discoveries assist scientists to push their discoveries to the business sector. The business sector, however, has to come across this information, which requires additional resources for search and evaluation. Among the effects of university patents are: a major source of income for the university and growth of the stock of knowledge that can be used in future education programs (Jensen and Thursby, 2004). *Licensing* enables the use of a technology or a new process by a company. Licensing has been traditionally the most popular way of university technology transfer and involves limited transfer of tacit knowledge (Siegel et al., 2003). There are two main outcomes from licensing: the growth of new knowledge - stored and available for future research projects, and a source of income from royalties (Thursby et al., 2005). Authors argue that patenting and licensing are not the main channels of university-industry knowledge transfer and contribute for a small proportion of public-private interactions if compared with other formal arrangements such as contract research and joint research agreements (Roessner, 1993; Schartinger et al., 2001; Agrawal and Henderson, 2002; Levy et al., 2009).

Collaborative research involves design and conducting R&D projects jointly by industries and university/science institutions, either on a bi-lateral basis or on a consortium basis. Most benefits for industries from interaction with universities come from formal research collaboration rather than from knowledge exchange (Earlier Swann, 2002; Monjon and Waelbroeck, 2003). According to the literature, collaborative research is the most widespread form of knowledge transfer, and this has a strong positive effect on industry performance (Zucker et al., 1998; Meyer-Krahmer and Schomoch, 1998). *Consultancy & contract research* represent research commissioned by industry, and refer to scientists' interactions with the private sector which include funding and sponsorship, institutional affiliations, tenure status, support of students, reputation or other scientific values. The combination of in-house research, networking with industry and capacity to organize conferences and meetings, enables the university to bring together entrepreneurs and professionals for face-to-face encounters that can forge university-industry links enabling partners to gain contacts and innovation ideas (Bramwell and Wolfe, 2008). Schartinger et al. (2002) observed also that collaborative and contract research are used by industry in an opposite way - when an firm uses more of one form, it tends to use less the other form.

Scientific publications are a method for knowledge transfer used both by researchers from the academia and from the industry. Industries consider codified output, such as publications, as the most important channels to transfer knowledge and academic publications account for more than 73% of the citations in the US industry patents (Narin et al., 1997). Moreover, Cohen et al. (2002) find out that the most important channels for the universities to have an impact on industrial R&D are published papers and reports.

Co-operation in graduate education involves advanced training for enterprise staff and exchanged of research staff between universities and industries (such as PhD students). Authors argue that the employment of university researchers is a way to effectively transfer knowledge from university to industry, especially in technological and knowledge intensive sectors, such as chemistry and biotechnology (Meyer-Krahmer and Schomoch, 1998; Zucker et al., 2002; Gubeli and Doloreux, 2005). Schartinger et al. (2001) argue that the mobility of human capital, both via employment of skilled people and via co-supervision of PhDs is the most frequent and most beneficial channel for knowledge transfer. Examples of such practices are also student placements and exchanges, or internships that have an impact on university curriculum and at the same time allow firms to tap into the latest thinking in university research labs and arrive at a sense of how science is evolving and the possible implications for production technologies. Argote and Ingram (2000) argue also that an important way in which knowledge is transferred from the higher education sector into industry is through the skills and experience gained by graduates and researchers. The founding of *spin-off companies* from universities represents a major innovation in the economy, where technology-oriented firms that employ researchers from the science-base generate innovation and income to the economy. Spin-off companies provide benefits in terms of: (1) access to new technology and technical know-how; (2) access to markets; and (3) competitive positioning (Hladik, 1988).

Each of these modes of knowledge transfer are associated with different forms of intermediation. Hellman (2005) has developed a formal theory about the seeking and matching process between university's researchers and the industry, called 'science-to-market gap'. In this theory there are two possible scenarios. On one hand, researchers and inventors rarely know what kind of industrial applications may exist for their scientific discoveries. On the other hand, industries are often unaware which scientific discoveries might help them to solve their problems and address their needs. In this model, the intermediaries are bridging the gap between the science and the market through additional value added by searching for innovations and translating their findings into business opportunities for firms. Intermediaries that bridge the 'science-to-market gap' can be either individuals, or organisations from the private and the public sector, offering communication and consultation services.

A series of informal contacts between industry and university can emerge also during meetings and conferences in which researchers, managers and boundary-spanning agents can meet together and form relationships. In technology intensive sectors science exhibitions and PhD research are the principal channels through which new knowledge enters the commercial domain (Zucker et al., 1998; Shane, 2002).

Hussler and Ronde (2007) show that University Industry Linkages (UILs) based upon proximity arise from epistemic knowledge creation oriented networks and communities of practice sharing tacit knowledge. The co-location of firms around universities is also facilitated by the existence of a host of supporting intermediaries providing technical support and other services (see Robinson et al., 2007).

Conclusions

The locus of innovation is to be found in networks and partnerships and not in individual firms (Powell et al., 1996). Intermediaries facilitate this innovation and the KTT activities by the virtue of their specialised resources. Intermediaries exist to provide specific resources and to play specific roles that individual members either cannot provide, due to a lack of possessing the necessary resource(s), or are unwilling to provide, because of the negative economic costs associated with obtaining and deploying the necessary resource(s) Johnson (2008). Some Knowledge intermediaries are better at dealing with codified knowledge, others with tacit knowledge, and some intermediate both kinds.

This facilitation provided by intermediaries in KTT activities requires absorptive capacity of the firms that represent the recipients of knowledge. The concept of absorptive capacity was introduced by Cohen and Levinthal (1989, 1990) and it refers to a firm's ability to recognize, assimilate, and apply new scientific information for the purpose of innovation and new product development. Intermediaries assist firms in complementing their absorptive capacity by adding knowledge or financial resources. Agrawal's studies on university-industry linkages underline the particular importance of absorptive capacity with respect of tacit knowledge. He points out that the transfer of tacit knowledge is a central issue, in that it accounts for the majority of the variance in terms of the relative abilities of firms to utilize university inventions effectively. Gertler (2003) also argues that the absorptive capacity must first be established to absorb tacit and codified knowledge in the right balance, and then to enable intermediaries to help create more fruitful university-industry linkages.

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Mediating Effect of Job Satisfaction on the Relationship between Perceived Transformational Leadership Style and Commitment to Service Quality among academic staff in Malaysian Universities

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Abstract

This paper discussed the mediating effect of job satisfaction on the relationship between perceived transformational leadership style and commitment to service quality among academic staff in Malaysian Universities. Total useable questionnaires were 387 with a response rate of 36 percent from both private and public universities. The result revealed that job satisfaction only partially mediates the relationship between transformational leadership and academic staffs' commitment to service quality. This study implies to the policy makers and academic leaders at the universities that there is need to focus in developing their academic staff, by tapping their potentials, inspiring them, promoting collaboration, motivating and reinforcing positive attitudes towards commitment to service quality. Future study should consider inclusion of other the mediating variables, alternative modes of enquires and a nationwide survey covering samples from the whole population of the higher institutions of learning in Malaysia that would be more significant in making generalizations.

Introduction

Malaysia's economy has undergone a transformation from that of a production based to that of a knowledge-based economy (k-economy). There has also been a call for some restructuring to tackle critical issues such as demand for more professional and skilled labour to manage the capital intensive, high technology and knowledge based industries (Mustapha & Abidin, 2008). By the end of 2010, Malaysia will need both policy makers' with partnership with the universities' community to materialize this transformational plan. Only through solid education and training systems can this transformation process into becoming a developed nation become a reality (Mohamad, 1991). However, there is an acute shortage of qualified academicians and high turnover especially with those with doctoral qualification. The turnover rate among doctorate holders at the Private Higher Education Institutes (PHEIs) in Malaysia was reported at 12 percent (National Higher Education Research Institutions, 2004). Huge investments in both the public and private universities have been carried out mainly to attract foreign students and retaining nationals but how do they prevent the academic staff from leaving. To encourage retention and eventually attained a high level of performance, especially for academic staff, it is important that academic leaders understand the aspects of professional job satisfaction that the academician would have derived from their duties and responsibilities at the university (Kuska, 2003). Nevertheless, past studies conducted on job satisfaction have been varied in terms of subject matter and also in the research frameworks (Tsai, 2008). For instance, there is a dearth in the past findings on the relationship between job satisfaction and commitment to service quality.

Past researchers were seen to adopt an attitude that displayed affective commitment to organisation as synonym to commitment to service quality. However, there have been some disagreements among scholars on how best to describe these relationships. Porter, Steers, and Boulian (1973) were convinced that organizational commitment is interrelated to job satisfaction but they have asserted that job satisfaction had to come first. Recent finding by Silva (2006) is in agreement with Porter, Steers, and Boulian's (1974) proposition that job satisfaction is interrelated to organisational commitment. Huang and Hsiao (2007) on the other hand, accepted that the relationship

between job satisfaction and organisational commitment was reciprocally related. Studies on commitment to service quality are important and necessary but unfortunately there is still little research progress in this area despite past researches have also suggested that some universities in Malaysia were losing students because their standard of service quality was not up to the expectation of the students (Jain, Abu, Akhbar & Sapuan, 2004; Firdaus, 2006; Latif, Sungsi & Bahroom, 2009). However, what really motivates commitment to service quality among academic staff at the universities remains unanswered. Past leadership literatures have associated transformational leader to organizational commitment, such as to service quality delivery (Jabnoun & Rasasi, 2005); building relationships with customers (Liao & Chuang, 2007); students' engagement with schools (Leithwood & Jantzi, 1999) and towards school reforms (Geijsel, Slegers, Leithwood & Jantzi, 2003). Some of the benefits of transformational leadership style based on job satisfaction have been realised, such as the reduction in work environment pressures and stress that is the cause of low turnover (Berson & Linton, 2005; Nielsen, Yarker, Randall, & Munir, 2009).

Only of recent, researchers have begun to be aware of the missing mediating links between leadership styles and organizational outcomes. For example, Politis (2006); Griffith (2003); Yousef (2002) have reported the existence of a possible mediator, such as job satisfaction that may account for the significant linked between leadership styles, organizational behaviour, commitment and performance. Although empirical findings have advanced the understanding of these links, little is known about the mediating role of job satisfaction in the relationship between leadership styles of transformational leadership on the academic staff commitment to service quality. However, there still exists a vague support that indicates a direct relationship between the variables. The question of whether the transformational leadership style as perceived by the academic staff would directly or indirectly affect their job satisfaction which eventually will lead to the commitment to service quality remains unanswered. Given the salience of this issue, more evidence is required. Therefore, the main purpose of this study is to elucidate information on the mediating effect of job satisfaction on the relationship between perceived transformational leadership style and commitment to service quality of the academic staff in their respective universities.

Literature Review

Commitment to Service Quality

Studies on the commitment to service quality in education literatures follow the same footpath as the general definition of affective commitment. Affective commitment is defined by Meyer and Allen (1991) as "an employee's emotional attachment to, identification with and involvement in the organization". Commitment to service quality is defined and understood as "conformity to a specification" (Martin 1986; Witt & Steward, 1996; O'Neil & Palmer, 2004) and in achieving "excellence" (Peters & Waterman, 1982). It is also about commitment to meet the students' needs and their expectations (Witt & Steward, 1996), and about building relationships between a customer and the organisation (Kandampully, 2002). Accordingly, the most important basis for the assessment of quality is the individual's experience of a service that comes from the internal quality service of the internal customer (all the organization's employees). Their commitment and willingness to serve is in the best interest of the customers, which incidentally is a prerequisite for achieving service quality (Kandampully, 2002). Clark, Hartline and Jones (2009) defined commitment to service quality as "dedication of employees to render service quality and the willingness to go beyond what is expected of them".

Past findings have also established that employees who are committed to the organization will remain loyal and are inversely related to turnover (Hartline, Maxham & McKee, 2000; Clark, Hartline, & Jones, 2009; Elmadag, Ellinger, & Franke, 2008). In such conditions, employees were known to spend more time and energy in assisting the organization realize its goals and they also put their own self interest aside (Porter, Steers & Boulian, 1973; Tsai, 2008; Sohail & Shaikh, 2004; Yiing & Ahmad, 2008). They would subscribe to the idea of being a citizen of the organisation and be fully committed to the goals of the organisation (Rashid, Sambasivan, & Johari, 2003). O'Neil (2000) in his study in higher education concurred on the importance of internal customer commitment to service quality as a means of gaining competitive advantage. Satisfied external customers, for example the students, were reported to spread by "word of mouth recommendations", which is a powerful tool in marketing (Cuthbert, 1996). Commitment of the highest level would mean emotional attachment to the organisational and this bondage is synonymous to "partnership" with superiors and colleague who would tender the academic staff's intention to continue their tenures at the university (Narimawati, 2007; Rego & Cunha, 2008).

Transformational Leadership

Leaderships can be of many facets and visages and they differ in effectiveness in terms of consequences of their actions towards internal and external stakeholders. Since organizations today are faced with many challenges, especially with the constant changes in technology, economic, social, political and legal conditions and internal processes, flexibility is required in resource utilization and in the promotion of continuous learning (Horner, 1997; Christie, 2002; Hashim & Mohmood, 2010). Therefore, there is a need for leaders in organizations to contribute not only in terms of knowledge or ideas but also in making right the decisions and responding to the changes. According to Bass and Avolio (1990), transformational leaders will focus on developing their followers by tapping them of their potentials, inspiring them, promoting collaboration, motivating them and by reinforcing positive behaviours. Bass (1990) argued that transformational leaders were pertinent especially during turbulent times when rapid changes and globalization takes place. Barnett, McCormick & Connors (2001), Antonakis, Avolio & Sivasubramanian (2003) and Kirkbride (2006) preferred to delineate transformational leadership based on five factors, which is an adoption from Bass and Avolio's (1995, 1997) studies. The five components as suggested by Barnett, McCormick and Connors (2001), Antonakis, Avolio and Sivasubramanian (2003) and Kirkbride (2006) are: individualized considerations, intellectual stimulation, inspirational motivation, idealized influence (attributes) and idealized influence (behaviour). Other authors like Kent, Crotts and Aziz (2001), and Nemanich and Keller (2007) preferred to characterize transformational leadership into four factors based on the original studies by Bass (1985a, 1985b). The difference lies in the idealized influence factor that is being theorized into the dual theory consisting of behaviour and attributes (Barnett, McCormick, & Connors 2001; Antonakis, Avolio & Sivasubramanian, 2003).

Transformational leaders in the education industry were also seen to be responsible for laying the foundation for changes in the organizational culture, strategies and even structures that are similar to any other corporate setting (Yu & Jantzi, 2002). Strategies may include development of employees to attain a higher professional level that will directly increase their capabilities, innovativeness and give more empowerment to their subordinates to shape initiatives that will bring about the much needed changes (Clark, Hartline & Jones, 2009). It is also interesting to note that in his study, Leithwood (1994) indicated the importance of transformational leadership that indirectly promoted students' achievements through their leaders' abilities to promote the school vision, and provide the much needed intellectual stimulation through the introduction of the best educational practices which fostered a high performance culture. Bess and Golman (2001) who studied leadership in American universities also supported the notion that transformational leaders are not likely to be found at universities where the heavy emphasis is on teaching and decentralization of authority. However, in this turbulent and ever changing environment, transformational leaders are much needed, especially the educational leaders who experience threats of mergers or a total collapse and in need of drastic changes in order to survive.

Job Satisfaction

Job satisfaction has been defined as a single globe concept referring to the overall satisfaction levels (Ying & Ahmad, 2009) or a multiple dimensional concept that refers to the psychological or sociological factors. Multiple dimensional concepts have been applied to discover how employees are affected by for examples, intrinsic and extrinsic elements of their jobs (Ssesanga & Garret, 2005; Lacy & Sheehan, 1997). Generally, academic researchers would prefer to define job satisfaction based on the dual theory of Herzberg et al. (Lacy & Sheehan, 1997; Ssesanga & Garret, 2005; Rad & Yarmohammadin, 2006). As such, job satisfaction studies were based on the notion that the academicians' source of satisfaction comes from intrinsic factors which are related to job content and extrinsic factors that are associated with the working environment

Previous studies have indicated that the link between job satisfaction and leadership styles has not been consistent (Tsai, 2008; Nemanich & Keller, 2007). One such finding by Evans (2001) has reported that there is no direct link between the academicians and their leaders' motivational support in ensuring that their subordinates' were satisfied with their jobs. To a certain degree, the study revealed that the academician's nature of job, such as academic freedom, being independent and generally low in accountability has to a certain extent resulted in such outcomes. Later study by Griffith (2004) had resulted in similar observations and concurred that job satisfaction had an indirect relationship with transformational leadership style in speculating staff performance and turnover in schools. However, reviews of past studies have also demonstrated some support on the link between leadership styles and job satisfaction. Nielsen, Yarker, Randall and Munir (2009) for example, conceptualised the importance of health care providers in serving senior citizens in a pressured environment and leaders especially transformational leaders were seen to have a direct link to the employees' job satisfaction and their well being.

Therefore, due to the inconsistency in the result of the findings, it has lead to some researchers to suggest that a strong indirect link through job satisfaction exists between the leadership styles which in turn influences an array of other variables such as school performance, organizational commitment, team performance, organizational citizenship behaviour and work outcomes, (Yousef, 2002; Griffith, 2003; Cheung, Wu, Chan & Wong, 2008; Chui & Chen, 2005). Chui and Chen (2005) for example presented a strong case of the mediating effects of job satisfaction in twenty four electronic companies in Taiwan, and have found that intrinsic satisfaction mediates the relationship between job varieties, job significance and organizational citizenship behaviour. However, the study did not find any support for extrinsic satisfaction but it was known to have important managerial implication. Another review of literature which linked the role stresses variable and organizational commitment indirectly through job satisfaction was conducted by Yousef (2002). He was concerned about the mediating effect of job satisfaction on role stresses particularly the role conflict and role ambiguity among employees in various organizations in United Arab Emirates. However, the findings indicate that job satisfaction mediates the influence of role conflict and role ambiguity on both affective and normative commitment with the exception of continuance commitment. The result indicates that employees were less willing to remain in the organization if they perceived they are less satisfied with their jobs because of the high level of job stress that they have to face. The lack of opportunities to move due to the scarcity of jobs was the only the reason for them to

remain in the organization.

Politis (2006) conducted a study in Australia among the manufacturing organizations with the objective of testing the mediating effects of job satisfaction in relationship to self leadership and team performance. By using a structural equations modelling, the study provides full support for job satisfaction through the effects of self leadership behavioural-focused strategies which is based on team performance. Another study by Lok and Crawford (2004) obtained a totally different result. They concluded that job satisfaction only partially mediated the effects of leadership styles, organizational cultures and subcultures on commitment among nurses in seven large hospitals in Australia. Similarly, research in the school setting has also produced the similar results which pointed out the importance of indirect effects of job satisfaction on organisational commitment and citizenship behaviour (Nguni, Slegers, & Denessen, 2006). On the other hand, studies by Salam, Cox and Sims (1996) reported that leadership according to transformational and authoritarian styles are related to team anti-citizenship, which is fully mediated by job satisfaction in a large defence firm located in mid-Atlantic United States. This study does not seem to be consistent with past studies such as those by Podsakoff, MacKenzie and Bommer (1996) who found a significant relationship between transformational leadership behaviour and citizenship behaviour through mere trust and job satisfaction. Given that most of these studies were conducted in affluent societies and that there are inconsistencies in the findings which may be due to the context, conducting more empirical studies and tests will provide more insights into the mediating variables of job satisfaction on the relationship between perceived transformational leadership style and the academic staffs' commitment to service quality in a developing country such as Malaysia.

Methodology and Research Design

This study was based on a descriptive correlation research design and cross sectional survey methodology. The target population for this study consisted of academic staff from two public universities and four private universities. Their perception of their immediate superiors such as the deans or heads of department or heads of schools were closely studied to identify their commitment to service quality. Using a 5-Point Likert-type scale, the respondent indicated their intensity of agreement anchored by 1, "strongly disagree" through to 5, "strongly agree" with items phrased. For this study, the researcher adapted a later version of MLQ instrument commonly known as MLQ 5x-short-forms to rate transformational leadership. Although the factors that measure transformational leadership styles were distinctive, (5 factors measuring transformational leaders) in this study a single dimensional construct for transformational style was adopted. This is in line with past empirical studies by Walumbwa, Wang, Lawler and Shi (2004) and Walumbwa, Orwa, Wang and Lawler (2005) on transformational leadership construct. A recent modified version by Clark, Hartline and Jones (2009) was adapted in this study with slight modifications made in order to complement the study context for measures for commitment to service quality items. Finally, the instrument to measure the mediating variable of job satisfaction components was adapted from Ssesanga and Garrett (2005) and Mertler (2001). For this study a combination of on-line and self administered questionnaires were distributed to collect individual data on the respondents. Overall the response rate was 36 percent which was slightly better than what was reported generally in the Malaysian context (Othman, Ghani, & Arshad, 2001).

Discussion of Findings

A total of 387 academic staff participated in this study. The sample indicates that female respondents represented a slightly higher percentage of total samples (59%) when compared to the male respondents (41%). The majority of the respondents possessed Master degrees or others of similar level (71%) while 29 percent had completed their doctorate degree. Majority of the respondents were middle age of between 30 to 40 years of age (43%) followed by those between 40 to 50 years old (25%). About 18 percent of the academicians were from the younger group age of between 20-30 years. With reference to their experience in teaching, the sample showed a balance between those who had teaching experience of between 1 to 5 years (33%), 5 to 10 years (28%) followed by 10 to 15 years (17%) and above 20 years (14%). More than 47 percent of the respondents were from business faculty followed by faculty of information technology (12 %).

Table 1 below presents the mean and standard deviation of all the variables under study. All the variables were measured on a five (5) interval scale. All the variable means were higher than three (3). It ranged from 3.36 to 4.04. This suggests that the perceived leadership style of the transformational, job satisfaction and academic staff commitment to service quality were at moderate to high levels in importance. All the standard deviations were below one (1) which indicates the variability in the data (Sekaran, 2005). Results of the correlation analysis indicate no violation of the assumption as the absolute value is between the ranges of 0.43 to 0.55 which is lower than the acceptable cut-off value of 0.8 (Benny & Feldman, 1985). Commitment to service quality was found to have a moderate positive correlation with the variable of transformational leadership ($r = 0.430$, $p < 0.001$) and a strong positive correlation related to job satisfaction variable ($r = 0.551$, $p < 0.001$). For transformational leadership, strong positive correlations were also observed with job satisfaction ($r = 0.533$, $p < 0.001$). The variables for this study were also reported to have an excellent reliability with a coefficient of more than 0.7 (Nunnally & Berstein, 1994; Nunnally, 1978). For this study none of the item- to-total correlations values were removed since they have values of above 0.3 (Tabachnick & Fidell, 2001).

TABLE 1: MEANS, STANDARD DEVIATIONS AND INTERCORRELATIONS OF VARIABLES OF INTEREST

Variables	CSQ	TLF	M	SD	Reliability coefficient
Commitment Service Quality (CSQ)	1		4.038	0.509	0.846
Transformational Leadership (TLF)	0.430***	1	3.356	0.714	0.96
Job Satisfaction (JS)	0.551***	0.533***	3.607	0.592	0.911

To investigate the mediating effect of job satisfaction on the relationship between perceived transformational leadership styles on the academic staff's commitment to service quality, Multiple Linear Regression (MLR) assumptions were conducted and were reported to have no serious violations. The tolerance statistics revealed that the entire variables under study were in an acceptable range (cut off of .10 as suggested by Tabachnick and Fidell, 2001). The stepwise regression analysis was then employed and the three guidelines for the mediation analyses established by Baron and Kenny (1986) procedures were followed. The guidelines that must be upheld are: i) the independent (predictor) variable should make significant contribution to the dependent (criterion) variable; ii) the independent variable should make significant contribution to the mediating variable; iii) the mediator should make a significant contribution to the dependent variable. Perfect mediation holds when the independent variable no longer relates to the dependent variable after mediator is included and regression coefficient is reduced to non significant (near zero) level. Partial mediation is when the beta coefficient of the independent variables value is reduced but still statistically significant after the inclusion of the mediator (Lok & Crawford, 2004).

Table 2 below reports the results of the analysis that was carried out. In Step 1, perceived transformational leadership style was used to predict the mediator variable of job satisfaction and was found to be significant at $p < 0.001$, ($r^2 = 0.284$) contributing 28 percent of variance in job satisfaction. Therefore, condition one was supported where perceived transformational leadership was positively and significantly correlated to commitment to service quality ($\beta = 0.533$; $t = 12.35$; $p < 0.001$). In the second step, the mediating variable of job satisfaction was entered to predict the level of commitment to service quality. The result revealed it to be significant at ($\beta = 0.551$; $t = 12.94$; $p < 0.001$) which in turn supports the second condition. 30 percent of the variance in commitment to service quality is contributed by job satisfaction. The results also revealed that before the inclusion of the mediator, as indicated in Model one, the R-Squared was at 0.185 which was significant at 0.001 level. Previously, it was found to be significantly correlated at ($\beta = 0.430$, $t = 9.334$, $p < 0.001$). However, in the third step, after the inclusion of the mediator variable of job satisfaction, as shown in Model Two, the previous significant relationship does not reveal

any insignificant relationship to account for the third support for the perfect mediator. The strength of relationship indicated a decrease ($\beta=0.190$, $t= 3.853$; $p<0.001$). The R –Squared was 0.329 significant at 0.001 level. When the mediator was included, the equation for R-Squared revealed a significant (F change = 0.001) increase from 0.185 to 0.329, indicating an improvement of 14 percent in the variance of the commitment to service quality (r^2 change =0.144). As indicated, the beta coefficient of the independent variable value was reduced but still was statistically significant after the inclusion of the mediator. Therefore, it can be concluded that job satisfaction only partially mediates the transformational leadership and commitment to service quality relationship.

TABLE 2: TRANSFORMATIONAL LEADERSHIP STYLE AND COMMITMENT TO SERVICE QUALITY MEDIATED BY JOB SATISFACTION

	Variables	r ²	β	t	Sig	F-value	Sig F change	Tolerance
	Transf L	0.284	0.533	12.35	0.001***	152.533	0.001	1
	Job Satis	0.303	0.551	12.94	0.001***	167.441	0.001	1
Model 1	Transf L	0.185	0.43	9.334	0.001***	87.118	0.001	1
Model 2	Transf L	0.329	0.19	3.853	0.001***	94.152	0.001	0.716
	Job Satis		0.449	9.094	0.001***			0.716

*** $p<0.001$, ** $p<0.01$, * $p<0.05$ DV: Commitment to Service Quality,Transf L: Transformational Leadership,Job Satis: Job Satisfaction

The finding indicates job satisfaction as being partially mediated the relationship between perceived transformational leadership on commitment to service is a step forward in uncovering the process through which both this leadership style influence one’s commitment to service quality. This finding seems to complement other relevant research as that been conducted in non educational settings (Lok& Crawford, 2004) and in school settings (Nguni,Slegers, & Denessen, 2006) which demonstrates how leadership behaviour indirectly influences its followers’ organizational commitment through job satisfaction. Based on the present findings, there seems to be some confirmation that the academic leaders may have an indirect effect via job satisfaction on the attitudes of academic staff such as commitment to service quality.Thus, with the paucity and inconsistency in past findings which may be due to the context of the study, it is hoped that this study will provide sufficient support and insights into the mediating variables of job satisfaction on the relationship between perceived leadership styles of transformational leaders and the academic staff’s commitment to service quality in a developing country such as Malaysia.

Conclusion and Implications

This research has its theoretical implications on the key area related to addition of new knowledge in integrating two disciplines which are: organizational behaviour and service quality management in education in Malaysia. Although empirical findings have advanced on the mediating role of job satisfaction, little is known about employing this mediating role of job satisfaction into the relationship between transformational leadership style and commitment of the academic staff towards service quality. The results from the findings have revealed that the outcome of the study was further enhanced by the mediating factor of job satisfaction. Therefore, this study provides more support theoretically of its importance in the education industry. Ignoring its importance may have an impact on the degree of the academic staff’s commitment to service quality.From the managerial perspective, this study implies to the policy makers and academic leaders at the universities that they need to focus in developing their academic staff, by tapping their potentials, inspiring them, promoting collaboration, motivating and reinforcing positive attitudes towards commitment to service quality. They should also seriously consider benchmarking their compensation system and practices with the best practices of other educational institutions or with other service industries. This study also has its share of limitation in the sampling frame which only considers a particular group of institutions of

higher education (selected universities only) and therefore the results cannot be generalized to the whole education industry. Future studies should also consider inclusion of other variables such as conducive climate that supports research and development, creative thinking and goal clarity emphasis or elements of trust as the mediating effect so as to gain better insights. Future studies should also consider alternative modes of enquires such as employing the longitudinal method of data collection design (e.g. experiments, archival data, observations or interviews) and a nationwide survey covering samples from the whole population of the higher institutions of learning in Malaysia.

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E-Business: Elements Contributing To The Success

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Abstract

E-business has been proven to be an effective and successful concept of developing business and has been practiced globally in fact it has been used as one of the medium to enter international markets. Despite this fact, research involving e-business appeared to have been viewed less important. The literature showed that e-business has received relatively limited theoretical and empirical attention from social scientist as an important area of research. Based on the researchers own literature review of past studies, this study attempts to provide an insight into e-business – specifically focusing on identifying and discussing the elements contributing to the success of e-business that have yet to be explored rigorously – that could be benefited by prospective micro-entrepreneurs, small and medium-size enterprises, future researchers, government, and private agencies.

Introduction

The term business model is often mentioned in print and business executives. Based on existing term, a business model is a method an organization sustains itself in the long run and includes its value proposition for stakeholders and its revenue streams. A business model does not exist in vacuum, but relates to strategy in that a firm will select one or more business models as strategies to accomplish business goals. For example, if the firm's goal is to position itself as a high-tech, innovative company, it might decide to use the Internet to connect and communicate with its stakeholders, as does Dell Computer Company, Intel, Cisco and many more. How does a firm select the best business models? As suggested the components as critical to appraising the fit of a business model for the firm and its environment including: customer value, scope, revenue sources, connected activities, implementation, capabilities, and sustainability. Traditional business models such as retailing, selling advertising, and auctions have been around ever since the first business set up shop. What makes a business model an e-business model is the use of information technology (Strauss and Frost, 2009; Baltzan and Philips, 2009; Afuah and Tucci, 2001). This study, therefore, focuses on e-commerce which was first emerged during dot-com boom. The research is exploratory and descriptive in nature.

Literature Review

In 2003, Tom Anderson and Chris DeWolf started MySpace, a social networking Web site that offers its member information about the independent music scene around the country representing both Internet culture and teenage culture. Musicians sign up for free MySpace home pages where they can post tour dates, songs, and lyrics. Fans sign up for their own Web pages to link to favorite bands and friends. As of February 2006, MySpace was the world's fifth most popular English-language Web site with over 60 million users ("A Site Stickier," 2005). According to Stair and Reynolds (2010), one of the biggest benefits of the Internet is its ability to allow organizations to perform business with anyone, anywhere, and anytime. E-business is the conducting of business on the Internet, not only buying and selling, but also serving customers and collaborating with business partners. E-business also refers to online exchanges of information. For example, a financial institution allowing its customers to view their banking, credit card, and loan accounts or manufacturer allowing its suppliers to monitor production schedules. In the last few years, e-business seems to have spread to every single part and aspect of our daily activities. In order to enhance productivity, maximize convenience, and improve communication globally both individuals and organizations have

embraced Internet technologies. From banking to entertainment to shopping, the Internet has become necessary to our daily life activities (Baltzan and Philips, 2009; Mahajan, Srinivasan, and Wind, 2002; Brynjolfsson and Smith, 2000).

E-Business Model

A e-business model may be defined as the utilization of information and communication technologies (ICT) in support of all business activities (Strauss and Frost, 2009) or is an approach to conducting electronic business on the Internet (Baltzan and Philips, 2009; Bulkeley, 2001). E-business transactions take place between two major entities – businesses and consumers. All e-business activities happen within the framework of two types of business relationships: (1) the exchange of products and services between businesses (business-to-business, or B2B) and (2) the exchange of products and services with consumers (business-to-consumer, or B2C). The major difference between B2B and B2C are the customers; B2B customers are other businesses while B2C markets to consumers. On overall basis, B2B relations are more complex and have higher security needs; plus B2B is the dominant e-business force, representing 80 percent of all online business. Table 1.1 illustrates all the basic e-business models: Business-to-Business (B2B), Business-to-Consumers (B2C), Consumer-to-Business (C2B), and Consumer-to-Consumer (C2C) (Kotler and Armstrong, 2010; Hanson and Kalyanam, 2007; emarketer, 2006).

TABLE 1.1: BASIC E-BUSINESS MODELS

E-Business Term	Definition
Business-to-Business (B2B)	Applies to businesses buying from and selling to each other over the Internet.
Business-to-Consumers (B2C)	Applies to any business that sells its products or services to consumers over the Internet.
Consumer-to-Business (C2B)	Applies to any consumer that sells a product or service to a business over the Internet.
Consumer-to-Consumer (C2C)	Applies to sites primarily offering goods and services to assist consumers interacting with each other over the Internet.

According to Baltzan and Philip (2009), in order to stay competitive and being more effective, a business must master the art of electronic relationships and really look into the electronic medium as an additional channel to conducting and growing the business. The major business areas or activities taking advantage of e-business include: marketing and sales, financial services, procurement, customer service, and intermediaries (“Business Week,” 2000). The following Table 1.2 presents the specific list of potential e-business models for micro entrepreneur to embark on.

TABLE 1.2: THE SPECIFIC LIST OF POTENTIAL E-BUSINESS MODELS

E-Business Models	Descriptions
Content Sponsorship	An e-commerce business model that involves companies selling online Website space or e-mail space to advertisers.
Infomediary	An online organization that aggregates and distributes information.
Intermediaries	A firm that appears in the channel between the supplier and the consumer, and specializes in performing functions more efficiently than the supplier could such as online

brokers, online agents, and online retailer.

Online Brokers An intermediary that brings buyers and sellers together but does not represent either side. Like agents, brokers are paid by either the buyer or the seller e.g. online exchange and online auction.

Online Agents An intermediary who represent either the buyer or the seller, does not take title to the goods, and makes a commission for work completed e.g. selling agent (affiliate program), manufacturer’s agent (catalog aggregator), shopping agent, reverse auction, and buyer cooperative.

Online Retailer Use of digital technologies such as the internet and bar code scanners to enable the buying and selling process. E-commerce is about transactions through distribution channels and e-tailing e.g. digital products, tangible products, and direct distribution.

Source adopted from Strauss and Frost, 2009

Advantages and Disadvantages of E-Business

E-business has drastically changed the way businesses function in today’s global economic marketplace. The technological development and advancement in the past few decades have given businesses the opportunity and ability to grow as well as expanding beyond their local and existing market territories. The Internet became a medium or channel for businesses to reach global consumers with their products and services, increasing their revenue and profits (Vitez, 2010; Hagel and Armstrong, 1997a). With all these benefits that e-businesses possess, there must be advantages (pros) and disadvantages (cons) of e-businesses as presented in Table 1.3.

TABLE 1.3: ADVANTAGES AND DISADVANTAGES OF E-BUSINESS

Advantages of E-Business	Disadvantages of E-Business
Global presence and worldwide market Multiple market segments Cost effective/low business costs for marketing and promotions Competitive advantages Business 24/7 and 365 days Speed in customer service Self freedom Keeping the Cash Open up opportunity Minimum risk Tax advantages Spending more time with family Minimum stress Maximize productivity Opportunities for professional growth Develop own creativity	Sectoral limitations Costly e-business solutions for optimization Stiff competition Difficult customer relationship High maintenance costs Security and privacy issues Virus threat Physical products constrain Perishable goods Payment issues Identity issues Contract issues Governing laws

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It's evident that the advantages clearly outnumbered the disadvantages of e-business. Thus, every business has to change its business processes or practices or formats and adopt e-business practices in order to ensure survival, sustain and success in long run (Iyer, 2011; "Business Resources," 2011; Vitez, 2010; Williams III, 2010). Thus, e-business is a method by which the organization sustains itself in the long run using information technology, which includes its value proposition for partners and customers as well as its revenue streams. For example, the Internet allows education, music, and software firms to deliver their products over the internet, therefore, creating a new distribution model that cuts costs and increase value (Strauss and Frost, 2009; Metz, 2004; Seybold, 1998).

E-Business Contributions

As shown in Table 1.4, e-business strategies help firm to decrease internal expenses, often improving the value proposition for consumers and business associates. They can also increase and strengthen the enterprise revenue stream, an important part of the e-business model (Stair and Reynolds, 2010; Strauss and Frost, 2009; Hanson and Kalyanam, 2007).

TABLE 1.4: THE CONTRIBUTIONS OF E-BUSINESS

Increases Benefits

- Online mass customization and personalization.
- 24/7 convenience store.
- Self-service ordering and tracking.
- One-stop shopping centre.
- Learning from customers on social networking sites.

Increases Revenues

- Online transaction revenues such as product, information, advertising, and subscription fees; or commission on a transaction or referral.
- Adds value to products/services and increase prices (e.g., online FAQ and customer support).
- Increases customer base by reaching new markets.
- Builds customer relationship and, thus, increases current customer spending (share wallet).

Decreases Costs

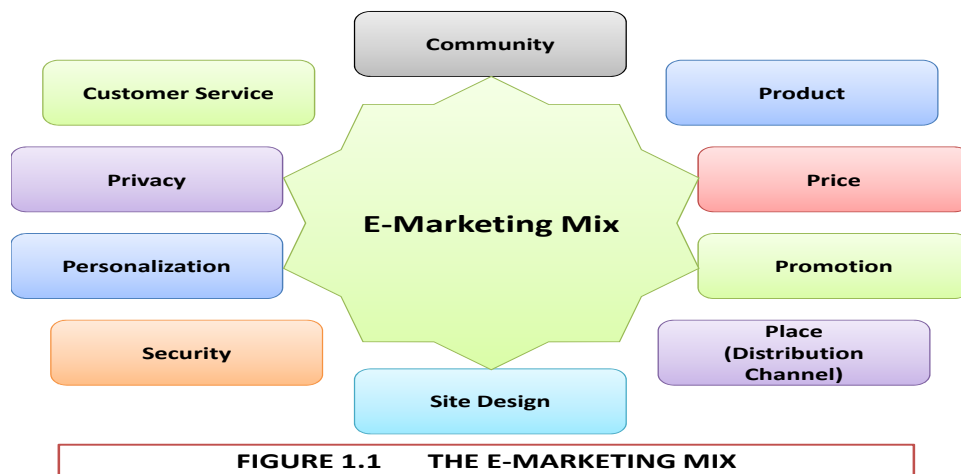
- Lowers distribution costs of communication messages (e.g., e-mail).
- Lowers distribution channel costs for digital-based products or services.
- Lowers transactions processing costs.
- Lowers knowledge acquisition costs (e.g., customer feedback and market research).
- Develop efficiencies in supply chain (through communication and inventory optimization).
- Reduce the cost of customer service.

Source adopted from Strauss and Frost, 2009

Elements Contributing To E-Business Success

The well known marketing mix has been in existence for more than 40 years as the 4Ps of Product, Price, Place, and Promotion (Kotler and Armstrong, 2010; Kalyanam and McIntyre, 2002). But, in the post dot-com boom era, marketers and marketing managers, managers are learning to manage with a whole host of new marketing elements that have emerged from the online world of the Internet. In some ways these new marketing elements have close analogs in the off-line world, and yet from another perspective they are revolutionary and worthy of a new characterization into what we coin as the E-Marketing mix. Today, few if any business plans can be completed without a blending of the E-Marketing mix into the traditional marketing mix to form an effective business strategy (Kalyanam and McIntyre, 2002).

Here, we find it worthwhile to characterize the E-Marketing Mix using a 4Ps + S2P2C2. In other words we keep the original 4Ps (which have been discussed in great details by many marketing scholars) and add Site Design, Security, Personalization, Privacy, Customer Service, and Community to characterize the E-Marketing Mix (see Figure 1.1) (Kalyanam and McIntyre, 2002). The review of past research data and as reported by the United States Department of Commerce (1996), only about 23 percent of small businesses survived to their fifth year. As far as business success is concerned, a business does not guarantee a success to its owner. However, the success of a business depends on various internal and external elements. Among the most critical elements contributing to the success of e-business model depends largely on the following e-marketing elements as depicted in Figure 1.1 (Azahari and Abd. Razak, 2010).



Product

The aspect of the E-Marketing mix has many similarities to the assortment selection practices of retailers. Given these similarities, we only focus on some of the more unique capabilities in the online environment. *Merchandising and Recommendation* - once the assortment has been selected, it is a common practice in the retail industry for the merchant to provide some creative expression for the product. For instance, retailers often display the merchandise in some specific context, perhaps with accessories, or against the backdrop of a particular environment. Online, these merchandising practices can be enhanced by using the multi-media audio and visual aids. The context and the accessories that are highlighted in the merchandising can form the basis for recommendations. The recommendations can be made accessible to the consumer using buttons for recommendations, callouts, accessories or suggested use. These recommendations are based on the expertise of the merchant. In contrast to these expert recommendations, in the online world, one can provide recommendations based on a data mining techniques that has been popularly referred to as collaborative filtering. Collaborative filtering forms the basis of a well known

recommendation engine on Amazon. In this approach, recommendations are generated by comparing the purchase patterns of past customers to the preference patterns of the current customer based on their similarities. For example, if Mr. Lee is on the site and has purchased 9 books in the past, he can be compared to other customers who also bought those 9 books and what else those other customers have purchased. Those other purchases would become natural recommendations for Mr. Lee (Stair and Reynolds, 2010; Strauss and Frost, 2009; Hanson and Kalyanam, 2007; Kalyanam and McIntyre, 2002; Poon and Joseph, 2001; Smith and Brynjolfsson, 2001).

Price

We will focus our discussion on the online pricing techniques, particularly those that are substantially new including: *Dynamic pricing* – refers to changing prices on continuous basis in order to meet the characteristics and needs of individual customers and situations. *Forward auction* – sometimes called English Auction, as popularized by eBay. In this approach the seller places an item for auction. The item is available over a pre-specified time interval. The seller may or may not stipulate a minimum reserve price. The interested buyers bid on the item until the auction closes. *Reverse auction* refers to an exchange arrangement in which individual buyers enter the price they will pay for particular items at the purchasing agent’s Web site, and sellers can agree or not (Strauss and Frost, 2009; Kalyanam and McIntyre, 2002; Smith and Brynjolfsson, 2001).

Promotion

We will focus our discussion on the promotion techniques, particularly those that are substantially new including: *Banner ad* refers to rectangular space appearing on a Web site, paid for by an advertiser, which allows the user to click-through to the advertiser’s Web site. *Sponsored Links* refers to integration of editorial content and advertising on a Web site, the sponsor pays for space and creates content that appeals to the publisher’s audience. *E-mail* refers to Internet-based direct marketing is the use of personalized e-mails. Given database of prospects and customers e-mail messages can be highly targeted. E-mail campaigns can rely on “opt-in” or “permission marketing” to be sure that respondents do not receive unsolicited message. Apart from text, emails include video, audio and web pages. *Viral marketing* refers to online equivalent of word-of-mouth and referred to as word-of-mouse, which occurs when individuals forward e-mail to friends, coworkers, family, and others on their e-mail lists. *E- coupons* refers to traditional coupons, but Internet users’ “point and clip” these electronic coupons (Strauss and Frost, 2009; Hanson and Kalyanam, 2007; Kalyanam and McIntyre, 2002; Smith and Brynjolfsson, 2001).

Place (Distribution Channel)

We will focus our discussion on the place or distribution channel techniques, particularly those that are substantially new including: *Remote Hosting* refers to using a technology called remote merchant hosting the portal can host a mirror image of the site. Retailer can rent space on these shopping sections and the portal take the order and forward it to the retailer. *Affiliates* refer to a link to an e-tailer’s Web site, put in by firms to make a commission on all purchases by referred customers (Strauss and Frost, 2009; Hanson and Kalyanam, 2007; Smith and Brynjolfsson, 2001).

Site Design

A well develop and appealing website can be considered as a potent online portfolio of a company or an individual engaged in online business. A well designed, easy to navigate and search engine friendly website will obviously rank high in search engine result page resulting more traffic to the website. A website is an online identity of a company or of an individual involved in Internet business. The task related with the website is to represent a company, attract more visitors, sell company’s name, promote more sale of company’s products and services, generate more business leads and ultimately, help to gain more return on investment. In this era of advanced technology, electronic commerce have highly dominated the business practice, and due to easy availability and

affordability of the Internet, people are running after it and making a lot of profit at the comfort of their home. As a serious e-business person, what is important for our business is, to prepare a website that is well designed, attractive, easy to navigate, highly usable, good content, full of relevant information, enough functionalities and are capable of retaining visitors for long and make them come back again (Stair and Reynolds, 2010; Strauss and Frost, 2009; Hanson and Kalyanam, 2007; Kalyanam and McIntyre, 2002; Smith and Brynjolfsson, 2001).

Security

Along with personalization and privacy a related concern is with the Security of the web site itself. Specific issues of concern include whether someone can intercept the transaction and the credit card information and how easy it would be for a hacker to enter the web site. Sites address these issues with a security policy that addresses among other issues including: (1) what aspects of the site and the transaction are secure, (2) what technology is being used, and (3) what the liability of the customer is if a credit card number is stolen or there is a security breach (Kalyanam and McIntyre, 2002 and 2001; Smith and Brynjolfsson, 2001).

Personalization,

Personalization refers to methods of individualizing an impersonal computer networked environment such as web sites that greet users by their name, providing personalized information. In an analogous way, Personalization in the online world is a term used to connote any aspect of a web-site or web service that is tailored individually in response to a returning customer. Usually users register with a site and create a profile. When the users return they only shown the information that they signed up for or find relevant. Personalization on the web can be widespread compared to what a traditional storekeeper could achieve. For example, personalization at Amazon.com takes place in the form of personalized book recommendations for well over 30 million shoppers (Strauss and Frost, 2009; Hanson and Kalyanam, 2007; Kalyanam and McIntyre, 2002 and 2001; Hagen, Howe, and Berman, 1998; Smith and Brynjolfsson, 2001).

Privacy

A topic of much debate, including issues of the Warren and Brandeis concept of a right to be left alone, often referred to as the seclusion theory; access control, which places its emphasis on laws and standards that enable persons to reasonably regulate the information that they are giving up; and autonomy that identifies private matters such as those necessary for a person to make life decisions. A typical privacy policy addresses what information is being collected and how it will be used and whether the information will be sold or shared with third parties and if so in what context (Kalyanam and McIntyre, 2002 and 2001; Smith and Brynjolfsson, 2001).

Customer Service

We will focus our discussion on the customer service techniques, particularly those that are substantially new including: *Frequently Asked Questions (FAQ's) and Help Desks* refers to link which leads to a help desk or a support page that provides users with links to specific customer support tools. A very common customer support tool is a frequently asked questions (FAQ) list. This list is usually reflective of the most common types of customer support issues. *E-mail Response Management* refers to an automated response management system which responded immediately with an acknowledgement or thank you for the sender's inbound e-mail query. *Chat room* refers to virtual space where Internet users can communicate in real time using special software (Strauss and Frost, 2009; Kalyanam and McIntyre, 2002; Smith and Brynjolfsson, 2001).

Community

In term of an e-marketing tool, “community” means getting customers to interact with one another in a way that increases the benefits of coming to the sponsor’s web site. A virtual community is also a location on the Internet where individuals interact with one another. For example, chat rooms where people discuss specific stocks, automobiles, or buy and sell goods and services through auctions like eBay are all of virtual communities. Internet technologies have enabled, in a very cost effective manner, the building of communities that are at the same time very narrow in terms of their focus while geographically broad in terms of their reach. In some cases the purpose of the interaction is to conduct transaction as in the case of an online auction or a gift registry (Strauss and Frost, 2009; Hanson and Kalyanam, 2007; Kalyanam and McIntyre, 2002; Smith and Brynjolfsson, 2001).

Conclusion And Future Research

This paper attempts to provide some useful insight into e-business. Based on the literature reviews, the researchers highlighted as well as discussing the important elements contributing to the success of e-business. In particular, the researchers suggested that any newly set-up or existing entrepreneurs should carefully study and analyze the e-marketing elements before making any investment decisions in e-business activities. With regard to this, it is imperative that entrepreneurs seeking professional advice regarding any concerns and questions before making any commitment in this type of business model.

A primary limitation of this study is that the E-Marketing Mix framework has yet to validate as a “valid” framework. After all, others might come up with alternatives frameworks or different classifications. Therefore, this is only a starting point and should be viewed as exploratory. This suggests that the first line of empirical research might be to validate this particular framework and categorization. Such an empirical validation of classification could be done with experts in the form of knowledgeable E-Marketing managers or successful e-business entrepreneurs. It is hoped that this study would not only increase the entrepreneurs understanding of e-business, but also generate more interest in this type business model.

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Entrepreneurial university: theoretical discussion, reach and challenges.

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Abstract

Nowadays the roll Public and Private Universities has evolved and now they are considered an important instrument in the economy. This essay will give a totally objective approach to the enterprising Universities, describing and analyzing the most important factors that are used for the creation of new companies having as a theoretical framework the Institutional Economy Theory of North (1990). The Enterprising University has changed its paradigm of forming professionals and is currently directed at generate new knowledge, the university has changed its traditional paradigm of training professionals and is currently aimed at generating new knowledge, manage and commercialize their research results either in the form of patents, licensing or strategic alliances with companies, which leads University to be the cornerstone in the knowledge economy. At present time, enterprising universities manage themselves entrepreneurially, commercializing their research results either in the form of patents, licensing or through strategic alliances with companies.

Entrepreneurial universities.

At the beginning of XXI century, a wide discussion has taken place on the evolving role of the university in the regional context, in science and the new mission in the past decades only dedicating to teaching, research and extension. Nowadays, a fourth and a fifth functions are taken place, encompassed with the mission of entrepreneurial, innovation and social responsibility. Corti and Riviezzo (2008) mention about:

"A 'second academic revolution' which involves the assumption of a mission of economic and social development is transforming the traditional university teaching and researching into an enterprising one.

Corti and Riviezzo, which in turn cite Clark (2004), Gibb (2005). Etzkowitz (2004) concluding that the entrepreneurial university is:

"It has been argued that universities are entrepreneurs when they are not afraid to maximize the marketing potential of their ideas and create value in society and do not see this as a major threat to academic values (Clark, 2004). Behind this is the recognition of the need for diversified funding base that involves obtaining a high percentage of their income through non-public sources (Gibb, 2005). Etzkowitz (2004) describes the enterprising university as a university that has "a proactive stance in putting knowledge in use and application of the result as an input for the creation of academic knowledge. " Thus, the enterprising university operates on an interactive innovation model, that begins with the problems in the industry and society and seeks solutions in science, instead of a linear innovation model, which begins with the investigation to proceed to use "

Since the appearance of the university substantive functions were assigned to it such as teaching, according to the evolution research and extension join. But in recent decades they are increasingly important other basic functions since it is the diffusion of the knowledge and the transfer of research results that are developing internally.

"The concept of entrepreneurial university includes universities with the ability to transform the knowledge produced within the university in an economic and socially useful

result. There are universities whose research results are analyzed for their economic and commercial potential, and develop the internal capacity to translate research results into intellectual property and economic activity according to previously established goals, for this effect see the case of Universities Harvard, Cambridge, among others "

Institutional economic thinking began in the last decades of the nineteenth century in America. American institutionalisms' were the first to highlight the economic importance of the habits of behavior and thinking of human groups and try to analyze and understand the complex social institutions. Were influenced by Marxism, the German historicist, psychology and Darwinian evolution. In general, were highly critical of both economic theory and the capitalist system of his time.

Its founder, the economist Thorstein Veblen, was inspired largely in cultural anthropology. According to him, economics is the study of material aspects of human culture. In this sense, the economic system is a cultural product subject to constant evolution and transformation. For Veblen, human action in all its facets is the proper field of economics, not only the structure and organization of economic life, but the entire social behavior.

Thus we see that currently the public and private universities have evolved and are now considered as an important tool in the knowledge-based economy. The paradigm shift within universities arises from the demands of globalization, competitiveness, market economy, the change of laws on education. According to Bramwell& Wolfe (2008) universities have emerged as central actors in the knowledge-based economy, hoping to play an active role in promoting technological change and innovation. Knowledge economy

The exchange of knowledge, rather than transfer between academia and industry, is a key factor for increasing Europe's competitiveness within a knowledge-based economy overall. In the light of experience and more effective models existing in the EU in general and in regional and national levels is necessary to examine more thoroughly the possible ways to improve the exchange of knowledge between academia and business, and the role that universities play in this process of innovation.

Veblen (1965) developed his own concept of social development and economic thinking incorporated a complete theory of social change and institutions, giving much importance to historical studies and research on the relations between social groups in the course of history. According to Veblen (1965) "The institutions are as common and predictable patterns of behavior in society, including the habits of thought and action generally shared." Saying of another way, an institution would be a kind of habitual behavior and widely accepted (Rutherford, 2001)

Entrepreneurs are, in the most wide sense, individuals with vocation to promote new projects based on a strong motivation and perseverance. A narrower definition is used to refer to the ability to create companies, but this article will use the most wide sense of the word. To summarize, being an entrepreneur involves:

1. be prepared to hear and identify what society and the market demand
2. be innovative and imaginative in responding to those claims
3. mobilize and manage resources appropriately, and whole teams of people
4. Create networks and strong partnerships with key players in the environment that provide the resources.

Ultimately, we speak of a special spirit that involves ambition and passion for challenge, risk taking, commitment, tolerance of failure and leadership, traits attributed not only to individuals but also organizations that demonstrate continuous action following those principles.

One of the most common aspects for the study of entrepreneurial universities is the influence of environmental factors. In this investigation we have selected as the theoretical framework for the North's Institutional Economic Theory (1990).

The main function of institutions in society is to reduce uncertainty by establishing a stable structure (but not necessarily efficient) of human interaction (North, 1993, pg. 16). According to Guerrero *et al.* (2006), in this context, the theory proposed by North tries to explain how institutions and institutional change contribute to economic and social development, but only presents the analysis of economic change based on three pillars:

belief -institutions-economy. From this perspective, to understand how the economy works, it is necessary to know the political, social and cultural institutions to establish the dynamics and one way is to study the system of beliefs and decision-making process (North, 2005).

North (1993) tells us that institutions include every type of limitation that humans create to shape human interaction. States that institutions can be formal, it is to say written rules and laws, regulations and governmental and informal procedures, which are the unwritten rules, such as beliefs, ideas and attitudes, so the effect of both institutions must be taken into account, as they may influence or condition the functioning of an entrepreneurial university¹.

Through the selection of the Institutional Economic Theory and having it as a theoretical framework in this research, we want to analyze whether universities as well as entrepreneurs are raised North (1990) where we talk about formal and informal institutions and whether they are suitable for study and subsequent analysis. The author believes strongly that the variables and dimensions of environment factors such as formal and informal institutions are the reason for the one that was chosen to establish a relationship with the institutional economic theory, one can cite the triple helix model that establishes the relationship university-industry-government, so that is in line with North (1990).

For this investigation a review of the literature on the topic of entrepreneurial universities through the ISI database Web of Knowledge. The study focused on eleven of the international journals of greater importance, belonging to the JCR (Journal Citation Reports), of which six of them are in the field of entrepreneurship and the others are generic. The selected study period was from 1999 to 2009 inclusive, then there is the following Table 1 of the journals used for this study.

TABLE 1: REVIEW MAGAZINES

ABBREVIATIONS	JOURNAL ANALYZED	No. Items
ETP	Entrepreneurship Theory and Practice	3
JBV	Journal of Business Venturing	6
SBE	Small Business Economics	3
ISBJ	International Small Business Journal	3
ERD	Entrepreneurship and Regional Development	4
JSBM	Journal of Small Business Management	0
RP	Research Policy	6
RDM	R & D Management	1
HE	Higher Education	1
EJIM	European Journal of International Management	1
JTT	Journal of Technology Transfer	2
	Total	30

Source: Own

The methodology used was descriptive study was based on the main features contained in the articles, which are: journal where published, year of publication, author (s), etc. The above selection was done by

¹ For further discussion see (Urban, Diaz, & Hernández, 2005)

reading the abstracts of each complementing the information by reading the article (see Table 5). After performing the descriptive study we carried out a qualitative analysis of articles, marking the objectives, methodology, results, limitations, future research and the suitability or applicability of the theoretical framework presented in the second point, indicating the contributions leading them to study the influence of institutional economic theory through formal or informal institutions, in (on) the concept of entrepreneurial university.

In Table 2 we can observe the number of items found and the year of publication it belongs to everyone:

Table 2: Changes by year of the articles analyzed

JOURNAL ARTICLES ANALYZED BY YEAR	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	TOTALES
	EntrepreneurshipTheory and Practice					1		1		1		
Journal of Business Venturing					2	1	2			1		6
Small Business Economics		1			1				1			3
International Small Business Journal					1		1		1			3
Entrepreneurship and Regional Development								2	1	1		4
ResearchPolicy		1	1					1	1	2		6
R&D Management					1							1
HigherEducation							1					1
EuropeanJournal International Management										1		1
Journal of Technology Transfer									1	1		2

Total 30

Source: Author

As shown in Table 2, most of the scientific production (40%) took place in 2007 and 2008 (12 items the 30 analyzed belong to two years), we note that the years with lower scientific output was in the period from 1999 to 2002 with 10% (3 articles of the 30 analyzed belong to this period of four years), so as we see in this review of literature that speaks more entrepreneurial universities during the period from 2003 to 2008, this is 90% of the articles surveyed.

In Table 3 we see a predominance of articles written by two or more authors (63%), which would provide as a result conclude that networks have done research on the topic tried to obtain value for money and perhaps the one hand, higher productivity by the authors, and that peer collaboration can improve this. Also we can see that only 8% of the authors analyzed more than one article published on the subject of entrepreneurial universities in the study period examined, a factor that was discovered is that 77% of the analyzed studies are studies empirical. Items are analyzed as one of its main pillars the influence of environmental factors, therefore, which fell within the proposed framework, the 'institutional economic theory. "

TABLE 3: DESCRIPTIVE INFORMATION ITEMS

Number of Authors per Article:			Number of articles by author:		
One	11	37%	One	49	92%
Two	12	40%	Two	4	8%
Three	6	20%	Total	53	100%
Four	1	3%	Empirical or conceptual:		
Total	30	100%	Empirical:	23	77%
			Conceptual	7	23%
			Total	30	100%

Source: Own

This research analyzed could be classified in different fields of study:

Autor	Description of Study:
Rosa, (2003), Pittaway & Cope, (2007), Peterman & Kennedy, (2003), Toledano & Urbano, (2008), Frank, Lueger, & Korunka, (2007)	They describe the issues related to the perceptions and attitudes of students of both business careers as others on the propensity and intention towards entrepreneurship by analyzing characteristics such as personality, family background, educational environment, work environment, among others.
Allen, Link, & Rosenbaum, (2007), Rosa & Dawson, (2006), Rothaermel & Thursby, (2005), Powers & McDougall, (2005), Pirnay, Sulemont, & Nlemvo, (2003), (Meyer, (2003), Youtie & Shapira, (2008), Klofsten & Jones-Evans, (2000), Huggins, (2008), Grandi & Grimaldi, (2005), Martinelli, Meyer, & von Tunzelmann, (2008).	The main issue that these authors talk about is that investigating teachers are likely to be linked with industry, either by creating them their own business or working in addition to the university in a company, analyzing the characteristics of teaching experience and research, building licenses, patents, personality, age, category, among others.
Bramwell & Wolfe, (2008), De Zilwa, (2005), Mueller, (2007), Youtie & Shapira, (2008), Watkins-Mathy & Foster, (2006), Allen, Link, & Rosenbaum, (2007), Baldini, Grimaldi, & Sobrero, (2006), Klofsten & Jones-Evans, (2000), Huggins, (2008), Horowitz, (2007), Fukugawa, (2005), Martinelli, Meyer, & von Tunzelmann, (2008)	These authors address the issue of research and external activities linking universities with companies such as: patenting, licensing, strategic alliances, networks, contracts, transfer and commercialization of knowledge, seeking these final objective regional economic development and attracting external funding.
Etzkowitz, (2003), Meyer, (2003), Etzkowitz, Webster, Gebhardt, & Cantisano, (2000)	They analyze the changing role and functions of universities in socio-economic context, highlighting issues within the mission of universities such as: teaching, research and finally, economic development and regional thus linking the university-industry-government relationship.
Powers & McDougall, (2005), Rosa & Dawson, (2006), Rothaermel & Thursby, (2005), Aidis, Estrin,	Studies are about the creation or the development of

& Mickiewicz, (2008), Pirnay, Sulemont, & Nlemvo, (2003), Nicolau & Birley, (2003), Meyer, (2003), De Zilwa, (2005), Klofsten & Jones-Evans, (2000), Huggins, (2008), Grandi & Grimaldi, (2005), Frank, Lueger, & Korunka, (2007), Martinelli, Meyer, & von Tunzelmann, (2008),	university spin-out, university spin-offs leading to changes in the organizational structure of universities and technology transfer offices, patenting, networking, among others.
Pittaway & Cope, (2007), Kuratko, (2005), Etzkowitz, (2003), Klofsten & Jones-Evans, (2000), Katz, (2003),	These authors make a review of literature on the current state of academic research on <i>entrepreneurship, entrepreneurship education, and academic entrepreneur.</i>
Shane, 2004), (Pittaway & Cope, 2007), (Youtie & Shapira, 2008), (Watkins-Mathy & Foster, 2006), (Allen, Link, & Rosenbaum, 2007), (Baldini, Grimaldi, & Sobrero, 2006), (Bramwell & Wolfe, 2008),	Studies are about studies (dealing with the impact of the creation and / or amendment of legislation in patenting, licensing, research contracts in the universities.
(Peterman & Kennedy, 2003), (Bramwell & Wolfe, 2008), (Toledano & Urbano, 2008)	Studies, are about the impact of entrepreneurial education programs in universities on the enterprise, either as subject or as a complete curriculum.

We wanted to advance further in the study, carried out in Table 4, a classification of formal and informal factors obtained by analyzing the articles following the approach of the Institutional Economic Theory.

Formal factors grouped into five groups:

- Public Policy (egDohle Bay-Law, Italian Law on IP)
- Start-ups, universities, university spin-offs
- Entrepreneurial Education Programs
- Organizational Structure: Liaison Offices (patenting, licensing, strategic alliances, contracts and transfer of technology and knowledge.
- University government and organizational structure, diversified funds (public support mechanisms and lincnt structures)

Informal factors grouped into three groups:

- Attitudes and perceptions about entrepreneurship by students (factors of personality, family role, etc.).
- Attitudes and perceptions about entrepreneurship on the part of teacher-researchers (expertise, teacher status, age, personality)
- Culture

CONCLUSIONS

Based on this article we seek that managers, politicians and university managers discuss the advantages of developing an Entrepreneurial University and thereby generate the commitment of regional economic and social development, in order to have new pictures academics, scientists and business managers and developers of social development strategies towards forming networks of cooperation with the Entrepreneurial Approach.

It is important that if you take the step to be an Entrepreneurial University to reconsider the mission and vision of it, is how Etzkowitz (2003) mentioned us in his article about the mission of the college, having gone through several evolutions.

In the articles analyzed is observed that the most studied is the start-up university and the spin-off university, other issues also highlights the organizational structure, such as liaison offices (patent, licensing, strategic alliances, contracts and transfer of technology and knowledge, and other theme is the same enterprise by teacher-researchers (expertise, teacher category, age, personality), another area with smaller publications, but not least important is the entrepreneurship education programs and / or business, as indicated (Pittaway& Cope,

2007) education for entrepreneurial formation causes a great impact on the propensity and intentionality of students. What is unclear is how such education has an impact on the level of training graduate business or allows graduates to become entrepreneurs more capable.

An article which we consider as a starting point for this work, though in principle it is about entrepreneurship education is the work of Katz (*The Chronology and Intellectual Trajectory of American Entrepreneurship Education: 1876-1999*) published in 2003, because it is a chronology of the intellectual trajectory of American entrepreneurship education based on the most relevant publications over time.

Drawing on institutional economic theory proposed by North (1990), we note that in the case of entrepreneurial universities, formal institutional factors seem to have a greater influence on the entrepreneurial university, judging by the number of items (27 items out of 30 analyzed, representing 90% of total), compared with articles examining informal institutional factors (16 articles on the 30 analyzed, representing 53.33% of total).

The limitations they found was that the article will be confined to the journal found in the U.S. and Europe. In Latin America there is a very important job on the training of entrepreneurs in the countries of Brazil, Argentina, Colombia and Mexico, among others. I think it is important to analyze each country, each region and to differentiate the various factors that are predominant in the training of entrepreneurs the external or internal.

It will require detailed studies of the effect of formal and informal factors in the field of entrepreneurial university and the comparison between universities in the same region, same country or another country. This would give us a clearer idea about the viability of universities to migrate or evolve its organizational structure and more easily fulfill its mission of regional economic development agents, thereby becoming entrepreneurial universities.

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Wine Tourism Development of the Territory: A Comparative Analysis of Destinations of Excellence.

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Abstract

The tourism sector is characterized by the growing development of new market niches and new segments of offer to meet the pressing needs of the international tourist movement. The world of wine-related tourism represents by far one of these most popular new niches although it does not exist as a segment of the market, but is just characterized by the presence of high quality products able to build the image of a geographical location and therefore become the main motivation of the trip. Therefore the mix of culture, landscape, wine, cooking, art, food products, quality craftsmanship do contribute significantly to the economic value of an area, especially if supported by appropriate territorial marketing policies. This paper focuses on identifying and comparing the wine tourist destinations of excellence and their main features in order to determine the elements that establish a wine touristic area in an international context.

1. Wine Tourism and Regional Development

Recent years have witnessed a transformation in the ways and forms of the use of tourism due to the joint action of different elements that characterize the phenomenon of tourism. In particular, there seems to be an "explosion" of the tourist experience in a variety of forms of so called "authentic" touristic experience, where the main elements are represented by the link with the territory, culture, traditions, the lifestyles that characterize it. These changes in the demands of touristic experience have a significant impact on tourism supply system. The touristic products are infact more and more evidently turning into an emotional type of experience goods (Pencarelli and Forlani, 2002).

In this context, wine is conceived less and less as a food component (nutritional function), instead more increasingly as an opportunity to improve the style and quality of life, therefore becoming the reason to discover territories, visit wineries, taste local delicacies, and socializing with food. More than any other food products, wine attracts the attention of the consumer to the territory of its origination and, therefore, is directly involved in the virtuous cycle aimed at promoting the area through the dissemination / promotion of their own products (Bilkey and Nes, 1982), environmental compliance, research and quality of health *latu sensu* (Mastroberardino, 2002).

The contribution of wine tourismⁱ to the economic exploitation of the territory is also facilitated by policies aimed at a regional marketing of destination managementⁱⁱ able to translate in a touristic package the elements of wine territory, the geography and business of the product, establish an appropriate touristic offer balance potential and actual demand to supply (Maizza and Rosato, 2008; Vrontis and Thrassou and Czinkota, 2011).

In this perspective, it is easy to see that the large and diverse presence of "territories" can represent at the same time, an opportunity and also a constraint on the development and diversification of the wine of a nation. On the one hand, the search for the peculiarities in grapes and wines that distinguish one wine area from another is an attractive that on the other can have a negative impact if it is not communicated and promoted effectively. It is well known that communication policies of niche products (Mattiacci, 2000) are not effective due to modest financial resources available. Therefore the intervention of a comprehensive regional policy can facilitate the enhancement of the touristic value, ensuring the achievement of critical mass necessary to obtain useful synergistic action taken jointly by a number of territories within the area. In this perspective, the wine tourism represents an opportunity as well as being an element of diversification that allows the implementation of joint actions carried out by the various players together with the other players in the area and its governance. Ultimately the success of a wine touristic location is based on the ability to communicate effectively the diversity in a given geographic area, not only through appropriate promotional campaigns, but also through the

establishment of actions with a single common denominator (such as, for example, wine and the set of elements related to its territory of origin, and history, traditions, art, culture, gastronomy, landscape) through the presence of a general action of protection and monitoring (Antonioli Corigliano, 1996). For this purpose it might be useful to create a public-private metamanagement as a tool to enhance the potential role of food and wine resources and establish the typologies of tourism based on the choice of a destination (Rosato and Scorrano, 2010).

For these reasons, the wine and the food in general can represent a significant component in the overall value proposition when choosing a touristic destination (Howley and van Westering, 2007; Weston, 2003)ⁱⁱⁱ. In this perspective, the precise definition of the target audience is a central and defining element of the overall process of developing wine tourism in an area.

2. Features of the Wine Tourist

As previously stated, a region that aspires to rise as a wine tourism destination should direct the offer primarily to the tourist "gourmet" and, secondarily, to a tourist who does not take food and wine as a primary reason for the trip but who also recognizes the trip as a significant additional component to enrich his/her whole experience.

Wine tourist and, more generally, the food and wine tourist is characterized by the search for a "real" interaction with the territory, with the traditions, customs, habits of the local community through the typical food and wine tradition (Charters and Ali-Knight, 2002)^{iv}. The significant element in this type of touristic demand is, therefore, represented by the combination of "wine / food - land / place of production", in a process of interaction where the tourist gets to discover, experiences, tastes and appreciates the food and wine products, the place of production, the traditions and peculiarities of the land, through an enriching touristic experience.^v The moment of wine and food tasting triggers access to a larger system of relationships that the tourists should be able to start with a process of discovery and enjoyment of the visiting country: (visit - tasting - participation in the production process) to finally come into direct contact with the wine and food producers of the visited area. Over time, the demand for wine tourism has experienced an evolution that can be summarized in the following three stages^{vi}:

- *Introductory*: the consumer looks for good quality and affordable wine; enjoys the friendly welcome in the cellars;
- *Evaluative*: The consumer is able to recognize and choose (thanks to the presence of guides and articles in the trade press) the names and most famous wineries;
- *Tertiary*: the tourist is also seeking for services such as wine tastings, wine shops, restaurants;
- *Experiential*: the tourist wants to participate to specific, unique events
- *Authentic*: the tourists refuse predictable, and crowded tourist attractions sites.

Over time, the wine and food tourist, therefore, has become the one who always had a desire to "taste in a conscious way" because of the opportunity to learn everything about wine and food resources (ingredients, special flavors, production techniques and / or preparation, associated with local traditions, recipes, etc.). Thus, it assumes the two characteristics of an experienced and demanding consumer, or a curious and eager to learn consumer.

A possible classification of the types of wine tourist can result from the combination of variables (table 1):

- "wine culture", understood as knowledge of the product and its history;
- "relevance assigned to the resources of the territory", understood as natural, cultural and historical sightseeing, touristic facilities (hotels, leisure etc.).

TABLE 1: WINE TOURISTS

<i>Relevance of the land resources</i>	high	<i>Wine fans</i>	<i>Wine-taster</i>
	low	<i>Wine-discoverers</i>	<i>Wine-professionals</i>
		low/medium	high
		<i>Wine culture</i>	

Source: our elaboration

The rectangle characterized by low wine culture and a low importance given to the resources of the area represents the *wine-discoverers*, i.e. those who have an initial approach to the field (induction phase), have limited knowledge but a high interest in making short trips to events that relate to the wine. This category consists mainly of young people, couples and families.

The category of *wine tourists* qualified by a modest wine culture, but a high importance assigned to the area's resources can be called wine fans (evaluation phase). They have a keen interest in the sector, have a good basic understanding of products and places (usually resulting from reading magazines and guides) and are keen on trips and courses. These individuals aged 35-40 years, are quite wealthy, and excellent wine cellars visitors. For these individuals wine is a central element of the trip, but they are also interested in other local resources (natural, historical and cultural elements, etc.) which are a main factor in the choice of destination.

The food and *wine professionals* are characterized by wide and diverse product knowledge, a developed travel culture of places and routes in the sector (tertiary stage). They know labels, vintages, prices, auctions, wine combinations and are very good buyers. Wine is the exclusive reason for the visit. In this category are the managers of wineries, restaurants, etc.

The rectangle characterized by high culture of wine and high importance of land resources represents the *wine tasters* (experiential stage and phase of authenticity), that in addition to those who possess a wealth of knowledge similar to wine professionals, are also characterized by the search for identity in products and places, really keen to make wine culture a chance to live the authentic experience^{vii}. This is the highest form of experience and awareness of use of resources, food and wine, an expression which we refer to a variety of activities including, for example: (a) the tasting of traditional local food, (b) the purchase of these products on site, (c) learning the techniques of production, (d) the observation of the areas and places of production and processing, (e) participation in some of the processes of production. This type of wine tourist is therefore satisfied if he/she can combine the pleasures of learning and exploring the territories with the acquisition of the cultural identity of a community through its local products.

3. The Main Wine Tourist Destinations in the World: Success Factors

3.1. Research Methodology

The objective of this analysis is, as mentioned above, to provide a listing and analysis of the major wine tourist destinations of excellence. The most critical step of this survey was the identification of a source of information to identify a list of those destinations. This is due to the difficulty to infer with certainty what may be regarded a wine tourist destination of excellence: the absence of an identification element for wine-tourism and the lack of data concerning the flows of specific wine tourist destinations. An alternative approach was to use the Web as an information source on the assumption that the players in the tourism industry (both as demand as supply) are

frequent internet users^{viii}. The research therefore used the information from the various sites/blogs^{ix} specialized in tourism and/or wine tourism, collecting the opinions of experts and wine fans.

Given the large number of Internet sources devoted to wine tourism it was necessary to establish some selection criteria to limit the scope of the survey only to some websites/blogs^x. Their identification was made following the instructions shown below^{xi}:

- identification of the most widely known search engines worldwide, namely: www.google.com and www.yahoo.com;
- choice of key words to be included in the search engines, namely: "best wine tourism", "excellent wine tourism", "best wine destination", "excellent wine destination";
- Selection of sites/blogs to draw upon the information: after entering the chosen keywords in the search engines we made a comparison between the first two pages of those engines^{xii} to identify the main sites/blogs about wine tourist destinations worldwide. Ultimately the sites were: www.travelblog.it, viaggi.virgilio.it, www.winenews.it, www.simonseeks.com, vino24.tv, opentravel.com, www.helium.com, www.ehow.com, www.squidoo.com, www.chicagotribune.com;
- determination of wine tourist destinations of excellence: an analysis of the content of these sites has resulted in identification of targets that have a higher recurrence and therefore are considered excellent by industry experts or perceived as such by wine fans.

3.2 Results

Below are the results of what are considered the wine destinations of excellence in the world (table 2):

TABLE 2: WINE DESTINATIONS OF EXCELLENCE

Nation	Number of presence of the touristic site
France	Bordeaux 7/10 Champagne 4/10
California (USA)	Napa Valley 8/10 Sonoma Valley 6/10
Italy	Tuscany 9/10 Piedmont 2/10 Umbria 1/10
South Africa	Stellenbosch 9/10
Australia	Barossa Valley 6/10
New Zealand	Marlborough 6/10
Spain	La Rioja 5/10
Chile	Valle Central 4/10

Source: our elaboration

The characteristics of each wine destination described on at least three websites are the following^{xiii}:

- *Bordeaux (France)*: Known for its charming old town, in the 2007 Bordeaux was classified World Heritage by UNESCO. This recognition is a tangible sign of the asset value and unit of the city that has evolved over the centuries without ever betraying its harmony and its architectural wealth. The city is worldly renowned for its production of wine in the wine lands along the rivers Garonne and Dordogne. Bordeaux wines can be red, dry white or liqueur, or rosé. The grapes from which it derives are: Cabernet Franc, Cabernet Sauvignon, Merlot for red wines, Sauvignon, Sémillon and Muscadelle for white wines.
- *Champagne-Ardenne (France)*: The term takes a champagne appellation of origin that refers to a territorial area in northern France, the region of Champagne-Ardenne. This area is unique in France, to have a single appellation, specific terroir and cru classified, for a total of 34,000 hectares of vineyards. Champagne-Ardenne has 5 sites classified as World Heritage by UNESCO. With over 5,000 miles of trails and walking routes, this region offers a wide range of opportunities for hiking, horseback riding and mountain biking

(there are 450 km of greenways to explore by bike or on rollerblades). Champagne-Ardenne is also equipped with a large number of amusement parks and offers opportunities for events throughout the year.

- *Napa Valley* (California): Known for its wine production began in the sixties, the County of Napa Valley is now one of the best wine regions, like France and Italy, with nearly 400 wineries in surplus. The Mediterranean climate makes this Napa Valley considered the birthplace of American Cabernet Sauvignon and Zinfandel, the American version of Italian Primitivo. The Napa Valley Wine Train offers an unusual way to enjoy the scenery and vineyards. A significant amount of thermal spas and mud baths and the Old Faithful geyser are the attractions in Calistoga, famous tourist destination in Napa Valley.
- *Sonoma Valley* (California) home to some of the first vineyards and wineries of the state, offers a wide range of festivals and events throughout the year including the prestigious Sonoma International Film Festival and wineries with good touristic facilities. Today, the wines of this small valley are protected by the federal government of the United States of Sonoma Valley and Carneros AVAS (or American Viticultural Areas). The most common varieties are Zinfandel, Carignan, Petit Syrah, Pinot Noir and Merlot from those black grapes, Chardonnay, Sauvignon and Colombard among the white grapes.
- *Tuscany* (Italy): Tuscany has a basket of world-class wines: 6 DOCG - Carmignano (Prato Province), Brunello di Montalcino Chianti (with its sub-8), Morellino di Scansano (since 2007), Vernaccia San Gimignano and Vino Nobile di Montepulciano - and 34 DOC. The region also, with its ancient and defined identity, is one of the most celebrated places for Italian history, art, economics, culture, landscapes and beauty. Tuscany is among the Italian regions with the largest number of sites classified by UNESCO World Heritage Site: Historic Centre of Florence, Piazza del Duomo in Pisa, the historical center of San Gimignano, Siena's historic center, historical center of the town of Pienza , Val d'Orcia. Tourism (art, beach, rural, mountain and spa) is a major economic resource of Tuscany.
- *Stellenbosch* (South Africa): The valleys of Stellenbosch, Paarl and Franschoek are the central part of the Cape Winelands region, the larger of the two wine regions of South Africa. The wine industry in South Africa produces about one million liters of wine annually. Stellenbosch is also the primary location for research in wine (prof. Perold was the first professor of wineculture in the Stellenbosch University). Very famous is the "Stellenbosch wine route", born in 1971. The Stellenbosch Cabernet Sauvignon is emerging as a high quality wine. Stellenbosch is renowned for its Cape Dutch-style architecture, the main street, Dorp Street, contains many historic buildings and this is a national monument. A tour of Stellenbosch also typically includes some visits (with tasting) to wineries. Among the most features one can mention the Meerlust which is located in a prestigious house in 1693.
- *Barossa Valley* (Australia) is the largest wine-producing region and the first tourist destination of South Australia (60 km from Adelaide). Renowned for the Shiraz (red wine), this is used to produce the most famous Australian wine, the Penfold Grange. Other types of grapes grown are Riesling, Semillon, Grenache and Cabernet Sauvignon. Every two years to celebrate the success of the wine industry they organize the "Barossa Valley Vintage Festival", a week of street parades, concerts and gourmet dining offered to visitors from around the world.
- *Marlborough* (New Zealand) can boast of having the most modern wine industry of New Zealand. At the end of 1970, Marlborough has produced, among other varieties, the first Sauvignon Blanc that has generated confidence in the potential of foreign wine in New Zealand, now considered the world's best by many critics. The wine region of Marlborough is 62% of the total land area planted, the vines are: Sauvignon Blanc, Pinot Noir and Chardonnay. Equally important is the production of sparkling wine using the *Method Traditionelle* with, in particular near Renwick, derived vines of Riesling, Pinot Noir and Chardonnay.
- *La Rioja* (Spain) La Rioja is the most famous wine region in Spain. Divided into three sub-regions (Rioja Alta, Rioja Baja and Rioja Alava), giving their name to the wine produced there: Rioja, a wine to "calificada Denomination de Origen"(DOC). There are numerous attractions in the area: highly renowned are, in particular, the Camino de la Lengua, the Camino de Santiago, the many monasteries, the opportunity to retrace the footsteps of the dinosaurs that inhabited the area and even castles, archaeological sites and museums.
- *Valle Central* (Chile) is the main area of Chile in terms of both wine production and reputation. It matches with the historic site of the Chilean Central Valley, an area lying between the Andes and the Pacific. Within the valley there are four wine-producing sub regions: the Maipo Valley (most cultivated and best known for

Cabernet Sauvignon), the Rapel Valley (in Colchagua Province and famous for the Cabernet), the Curicó Valley (characterized by the variety of red wine and planted white, best known for Chardonnay), and the Maule Valley (which still has large plantations of Pais local, but it is undergoing a change in favor of agricultural varieties of high quality, with better varieties of red wine).

4. Conclusions

the wine tourism system can be broken down into four different categories of macro elements (Franch, 2002):

1. the set of specific resources (natural, cultural, architectural, artificial food and wine, etc.) that characterize the destination;
2. the set of resources so called "generic" (physical infrastructure and / or technological, environmental protection, quality of life and hospitality of the resident population, etc);
3. the variety of touristic services "qualified" to meet customer expectations;
4. the set of "intangible" resources (the image and reputation of the destination, the skills and expertise of different business and institutional actors who insist on the destination, the relational capital) (Iazzi and Rosato, 2009).

Each of the above four categories of resources plays a crucial role for the competitiveness of a tourist destination and this induces them to work in coordination and integration (Getz and Brown, 2006). In the case of wine tourist destinations, it seems clear that the inclination of the territory to the production of wine is not in itself a determining factor for success in wine tourism. The wine tourist, while selecting a destination, prefers the combination of "wine-land" because the joint research of the traditional presence of attractors and wineries are able to guarantee an adequate level of service.

The success of wine tourism destination must therefore be able to build a value proposition of the specific supply system based on the following characters:

1. Integration of local resources. The need is to build a supply system that integrates the use of the resources of traditional gastronomic destination with the exploitation of natural resources, cultural landscape of the territory to strengthen the perceived link between territory and resources by the tourist food and wine.
2. Authenticity. It is necessary to build an integrated supply system in which different components can be an expression of traditions, customs, and culture of the area.
3. Experiential. A wine tourism destination that aims to ensure the success patterns with the different components of the supply system based on interaction with the host community, with the system of tourist attractions and, more generally, with the various components of 'tourism.

The analysis of the characteristics of the wine tourist destinations can be summarized as follows:

- Relevant and valued resources of enogastronomy typical throughout the area (which also include extra forms of accommodation - hotel "authentic" and strongly typical gourmet^{xiv});
- Significant brand awareness in international territorial markets;
- Appropriate skills training on the themes of food and wine tourism;
- Good attitude of a growing number of enterprises engaged in different food chains in the definition of tourist accommodation and hospitality services (tastings, visits, etc..)
- Presence of significant land resources (environmental, cultural, scenic, architectural) complementary to the gastronomic motivation.

Opportunities for future growth of wine tourism destinations are:

- Growing attention of international markets to the wine tourist destinations;
- Growing importance of experiential forms of tourism related to the authenticity of local resources;
- Possibility to build a system of a target product able to diversify the supply and the seasonal variations in tourist flows.

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End Notes

^I Defined as the demand expressed by tourists / travelers / hikers who choose the destination based on a primary reason to experience to wine tasting and gastronomic resources capable of expressing the identity of that territory.

^{II} The destination management is defined as "the set of strategic decisions, organizational and operational through which to manage the process of defining, promoting and marketing tourism products expressed from a territory, in order to generate incoming tourists." Martini, U. (2005). *Management dei sistemi territoriali. Gestione e marketing delle destinazioni turistiche*, Giappichelli, Torino. On the issue of destination management will identify, among others, the contributions of Caroli, M.G. (2006). *Il marketing territoriale. Strategie per la competitività sostenibile del territorio*, Franco Angeli, Milano; Ejarque, J. (2003). *La destinazione turistica di successo. Marketing e management*, Hoepli, Milano; Franch, M. (a cura di) (2002). *Destination Management. Governare il turismo tra locale e globale*, Giappichelli, Torino; Pechlaner, H., & Weiermair, K. (2000). *Destination Management. Fondamenti di marketing e gestione delle destinazioni turistiche*, Touring University Press, Milano; Sainaghi, R. (2006). *La gestione strategica dei distretti turistici*, CUSL, Milano; Pike, S. (2004). *Destination Marketing Organisations*, Elsevier, Oxford. For a comprehensive review on the destination management, see: Bellagamba, A., Brunetti, F., Pencarelli, T., & Vigolo, V. (2007). "La letteratura italiana ed internazionale sul *Destination management*", in Sciarelli, S., *Il management dei sistemi turistici locali. Strategie e strumenti per la governance*, Giappichelli, Torino, p. 31 et seq.

^{III} It is estimated that wine tourism is able to generate annual sales of over EUR 14 billion, the first three markets are Europe, America and Italy.

http://www.taccuinodiviaggio.it/home/index.php?option=com_content&view=article&id=25.

^{IV} The demand for wine tourism can therefore be defined as the expressed demand from tourists / travelers / hikers who choose the destination based on a primary reason attributed to the will of experiences related to food and wine tasting of resources capable of expressing the identity of that territory. On the topic see Croce, E. & Perri, G. (2010), *Il turismo enogastronomico. Progettare, gestire, vivere l'integrazione tra cibo, viaggio e territorio*, Franco Angeli, Milano.

^V For the relationship between food product and tourism resources, see Paolini, D. (2000). *I luoghi del gusto. Cibo e territorio come risorsa di marketing*, Baldini & Castoldi, Milano.

^{VI} <http://www.scribd.com/doc/2283881/Le-nuove-frontiere-di-vendita-del-turismo-enogastronomico>

^{VII} On the importance of authenticity of land resources to make a competitive tourist destination see Ferrari, S., & Adamo, E.G. (2005). Autenticità e risorse locali come attrattive turistiche: il caso della Calabria. *Sinergie*, n.66.

^{VIII} In the last five years wine blogs/sites have increased up to 700 worldwide.

^{IX} A blog is a website, managed by an individual or a company, where the blogger publishes online his/her own comments, opinions, judgments, recommendations accompanied by video clips, pictures.

^X This study does not give sample results that can be applied to a whole corpus of reference since this is unknown, it rather focuses on the specific area of this study

^{XI} Considering the modern techniques utilized to improve internet positioning and the related web search sites ranking, this approach was carried out only in one day (15 February 2011).

^{XII} Websurfers rarely visit the second page of a search engine.

^{XIII} Source of information comes from above mentioned internet websites and from the official web site of the Tourism Board of each of these wine destinations.

^{XIV} For the sake of brevity we omitted to report the type and quantity of accommodation and food present (indeed in large numbers) in each of the destinations considered.

A case for Employee Empowerment as a Strategy to promote Competitive Advantage: the hotel industry in Guadalajara

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ABSTRACT

Most Mexican businesses recognize the importance of employee empowerment as a strategy to promote competitive advantage in the marketplace and it is more so with the hotel industry that replicate the success of leading multinationals. Employee empowerment is expected to play a significant role in promoting participatory management, team building, job enrichment, total quality management and reengineering and hence strengthen competitiveness of firms.

This research aims to find the most representative variables that endorse empowerment in organizations of the Hotel Industry. The present study included a sample of 119 hotels in Guadalajara, Mexico. The results were examined with factorial analysis and consequently a regression model.

Theoretical Background

Guadalajara is popularly known as the “Silicon Valley” of Mexico. Guadalajara in particular and the state of Jalisco have attracted considerable amount of foreign investment (1970 million dollars in 2010, SEIJAL 2010) and several multinational companies have invested in technology intensive industries in Guadalajara.

With increased investment by multinationals service sector, especially the hotel and hospitality industry have become an important segment of business in the region. Despite lack of official data on the industry, the estimate indicate that this sector employ more than half the country's working population (18 million workers) and generate over 70% of total revenue and is therefore the most dynamic sector of the national economy (Coll, A., Córdoba, J. : 2006).

Besides technology-intensive manufacturing, Guadalajara is also known for its tourism, as it is identified by the important Mexican symbols such as Tequila and Mariachi. In tourism, Jalisco is ranked No.1 nationally in the number of lodging establishments, in terms of total passengers of different airports in the country, both domestic and international; Jalisco accounts for 12.28% in tourist arrivals and ranked second in the country. The Metropolitan Area of Guadalajara has a capacity of over 16,000 rooms and based on standards they vary from Economy to Five Star and Luxury Class accommodations. Several hotels in Guadalajara have established facilities for conventions and expositions and offer most modern and advanced technology to organize major international events.

The hotel industry is highly complex and requires constant personal attention; perhaps the hotel industry is one of those sectors that continue to adapt to changes in the demographics of tourist population and macroeconomic changes. In order to increase competitiveness and fulfill the expectations of customer demand for quality, flexibility and low costs, hotel industry in Guadalajara as anywhere else are pressurized to generate different business models and one of those models include "Empowerment" of employees.

The concept of "Empowerment" could be treated as a philosophy and a style of management. Several authors have defined the concept of "empowerment" and contributed to a very broad spectrum of literature on the subject.

World Bank (2009) offered a more comprehensive definition as: "Empowerment is the process of enhancing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes. Central to this processes are actions which both build individual and collective assets, improve the efficiency and fairness of the organizational and institutional context which govern the use of these assets."

In the context of employment in an organization, many authors have described the concept of empowerment in different ways. For example, Borade, G. (2008), considers "empowerment" is meant to give power to the individual and as a consequence, the selection, involvement and responsibilities are expected to make employees more efficient and sensitive to customer expectations. Greasley, K. (2007) states that the true meaning of empowerment is to provide authority to an employee.

Conger J. and Kanungo, R. (1998) proposed that the empowerment should be perceived as a motivational concept, which denotes allowing an employee to deal with a situation or a task in an appropriate and professional manner.

Somech, A. (2005) states that : "empowerment is a process of strengthening employees' motivation to accomplish job-related tasks". Basically, this construct is based on two main interpretations (Conger, J., Kanungo, R.: 1988). Therefore, empowerment as a relational construct is the process by which a leader or manager shares his or her power with their subordinates."

In management literature empowerment is described as delegation, devolution, sharing of power, and authority by those higher up in the organizational structure to those at the lower levels of the organization (Olshfski, D.; Cunningham, R., 1998).

Thus empowerment, substitutes the old hierarchy of self directed teams, wherein information is shared with each person. Employees have the chance and responsibility to do their best.

Spreitzer, G., (1995) presented the following assumptions while discussing empowerment:

1. Is not general across situations, it depends on the characteristics of the work environment and people's perceptions.
2. Is variable; "people can be viewed as more or less empowered, rather than empowered or not empowered"
3. Is not a global concept in all life situations and roles, varies according to work areas.

As it's shown, most authors suggest that employees are expected to be highly motivated and committed to their occupation.

Spreitzer, G., (1995) mentioned two main consequences of empowerment: effectiveness and innovative behavior. Empowerment will improve also concentration, initiative and resiliency and thus heighten managerial effectiveness.

Despite the benefit of empowerment as discussed in management literature, there exist a number of disadvantages and limitations, as well. Because empowerment is a never-ending journey and takes time to be effective, employees and leaders may feel impatient. As employees continue to learn on the business, leaders will feel more comfortable entrusting them with decision making powers and a sense of autonomy and making employees feel more comfortable assuming greater responsibility. Bell, C. (2003) noted that as long as companies have workers at distinct levels, empowerment will be a challenge. For Manville, B. & Ober, J.; (2003) employee empowerment has a limited scope as workers are able to make decisions about their immediate jobs or to participate in somewhat broader decisions about their own units, but they still have little or no voice in decisions about the direction of the overall company."

Argyris, C., (1998); noted that while managers expect the participation of everyone in order for empowerment to exist in an organization, "in the principle the answer is "yes"; in reality, it is a "but." The author alluded that it "is unrealistic to expect management to allow thousands of employees to participate fully in self-governance."

Employees instead of feeling more empowered, they feel more trapped and less able to talk openly about what's really going on. Although managers share some of the responsibilities for undermining internal motivation in

their organizations, the change programs that could create high levels of internal commitment and empowerment in corporations do not yet exist (Argyris, C., 1998).

In general, empowerment is likely impress on the employees that they are trusted, their experience is valued and sought after. It allows good workers to become excellent employees who are personally invested in the team as they are implementing their own plan, rather than one foisted upon them by the organization. For empowerment to be successful employees must be entrusted to make organizational and operational decisions. But to do so, they need to be properly trained (Greisman, B., 2009).

Hypothesis

H1. Constructive and helpful attitudes from leaders constitute a significant variable to endorse an empowered environment.

H2. Clear objectives from leaders constitute a significant variable that endorse empowerment.

H3. Recognition from leaders to subordinates constitutes a significant variable that endorse empowerment.

Research Method

The methodology used in this study was adapted from Murrell, K. L., & Meredith, M. (2002). A questionnaire was applied to directives, managers and supervisors from the hotel sector in Guadalajara, Mexico. In total 119 questionnaires were made.

Questionnaires were distributed personally and participants were invited through a personal invitation in order to achieve 100% rate response. Since this research was not experimental or quasi experimental, this means, it is expected association rather than causality; random sampling was not an issue (Kerlinger, F., Lee, H. :2004).

The questionnaire consists of an introductory statement, with five possible answers and two final statements. It is comprised of thirty questions. The survey questions were classified into six different areas, in order to relate the variables, based on aMurrell & Meredith's questionnaire.

As well, the questionnaire consists of an introductory statement, with five possible answers and two final statements. It is comprised of thirty questions, as follows:

	AREAS
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	Area 1. Information: Communication* and learning**
Q1	Level of information provided to employees.
Q2	Level of access to the information in a system
Q3	Aperture to free discussion among colleagues about work
Q4	Level of confidence to express opinions to superiors.
Q5	Ensure that all information reaches the right people.
	Area 2. Decision making: Action* and Transformation**
Q6	Making and implementing decisions considering the interests of all people involved.
Q7	Promptness and consensus about decision-making
Q8	Relevance of individual decision making and teamwork.
Q9	Implementation of delegated tasks to ensure success.
Q10	Level of stimulation to promote teamwork.
	Area 3. Planning: Organization* and service**
Q11	Planning of activities involving subordinates.
Q12	Organization and allocation of the activities of subordinates.
Q13	Planning activities for the completion of a work project.
Q14	Level of work of work as team of subordinates and the leader when facing a very complicated project.
Q15	Organizational design involving subordinates to encourage the delegation of authority and power.
	Area 4. Evaluation: Control* and Liberation**
Q16	Evaluation of subordinates seeking feedback and right of reply.
Q17	Frequency and objectivity of the feedback received by subordinates about their performance.
Q18	Type of control approach of subordinates seeking to increase the levels of responsibility.
Q19	Monitoring progress of projects and reward management and deadlines.
Q20	Discussion and search for solutions when having problematic employee.
	Area 5. Motivation: Leadership* and Mentoring**
Q21	Role of the leader to lead a team and knowledge of the employee's activities in order to retain the leadership role.
Q22	Motivation focused on the type of work and the situation in which the employees can give their best performance.
Q23	Types of motivation for employees oriented at recognition and satisfaction.
Q24	Leadership position designed to demonstrate what is known and blindly trust in self opinions.
Q25	Effective collaboration through knowledge-building with unmotivated employees.
	Area 6 Development & Selection: Assignment * and Creation**
Q26	Employee selection discarding conflicting, lazy and difficult to control.
Q27	Feedback and solutions when subordinates when they do not do their job properly.
Q28	Levels of consciousness and learning capabilities that can be achieved when working in teams
Q29	Existing developed level of recognition and importance of subordinates with several years in the company.
Q30	Support to the subordinate who is not developing their work through comprehension and support within the capabilities of the leader.

*Basic Skills

**Competence of empowerment

Once the data collection phase, the coding and tabulation items was proceed by recording the data in each of the questionnaires considered valid. This was done using SPSS (Statistical Package for Social Sciences).The results were examined with factorial analysis and consequently a regression model, under the method “step-wise”.

Results

The table 1 shows the frequency and percentage of women and men. Corresponding to the Feminine gender, there were 71 questionnaires, which makes a total of 59.7%. Finally, regarding the Masculine gender, there was a total of 48 questionnaires; corresponding to 40.3% of the total.

TABLE 1. GENDER FREQUENCY AND PERCENTAGE

Gender		
	Frequency	Percent
Feminine	71	59.7
Masculine	48	40.3
Total	119	100.0

TABLE 2. MANAGERIAL LEVEL FREQUENCY AND PERCENTAGE

Level		
	Frequency	Percent
Link	72	60.5
Manager	29	24.4
Submanager	18	15.1
Total	119	100.0

Table 2 shows that frequency and percentage of each managerial level. Submanagers have 15.1% of the total, which is 18 questionnaires; Link employees have 60.5% corresponding to 72 questionnaires and finally Managers have 24.4% of the total, corresponding to 29 questionnaires.

The maximum, minimum, mean, standard deviation, kurtosis and skewness statistics for each question reach the criteria of normality (moderate in this case). Factor analysis was used to analyze the data obtained. Values also were analyzed with the Cronbach's Alpha, where factors 1, 2, 3, 4, and 6 are valid according to acceptable internal Cronbach's Alphas values (over 0.6). In addition, results showed that Adjusted R Square value of 0.123 demonstrates that approximately 12.3% of the variability of the variable Q9 (Level Empowerment) is explained by the variation of the independent variables "Communication with peers" (Q3) "Attitude of Leadership" (Q21) and "leadership targets "(Q24).

Subsequently, a regression model was obtained with the dependent variable "Level of empowerment (Q9) and variables "Communication with peers" (Q3), "Attitude of Leadership" (Q21), "Leadership targets"(Q24) as independent or explanatory. The independent variables were determined under the method "step-wise".

Table 3 ANOVA (Analysis of Variance) demonstrate that the regression model is statistically significant at least at a level of 99% (See A. Significance value). Therefore, it is rejected the null hypothesis on all the estimated parameters are zero.

TABLE 3. ANOVA^B

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	37.247	3	12.416	6.529	.000 ^a
	Residual	218.685	115	1.902		
	Total	255.933	118			

a. Predictors: (Constant), Q24, Q21, Q3
b. Dependent Variable: Q9

Source: Own elaboration

TABLE 4. COEFFICIENTS^A

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
1 (Constant)	3.449	.437		7.890	.000	2.583	4.315
Q3	.312	.092	.299	3.391	.001***	.130	.494
Q21	-.232	.085	-.239	-2.729	.007**	-.400	-.064
Q24	-.180	.086	-.181	-2.087	.039*	-.351	-.009

TABLE 3. ANOVA^B

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	37.247	3	12.416	6.529	.000 ^a
	Residual	218.685	115	1.902		
	Total	255.933	118			

a. Predictors: (Constant), Q24, Q21, Q3

b. Dependent Variable: Q9

Source: Own elaboration

TABLE 4. COEFFICIENTS^A

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients	T	Sig.	95% Confidence Interval for B	
						Lower Bound	Upper Bound
1 (Constant)	3.449	.437		7.890	.000	2.583	4.315
Q3	.312	.092	.299	3.391	.001***	.130	.494

a. Dependent Variable: Q9

R² = 1.902 F Value = 6.529 Sample Size = 119

*Significant at .05; **Significant at .01; ***Significance at .001

Source: Own elaboration

Based on the results of Table 4, all coefficients of the variables Q3, Q21 and Q24 are statistically significant because T values (in absolute value) are above 1.96. Similarly, Q values are less than 0.05 and confidence intervals do not that the estimate value is 0. As a result, H1 & H2 are accepted, since variables Q21 and Q24 are statistically significant. The variables Q21 and Q24 show a negative effect on the dependent variable. These variables are related to leadership. While P21 represents the role of the leader and the ability of learn more of the employee's jobs than themselves in order to maintain the leadership status quo, Q24 represents the position of leader to display his/her knowledge and the imposition of his/her ideas. If the leader care less about his/her status quo and allow employees to do their job independently, a higher level of empowerment will be achieved. The finding results consistent with the literature since the leader should collaborate and set an example for employees to achieve success and power. Supporting this claim, Rapp, A., Ahearne, M., Mathieu, J. & Schillewaert (2006) indicate that managers should do a better job of demonstrating the meaningfulness of work; allowing workers contribute in decision making, removing bureaucratic constraints and expressing confidence.

Additionally, H3 is rejected given that it was not significant. In contrast, communication with peers about work is positively associated with the level of empowerment. This variable that represents the free discussion between colleagues about the job leads to a new statement: Whether there is more communication and free discussion about work among employees, there is a higher level of empowerment and vice versa.

Even though literature states “communication between employees and managers” as a variable that contributes to enhance the empowerment level, little or nothing has been study about communication and free discussion on work among the employees and leaders. Few authors, like Kieslinger, B., Pata, K. & Fabian, C. (2009) denote the importance of collaborative learning among workers. Communication would consequently result in feedback and mutual support between employees and therefore more autonomy supported on the exchange of information that helps the decision making of the employees. An employee may be benefited from the experience of another.

Conclusions

The observed results are not favorable in terms of empowerment level of employees who were ranked in a low to medium level. Therefore it is suggested that companies in the hotel industry generate a plan of action to achieve the transformation needed to increase the level of empowerment, which is relevant and appropriate for the institution to acquire the fundamental soundness and credibility to operate efficiently and effectively and thus achieve full customer satisfaction and international competitiveness.

A significant result in this research is that the communication level and free discussion about work among employees or participative collaboration is the most representative and positive variable of empowerment, even more important than other variables such as mentoring. Communication can be comprehended as an indispensable element of an organization and it should be considered as a function that concerns to the entire company since it directly influences its daily operations and goals (Malmelin, N., 2007). Hence, it is recommended to managers to establish an organizational environment that endorses communication and feedback between employees, enabling them to learn from their pals and support each other. Significant participation by individuals who have unique and noteworthy experience can foster strategic decisions and commitment to execute those decisions effectively (Vroom, V.H., Jago, A.: 1988).

In addition, it was found that significant variables that influence the level of empowerment of employees are associated to leadership. The leader must assume a collaborative role and supply all essential information to employees so they can perform their activities in an autonomous approach. The commitment of the leader will allow the employees to achieve higher levels of empowerment and consequently, to maintain or increase competitiveness in the company.

Finally, empowerment has been proved to be a successful providing autonomy to employees, working as tool for information and experience learning exchange and improving job performance. For hotel Industry, the improvement of quality in processes and activities is valuable, since employees are the most important asset (Hamidi, Y., 2009).

Employees become reliable and therefore their experience is appreciated and significant. Moreover: good workers become excellent employees.

Limitations and Research Recommendations

In order to lessen limitations, it is recommended additional researches using different samples in other industries, regions or countries in view of the fact that research focuses only on the Hotel Industry in Guadalajara, Jalisco.

Furthermore, as quantitative data rather than qualitative data were gathered, the research does not exemplify the particular work conditions of participants to further examine our hypothesized relationships.

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E-learning as a Marketing Tool: The iGuzzini Experience

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Abstract

This paper investigates the use of e-learning in a marketing perspective. This topic seems to be interesting according to the researchers in management mainly because could represent an useful “tool” for companies in order both to develop “knowledge” and in carrying out training activities. Unfortunately do not appear faced the study of “e-learning” from a marketing perspective.

As a consequence we propose an Italian case study about the development of an e-learning platform aimed to develop the relationships between the company and market influencers; therefore, the main purpose of the paper is to understand how a company could improve its intangibles resources (i.e. intellectual capital).

Introduction¹

Interest in *e-learning* has been growing steadily for some time now, due to the considerable advantages this type of training imparts. As a matter of fact, through the use of ICT it is possible to multiply the opportunities for learning and to expand the usability of “knowledge” thus achieved. These aspects take on particular significance, considering the fact that the demand for continuing training becoming ever more widespread; it is a given, in fact, that individuals and organizations need to constantly renew their own knowledge and competencies, so as to improve their ability to interact with more and more dynamic and complex environments.

With specific reference to business enterprises, it is believed that e-learning can play an important role in their growth. The high degree of flexibility that characterizes e-learning means, first and foremost, that it facilitates access to education and training for companies, even of modest size, allowing them to augment their internal competencies and to sharpen their competitiveness. Furthermore, e-learning can contribute to enhancing and increasing the organization’s cognitive assets by stimulating the creation and diffusion of new knowledge, starting from the existing base; in this sense, an integration between e-learning and knowledge management systems is, in many cases, observable.

Moreover, it is worth mentioning the merits of e-learning used in the area of customer service or consulting services; for example, it is possible to “teach” clients and/or users how to use a product properly or how to get the most out of a given service, in order to help them achieve a positive experience and therefore, increase their sense of satisfaction. The development potential for similar services appears particularly interesting, in light of the popularity of mobile terminals for web access, such as cellular phones and palmtops.

Thus, it can be said that the different possible applications for such a tool could prove to be a support for a company’s intellectual capital growth (Stewart, 1997).

In the present paper, e-learning is analyzed from a marketing perspective. Specifically, the case studied is iGuzzini, a company operating in the lighting sector, which has developed an e-learning platform called *Lightcampus*, dedicated to the world of light and lighting techniques. This technological framework makes it possible for anyone interested in this field to obtain free training, managing their learning pathways in an autonomous fashion. The basic idea underlying the project is that, by making available its own knowledge – and increasing it through the interactions with users on the platform – the company can:

- increase awareness of its brand and the products it offers;
- come into contact and build relationships with existing and potential clients, while gathering important information and carrying out targeted communication activities;
- acquire and retain the loyalty of market “influencers” (architects, lighting technicians).

Therefore, the project aims to gain several advantages, from the standpoint of image, of communication and of relationship development; thus, it can be said to be an example of enhancement of company “knowledge” for marketing purposes.

The main objectives of the study can be summarized as follows:

- identify the possible role played by e-learning in marketing and communication strategy development;
- highlight both the positive and the negative aspects of its use in managing marketing knowledge;
- emphasize e-learning's function as regards the growth of relational capital;
- evaluate the long term advantages to the company.

As concerns the methodology adopted, this paper will examine some of the principal theoretical contributions made regarding the relationship between marketing and new technologies, as well as on relational marketing (Costabile, 2001; Gummesson, 2006). Moreover, personal interviews will be made to the heads of marketing and communication of the company under study, as well as the people involved in managing the e-learning platform.

It is to be noted that this is a work in progress and therefore, some of the results that have emerged are only partial; more thorough and extensive analysis of other aspects will be carried out in a subsequent phase.

Knowledge and relationships as sources of competitive advantage

A number of analytical studies have looked at the importance of intangible factors in determining competitive advantage, and in particular, of knowledge and relationships.

In the past, Vicari (1992) looked at a business enterprise from an autopoietic point of view, observing the circular process whereby resources such as trust and knowledge are created and which, in turn, become sources of value creation. In line with this perspective, Rullani (1993, 59) stresses the value of knowledge, maintaining that the business enterprise can be conceived as a cognitive system which generates "differential value" with respect to its competitors, by mobilizing the specific knowledge assets passed on through the generations or acquired externally to design, build and sell products, processes and relationships that "incorporate" that knowledge, making it available to the clients the company serves.

Such reflections are even more relevant today, considering the impact that intangibles have on production and consumption methods, as well as on business strategies (Prandelli and Von Krogh, 2000; Valdani, 2002).

In a *knowledge-based* economy, some known growth factors appear less significant, while other growth drivers gather strength (cognitive abilities, experience). In evaluating the competitive position of a company, therefore, some traditional parameters (size, market share, etc.) assume less relevance². On this point it is further observed that, in the age of knowledge, it has become evident that economic growth and competitive positioning, in truth, are the result of other factors, such as, for example: the quantity and quality of the *learning* processes achieved, the degree of *access to available knowledge* on large reliable networks made up of external specialists and *strategic partners*, and finally, the capacity to *propagate* the knowledge acquired in larger and larger catchment basins so as to *extract* from it, the greatest possible value (Rullani, 2004, 43).

If cognitive resources constitute an important source of competitive advantage, it becomes patently clear that attention must be placed on the way said resources are to be managed. In this sense, the relationships forged with external subjects reveal themselves to be a useful means of fostering the growth and enhancing the value of same; in fact, it has been observed how, in more and more complex work contexts, there is a greater need to interact with the outside, so as to acquire knowledge and competencies that complement what is already part of one's own domain (Lanza, 2000). As pointed out by Golfetto (2000, 62), relationships represent a way of accessing resources that are not available on the market, thus constituting factors which can establish a unique competitive advantage tied to specific agreements or even, merely be the outcome of a bond of trust that has been built up over time and which cannot be replicated by competitors.

The limited "openness" of companies and their reluctance to share the knowledge they possess can, however, pose an obstacle to the development of relationships. The search for "trusted partners" appears to be a difficult, but necessary path to take, seeing as material goods wear out with use, whereas knowledge, on the contrary, when shared and re-used, is multiplied (Rullani, 2004). This, then, is the reason why it becomes paramount to be able to evaluate the growth potential of any given relationship, taking into account the resources needed and the results that can be expected; those companies that can establish stable and profitable relationships with strategic partners, come out considerably ahead of the game in an environment that is in perpetual motion and increasingly complex, compared to those who face that same environment following a prevalently individualistic approach. In this regard, what is emphasized is that marketing activities can be useful for understanding the complexity of the relationship network and also for defining the proper management of those relationships (Turnbull *et al.*, 1996). What is known as relational marketing has taken on a certain degree of significance, by virtue of the fact that an important evolution

has taken place, as attention has extended its scope from B2B to B2C relationships and beyond, also involving a company's various stakeholders; so much so that Gummesson (2006) has identified 30 different types of relationships, thus pointing to the need for a company to develop trust relationships with a variety of subjects. The element of trust is, in fact, the cornerstone of the process involving exchanges of information and knowledge, geared towards developing profitable relationships with the market.

Thus, it is made manifest how central a role it is, that played by the interactive relationships between a company and the outside environment, to the point where they become the pivotal elements in which to invest, so as to achieve and consolidate business objectives and performance in the long term.

With particular reference to those trust resources based on the client's cognitive system ("marketing resources"), Bertoli *et al.* (2000, 145) defines them as being made up of:

- knowledge of the brand or the company, measurable in terms of fame, image and reputation;
- relationships with those segments of the demand served, measurable in terms of behavioral faithfulness, cognitive faithfulness and loyalty.

As concerns such resources it is possible to discern a circular process that is fed reciprocally, such that: customer satisfaction generates trust resources which enhance the relationship with the company through the perception of a positive reputation and image, as well as through faithful behavior shown by "commercial preference"; the on-going relationship further nurtures and builds up client loyalty (with the possible development of a collaborative relationship) and, at the same time, it represents a source of learning for the company, thereby allowing it to increase its marketing resources. It must be stressed that the same process can be observed vis-à-vis other categories of stakeholders.

Thus, the opportunities that present themselves in connection with the use of new technologies in the fields of ICT and communication cannot be overlooked.

The role of e-learning in company growth

In recent years, the growing interest shown for e-learning can be tied into the importance assumed by "knowledge", from both an economic and social standpoint, and by lifelong learning.

In fact, the knowledge and the competencies owned by individuals and organizations are characterized by shorter and shorter "lifecycles"; hence, it becomes all the more necessary to constantly update that knowledge so as to be able to interact and deal with environments that have become increasingly more dynamic and complex (Sharples, 2000; Fatiguso, 2003; Rullani, 2008). Particular attention is therefore turned to the solutions offered by technological innovation in the field of learning.

E-learning, which can be defined very succinctly as a method of learning based on the use of ICT³, is appreciated for certain advantages it offers, of which:

- the access to learning and training "anytime and anywhere". ICT tools make it possible to benefit from courses regardless of the territorial location of participants; furthermore, the so-called non-simultaneous tools (e-mail, discussion forums, etc.) allow for access to the training activities at more "favorable" times;
- the option to design and follow a highly personalized course, including the length of time each user needs to complete it;
- the opportunity to develop teaching methods based on both cooperative and collaborative learning.

The fact that e-learning also presents certain disadvantages⁴, has contributed to forming the widely shared opinion that it cannot be considered a substitute for traditional learning, but rather, that it is a useful support for improving and "enriching" learning processes. This would point to the wisdom of sidestepping the debate centered around pitting the one against the other and concentrating instead on what combination of the two is most effective.

In Italy, e-learning is being used by a growing number of people in such areas as Public Administration, Healthcare, Education and Business, as well as by private individuals. Based on the results of the latest report published by the industry observer, Osservatorio Anee/Assinform (2006), companies represent the sector with the highest demand for e-learning in Italy, with an investment share of nearly 92%⁵. It bears noting, on this point, that the companies that do invest in this type of learning method are primarily the larger-sized ones, driven mostly by the savings in terms of average cost per person trained. Another aspect to underline is the fact that SMEs tend to engage in only limited use of the Internet⁶ and generally, do not use e-learning as a training method. And yet, the latter represents an extremely interesting training methodology for this typology of business, in that it can well suit needs like flexibility and immediacy that are most often encountered (Attwell, 2003). E-learning does, in fact, allow for

greater compatibility and, in some cases, more integration between training activities and work activities⁷; furthermore, the so-called “e-learning on-demand” solutions make it possible to utilize these services in a less rigid way – from needs analysis to the evaluation of results –, and can include a “pay-per-use” option, in which only what is actually used is paid for. Access to training is therefore facilitated; this could have a determining effect on some critical factors, such as the development of managerial capabilities, for example, of the smaller-sized enterprise.

It would seem logical, then, to intervene, so as to remove those obstacles of a technical and/or cultural nature which limit the spread of e-learning in SMEs (Gregori and Temperini, 2009), with the awareness that the continual enhancement of “human capital” is a condition that is becoming more and more pressing, if companies are going to be able to successfully face the new challenges brought by the technological, organizational and market changes that are taking place (Angotti, 2004; Trabucchi, 2004).

With reference to e-learning, another facet to point out is its contribution to the on-going growth of an organization’s intellectual capital (Stewart, 1997).

On this subject, there is a growing convergence between e-learning and knowledge management; indeed, the development and implementation of e-learning solutions are carried out in a way that is more and more often dovetailed to the knowledge management system of an organization and in particular, to firms.

KM is defined as that complex of organizational, managerial, ICT and communication systems through which an organization appropriates itself of the knowledge of individuals and groups, assimilates it and provides a fertile ground for generating new knowledge which it then transfers, disseminates, capitalizes on and incorporates into products and services, thus realizing profits and gaining a competitive advantage over time (Tonchia, 2003, 84).

In analyzing this definition, some features that are common to both KM and e-learning can be deduced:

- both processes have the same general objective, i.e. to augment the knowledge owned by individuals and foster its use within organizations;
- both are based on the use of IT systems;
- both tend to enhance human resources;
- both aim to promote re-use of knowledge;
- both emphasize the value of shared knowledge.

The information and knowledge “capitalized” by the KM system form the basis for the creation of educational content that can be imparted via e-learning. The latter’s function is to spread and make available to others the knowledge that derives from company processes and experience, but also to foster new forms of knowledge from that which already existed. The KM system must, in turn, be able to “capture” the new knowledge that is generated, so as to increase the organizational knowledge base.

E-learning provides an important tool to promote organizational learning and to improve knowledge management. Several advantages associated with it are outlined below.

- a) *Development of new knowledge.* In addition to being a fundamental instrument in the search for knowledge outside the company (Bonani, 2002, 209), the Internet also represents an opportunity to create new knowledge through the processes of sharing, simulation, animation and interaction. In particular, by using ICT it is possible to develop networks and communities that bring together people interested in the exchange of knowledge so they can expand their cognitive assets; hence, it is possible to further amplify the knowledge that is owned, by combining the knowledge of single individuals who are interacting in the virtual learning environments.
- b) *Overcoming some problematic aspects associated with KM.* Often, barriers to the real sharing of knowledge arise spontaneously within an organization⁸. In some cases these limitations could be overcome by turning to e-learning which, besides facilitating the learning process of individuals, can also help to create informal environments that are suitable for promoting cooperation and transfer of knowledge (Rollet, 2003).
- c) *Improved usability of knowledge.* E-learning can make it possible to obtain information, knowledge and contextualized, just-in-time instructions (Dose-Patano-Vaciago, 2002). In other words, it can encourage the sharing and use of certain types of knowledge when it is actually needed. With reference to *marketing* knowledge, Troilo (2001, 176) makes the observation that what is important is not so much maximum sharing, but rather the sharing and use of specific marketing knowledge useful to specific activities⁹.
- d) *More effective internal communication.* E-learning can render an organization’s internal communication more effective concerning, for example, safety regulations in the workplace, certain procedures or concerning the company objectives and strategies to be shared in order to achieve greater coherence and therefore, greater force of action (Iacono, 2001)¹⁰.

The solutions that integrate e-learning and KM therefore appear advantageous, both to develop the cognitive assets of an organization and to better respond to outside changes and demands; indeed, they allow an organization (Dose-Patano-Vaciago, 2002) to:

- enrich the content of the training modules with specific information (or best practices) regarding either the activity being carried out, the problem being dealt with or the decisions to be taken;
- reduce the time needed to gather and put together the information required for the training modules;
- optimize the technological infrastructure, part of which is common to both systems, and improve the efficiency of its management.

An important point to make is that in order for either or both systems to be used effectively, it often becomes necessary to encourage a mind-set change. In fact, it can be said to be definitely short-sighted or wrong to expect technology, alone, to provide a ready-made solution to the problem of knowledge management...many companies have invested considerable resources in applications for knowledge management, thinking that the change could be driven exclusively by technology (Mainetti, 2003, 37). Thus, it becomes essential to create a knowledge-oriented culture (Turati, 2002) within an organization, so as to enhance the knowledge regeneration-reutilization cycle.

Finally, the role played by the Internet, in the field of marketing, leads to a reflection on the possible applications of e-learning in that context. It could be a useful tool for:

- managing market knowledge;
- creating selling power;
- communicating with clients;
- offering services;
- spreading knowledge about products or services offered (also aimed at their proper use and at creating a positive experience);
- promoting the brand;
- increasing relational capital.

All of this, in consideration of the interesting possibilities for increasing the potential demand for e-learning, tied to the following tendencies:

- a) the growing popularity of personal computers and the steady increase in the number of Internet users. In 2009 it was estimated that 298 million PCs were sold worldwide (Assinform, 2010); in 2008 and 2007 the figures were, respectively, 287 and 258 million units sold. Further estimates show that from 2007 to 2009, Internet users, worldwide, went from 1.32 to 1.8 billion (an increase of 36.4%).
- b) The increased use of “wide band” technology which makes it easier to use services available on the Net. From 2007 to 2009 the number of wide band users went from 350 to 462 million (an increase of 32%).
- c) The development of “new terminals” (cellular telephones equipped with UMTS technology, “palmtop” computers) which use special systems (Wi-Fi, Bluetooth) that increase the options for Internet access and therefore make it possible to take advantage of e-learning services “anytime and anywhere”. From 2007 to 2009 mobile telecommunications users increased from 3.3 to 4.58 billion (an increase of 38.8%).

An example of convergence between e-learning and relational marketing: the “Lightcampus” case

The *Lightcampus* e-learning platform was launched in 2002 by iGuzzini, a Marche-based company that produces light fixtures (table 1), and it is the fruit of the company’s rethinking of its presence on the Web; starting from 1998, the company had its own site, but it later felt the need to change the way it communicated on-line, both in form and in content.

TABLE 1 – PRINCIPAL FEATURES OF IGUZZINI¹¹

Based in Recanati (MC) and operating in the lighting sector, the iGuzzini company was founded in 1958, originally under the name of Harvey Creazioni, as a manufacturer of lamps and chandeliers. With a turnover of 167.7 million euros in 2009 and over 1,200 employees, today, this business enterprise is one of the most important in Europe and number one in Italy, for its sector. It is remarkable that this family-run business has established a sales network in over 70 countries of the world and has opened 16 subsidiaries abroad. Currently, it is part of FIMAG (the holding company, Finanziaria Mariano Guzzini, named for the company founders’ father), co-owned by Mariano Guzzini’s six children, which controls the companies in the Guzzini Group:

- 1) Fratelli Guzzini S.p.A., for household goods;
- 2) iGuzzini illuminazione S.p.A., for light fixtures and lighting systems;
- 3) Teuco Guzzini S.p.A., for kitchen sinks, bathroom fixtures and cabinets.

The Group also manages Gitronica, an advanced technology center for research and application of electronic technologies which develops innovative solutions for the components industry as well as for digitally controlled light systems.

The iGuzzini company collaborates with some of the world's most famous architects and lighting designers, among which the name Renzo Piano stands out.

The attention paid to all aspects concerning the quality of the lighting environment has attracted the collaboration of numerous researchers, doctors, sociologists and physicists belonging to research organizations both national and international, including prestigious U.S. universities such as Harvard and M.I.T in Boston.

The range of lighting products includes several lines, subdivided by principal areas: a) interior lighting systems; b) exterior lighting systems; c) light management systems; d) special products (e.g. direct light systems for urban areas or professional fluorescent light systems and suspensions).

The lighting solutions are devised for urban areas, the tertiary sector, museums, commercial space and hospitality facilities. Worthy of note is the 1997 project for the renowned archaeological area of Luxor, in Egypt and, more recently, the lighting project for the 'Dot Baires Shopping', Buenos Aires' biggest and most modern shopping center. The list of big name clients carries those of Armani, Bulgari, Deutsche Bank, Deutsche Post, Ferrari, Hilton, McDonald's, just to name a few.

The many awards earned over the years testify to the quality of iGuzzini solutions. The latest, for the "Archilede" ("ArchiLEDs") LED street lighting system, earned a "CityBuild Abu Dhabi Excellence in Construction Award 2010" given to companies in recognition for their contribution to progress in key areas of the Middle East.

iGuzzini's strengths lie in its attention to the requirements of the spaces to be illuminated; this focus led the company to set up a Center for Studies and Research in 1995 with the objective of fostering an open debate regarding all topics having to do with light; this has involved architects, designers, researchers and the public in general. Also, activity geared towards promoting a lighting 'culture', is undertaken out in collaboration with regional schools and universities and includes educational seminars. Moreover, knowledge is constantly exchanged with the academic world.

In particular, it was felt that there was the need to differentiate the methods of communication, according to the different interlocutors being targeted; redesigning the site therefore also served to make it more dynamic and so, it was reorganized into the following three main areas:

- a) *institutional area*, which contains references to the most important projects or to the company partnerships, for example;
- b) *on-line catalog area*, where information about products is available;
- c) *educational area*, which concerns the whole theme of lighting and is primarily geared towards people on the outside of the company.

The third area was added with a view to promoting the company and its products by disseminating the concept of lighting culture, as well as raising awareness of the role and the impact a proper lighting solution can have on quality of life.

On this point it should be added that iGuzzini has, for some time now, been following a communication strategy focused on 'teaching', in the sense that the communication activities tend to be centered around educational themes of interest for the recipients. Already back in 1982, the company distinguished itself by launching its first advertising campaign, called "illuminareitaliani" ("Illuminating Italians"), on a well-known national magazine; the innovation lay in the fact that the content of the communication was not the light product itself, but the quality of the light. Appearing in the general press meant that the company could reach, not only the public at large, but other potential clients as well (regional authorities, companies, restaurateurs, etc.) by means of "fragments of knowledge".

The strategy aims, not so much to promote the product *per se*, but to offer advice on the choosing the type of lighting that is most suitable for the requirements and the context in which it will be used. The two main foundation points are:

- on the one hand, there is the opportunity to compensate for the lack of education and limited information on the topic of lighting which, *à propos*, is evolving rapidly, thanks to technological innovation;
- on the other hand, there is the need to attract and retain brand loyalty from certain key subjects in the buying processes.

As concerns the second point, it should be noted that there are generally three main figures involved in the decision to purchase a lighting solution (see figure 1):

- a) the *project designer*: prescribes a specific product and *brand* to be installed;
- b) the *installer*: can decide to install the product recommended by the project designer or may choose a product of a different *brand*;

- c) the *customer*: can decide to follow the advice of the other two, or not.

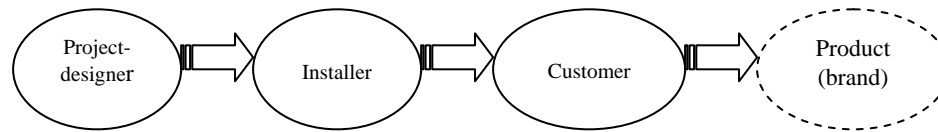


FIG. 1- KEY FIGURES IN THE CHOICE OF A LIGHTING SOLUTION¹²

These figures, depending on the case, can carry more or less weight in the final decision and may have differing requirements concerning the products to be used; for instance:

- the customer could be interested in the lasting quality of the light fixtures and in the energy consumption data;
- the project designer could look at the overall effect, how the products fit into a certain context or ambience, also in terms of their aesthetic value;
- the installer is usually more concerned with ease of installation and durability (so as to reduce the likelihood of repairs and maintenance).

Offering differentiated learning pathways is therefore a useful way to “interfere” in the “purchase order chain”, so as to win the preference of the most influential figures when it is time to buy.

As concerns the so-called market “prescribers”, in this case the project designers and the installers, the company has been organizing training courses on how to light different settings, for example, both in-house, where a special area specifically created for this purpose can host up to 2,500 participants a year, and in foreign subsidiaries. In addition to this, the company also offers information and consulting services (on lighting products/solutions, on available technology) which consists in providing technical support personnel to follow the design phase of the project in order to help overcome any particular lighting problems that might be encountered.

It is plain to see how such initiatives can grow exponentially with the use of ICT tools which make it possible to reach far greater numbers of users than the more traditional education and training methods.

Along these lines, it is noteworthy that approximately 8,000 “students” per year attend the training courses loaded onto the *Lightcampus* platform. These are mostly made up of people already working in the sector, professionals with different competencies (from architects to lighting technicians), who are interested in staying up-to-date through continuing education; some of the users are also regular students. There are basic courses which start at the beginner level and others that have been added from time to time, which deal with a variety of general topics; the courses are taught in two languages, Italian and English, and it is interesting to note that there is a slight preference shown for the second. Access is free, once the user is registered by providing basic personal data and an e-mail address for communications (e.g. company newsletter). The service is advertised primarily on the website and traditional press.

In 2006 a major updating of the platform was carried out in collaboration with Nautes¹³, in order to make it more interactive; some activities were added to foster the creation of a virtual community of shared interests revolving around the theme of lighting. This was done with the knowledge that such communities can play a significant role, not only in spreading awareness about the company, about its values and in reinforcing brand loyalty, but also in helping to develop the offer itself; in fact, as stated by Andersen (2005, 296), «when customers with specialist knowledge discuss product features among themselves, industrial marketers may listen and learn». Thus, there is the chance to garner an important contribution to the development of ideas to improve existing products and services or to come up with innovative ones.

In order to encourage greater participation and involvement of users, the section labeled “To Apply” was added; it is dedicated to real-life success stories of iGuzzini projects and to virtual experiments with the theories acquired and is subdivided into two areas:

- a) a “Case Study” area: where information and knowledge can be obtained about some of the most interesting projects carried out by iGuzzini, with an emphasis on learning about the techniques and tools used.
- b) A “Laboratory” area: where a series of virtual laboratories or workshops are set up; each one allows the user to work in a simulated environment with 360° vision and, once the space, the furnishings and the materials have been studied, to apply some parameters (fixtures, sources and optical angles) to build the lighting system for the setting. As users progress through the creation process, they are instructed to follow some

guidelines and systematically receive feedback information on the outcome of their choices, by seeing the effect produced.

Such tools, besides being testimonials for an organization with a new approach to education and training which encourages a more active participation by users, also allow the company to obtain more information that is useful for tracing user profiles and for implementing more targeted action to ensure brand loyalty (Bauer *et al*, 2002). As stated previously, the ultimate objective is to maintain contact and build a lasting and fruitful relationship with key subjects in the buying process, especially with installers and project designers¹⁴. The company's goal is to establish a positive professional relationship with these subjects who enter into a sort of consulting partnership as they work in tandem with iGuzzini's own technical specialists who, through the company intranet, use the platform to achieve a degree of expertise, not only on iGuzzini products, but on the field of lighting in general¹⁵.

It is worth underlining how the e-learning platform fits in with the company's CRM system¹⁶. The contacts obtained from the platform and the information generated by its users are managed by the CRM software, in order to carry out a variety of relational marketing activities, matched to the various individual profiles, such as, for example¹⁷:

- sending invitations to events (e.g. new showroom openings);
- sending brochures on new products;
- organizing visits to the company;
- offering personalized sales promotions;
- sending greeting cards, and so on.

Another important function of the CRM systems is that of measuring the economic returns of such activities; on this point, the relationship with the project designers is evaluated on the basis of the recommendations made in favor of iGuzzini, whereas for the technical installers, the evaluation criteria is the number of projects where the products were actually installed.

On the matter of using these parameters and other aspects pertaining to measuring the project results from a marketing perspective, this will be looked at in greater depth during the subsequent phase of the study. For the time being, suffice it to say that the project has been seen quite positively by company representatives; nevertheless, some problems have been encountered in developing the virtual community as there have been only a limited number of users willing to share their knowledge with others. It would therefore be appropriate to analyze the reasons for such widespread diffidence, so as to work on finding solutions that could encourage greater interaction.

The case highlights an interesting use of e-learning as a marketing tool and adequate actions aimed at enhancing the company's technical knowledge, with a view to developing important competitive advantages.

Non conclusive observations

Knowledge and relationships are resources that are seen as more and more important for the growth of business enterprises; careful attention must therefore be placed on the methods and on the tools used to manage said resources. In this sense, one cannot overlook the opportunities provided by new technologies in the fields of ICT and communication. The present paper has focused on the role played by e-learning. This area is one which represents an interesting way to improve and enhance the quality of education and training activities, by fostering the development of a company's human capital; it would also seem appropriate to integrate it with knowledge management systems, in the aim of managing and building up a company's knowledge assets.

In the case study in question, for example, an interesting application was found in the marketing area. By offering a free continuing education/training course on an e-learning platform and by creating a virtual community centered around specific themes, the iGuzzini company is able to pursue its aim to promote awareness of its brand and products and to develop relationships with some particularly influential subjects ("tutors") in the buying process. Knowledge acquired through the technology platform makes it possible to activate specific CRM actions. This becomes an interesting example of enhancement of company knowledge and of a possible convergence between e-learning and relational marketing.

In the next phase of the study an in-depth analysis and discussion, from a marketing perspective, will be made of the project results.

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End Notes

¹ Even if the research work and paper have been conducted on the basis of a close collaboration between the authors, the introduction is attributed to S. Cardinali, the first paragraph to A. Perna, the second and third paragraphs to V. Temperini, the non conclusive observations to all the three authors.

² Nova (2000, 107) remarks that the traditional approaches to analyzing the profitability of a company are represented by a *static* view which considers the different factors (structural and managerial) that determine/generate profit and evaluates their weight in quantitative terms, thus losing sight of the dynamic processes involved in explaining the company's market position. In this sense, attention should be placed on the capacity to generate and accumulate knowledge and competencies necessary to developing the best combinations of tangible and intangible resources.

³ There exist several acceptations of e-learning, but this paper does not purport to delve into these aspects. For some definitions, see ANEE (2003), Esposito-Mantese (2003), Trentin, (2004) and Bielli (2005).

⁴ The main disadvantage lies in the physical "non presence" in the same classroom of the various participants, along with the impossibility of engaging in the "usual" human interactions which, in many cases, make learning more effective. Consequently, there may be less committed involvement on the part of either the learners or the instructors.

⁵ In 2006 it was estimated that approximately 479 million euros were invested in e-learning, compared to 53.6 million in 2001.

⁶ Cf. results of the direct survey conducted in the footwear industry (Temperini, 2005).

⁷ A fairly common problem, in fact, is the interference of the training activities with work-related activities.

⁸ Such barriers can be found at either the source or the recipient of the knowledge, within the transfer context and even within the knowledge to be transferred itself. Clear examples are given by the limited capacity for interpretation on the part of the receiver or by the inability of the source itself to transfer the knowledge (Azzariti-Mazzon, 2005).

⁹ The fact that e-learning can make it easier to share market knowledge within a company, makes such a means an interesting support tool for the important, inter-functional coordination activity carried out by the marketing function (Cozzi-Ferrero, 2004).

¹⁰ It is observed that a common vision within an organization is considered indispensable for *change management* (Gabrielli, 2006).

¹¹ Source: our data.

¹² Source: our data.

¹³ *Nautes* is a company located in Jesi (AN); it was founded in 2001 as a University of Ancona spin-off by a group of researchers, experts in knowledge engineering and long-distance learning; its core business is finding solutions for knowledge management.

¹⁴ This confirms what is stated by Gruen *et al.* (2000, 34), and that is, that «...the perspective that customers are an asset to be managed is applicable to a broad range of customer relationships»; in this case, the concept of customer extends to a special category of subjects, the so-called market “influencers” or “prescribers”, who can play a significant role, especially in certain sectors.

¹⁵ *Lightcampus* is, in this sense, a useful tool for implementing a certain sales strategy.

¹⁶ The integration between Customer Relationship Management and Knowledge Management, of which e-learning can be considered a manifestation, has been the object of a study conducted by Bueren *et. al* (2004). Along these lines, the authors have underlined the concept of Customer Knowledge Management, pointing to three types of knowledge to take into consideration in CRM processes:

- “knowledge about customers”: necessary to understand clients’ needs so as to then be able to meet those needs;
- “knowledge for customers”: refers to information that clients ask for when interacting with the company;
- “knowledge from customers”: comes, specifically, from clients’ perceptions and opinions about the products and services purchased, which must be internalized by the company.

In light of the considerations exposed thus far, it cannot escape notice that e-learning is a useful tool to be used in developing those processes.

¹⁷ As observed by Geiger and Martin (1999, 26), «...the internet makes it remarkably easy to capture up-to-date customer information at an often unprecedented level of detail, to store and retrieve this information in databases or data warehouses and to update it on a regular basis. More than other modes of communication, the internet can therefore play a focal role in a company’s customer intelligence machinery, which in turn allows the company to develop a better understanding of customer requirements».

From Patient to Guest: Current trends in the German health care industry and their impacts on the tourism sector

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Abstract

Fuelled by demographic and psychographic change, the German health care system has been under increasing pressure over the past decades to a point where the system has been seen as no longer economically viable. This has set in motion a string of reform measures which have aimed to reign in the spiralling costs. Now, with a much greater focus on prevention, competition within the health care system and more personal responsibility, the German health sector is by many no longer perceived as a burden on the national economy but rather as an opportunity for future economic growth. One important reason for this development has been an expansion in what is known as the second health care market. This paper outlines the shift from a public health insurance system to a modern health economy by focusing on the health tourism sector which has experienced a boom in recent years, driven particularly by strong demand in the senior market segment.

Introduction

Since the 1990s Germany's health care system, particularly its care structures and financing, have been in a process of fundamental change. Carried by a wave of reform measures aimed at reigning in spiralling costs, a paradigm shift from a 'cost factor' health insurance system to a 'growth sector' health economy, which is built on the creation and marketing of goods and services which are conducive to the preservation and restoration of health, can be noted (Klinkmann, 2005). The implementation of economic and market-based elements has brought about modernisation and rationalisation in the way medical care is organised, the liberalisation of many health services as well as the privatisation of certain treatment costs. This shift towards greater personal responsibility was argued to not only cut costs in the country's public health insurance system, but ultimately also to lead to greater commitment towards health and wellbeing across all sectors of society. As Gerlinger (2010, p. 119) points out, "[t]he justification for this privatisation mechanism was that it would increase citizens' own sense of responsibility for their health, because greater participation in the costs would give them more incentive to lead a healthier life". Known as psychographic change, a greater health awareness amongst all age groups has indeed been noted over the past two decades, but has registered particularly strongly in those aged 65 years or older (Sylt Marketing GmbH, 2009).

In this paper we will first highlight the challenges of demographic change as an important driver for reforms in the German health care system, since the country's aging population has contributed significantly to escalating health care costs over the past decades. The ensuing reform agenda, which ultimately transformed Germany's traditional public health insurance system into a competitive health economy, is reflected in the increase in privately financed health expenditure. In the context of this so-called 'second (privately funded) health care market' we will then examine the role health tourism plays as a growing dynamic sector of Germany's health economy.

Demographic Change in Germany

On a global scale the world's population is predicted to continue to grow steadily reaching almost 9 billion people by 2050 (UN, 2004). This development is, however, not mirrored in all countries but is mainly concentrated on developing nations. Population numbers in highly developed countries, in contrast, are expected to fall. Since 2003 the German population, for instance, has been in continuous decline (Petermann, Revermann, & Scherz, 2006) and it is

forecast that its population of 82 Mio (2008) will decrease to between 65 and 70 Mio by 2060 (Statistisches Bundesamt, 2009a) (Fig. 1).

But this decline is cushioned by a steady increase in life expectancy, which has been evident for a number of decades and is predicted to continue well into the future. In 2008, for instance, 5% of the country's population were in the 80+ age bracket, but this segment is projected to increase to 14% over the next 50 years. By that time the

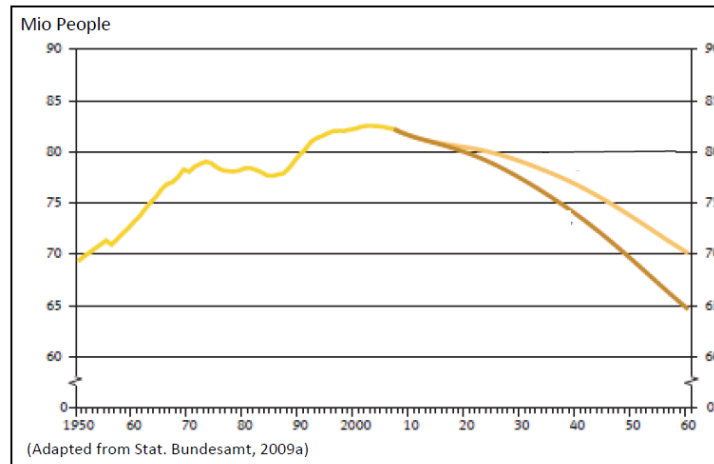


FIG.1: GERMAN POPULATION 1950-2060

number of people 65 years or older will have almost doubled from 20% (2008) to 34%. How significant these developments are is aptly illustrated in an analysis of Germany's old-age dependency ratio, which expresses the number of people in the 65+ age bracket for every 100 persons aged 20 to 64 (i.e. working age). It is predicted that this figure will increase from 32 in 2005 and 34 in 2008 to between 63 and 67 in 2060 (Statistisches Bundesamt, 2009a). Coupled with a steady decline in the country's birth rate, this trend obviously will markedly change the shape of Germany's age pyramid in the years ahead (Fig. 2).

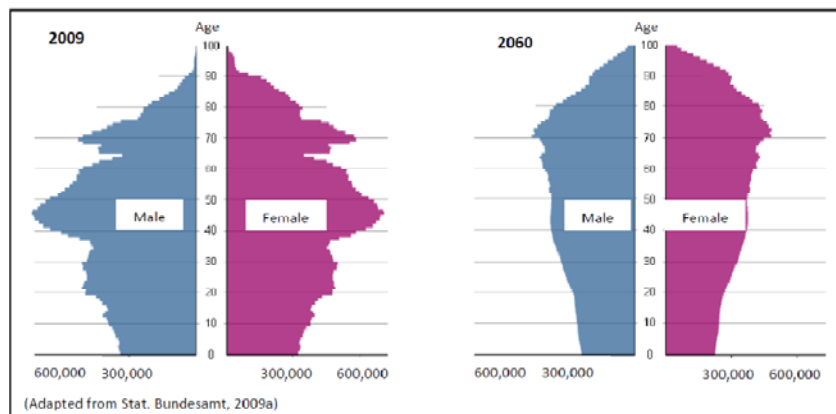


FIG.2: CHANGES IN GERMANY'S AGE PYRAMID

These demographic developments impact on all aspects of Germany's society and economy but resonate particularly strong in the country's social insurance system. It comprises schemes for health, retirement, accidents and unemployment which have been key constituents of the German welfare state since the late 19th century. A characteristic feature of the public health insurance system, which covered in 2006 88% of the population and

approximately 57% of all health related expenditure (Robert Koch-Institut, 2009), is its financing in the main by (until recently equal) employer and employee contributions based on taxable income which tend to be around 15% of the employee's gross salary. Obviously a decrease in Germany's working population poses a significant threat to the financial viability of the country's traditional approach to health care.

But not only from a labour market perspective does the ageing German society challenge this system. Almost half of health expenditure in Germany is linked to the 65+ age bracket (Statistisches Bundesamt, 2008), thus to only about 20% of the population (Statistisches Bundesamt, 2009a). Fig. 3 illustrates the significantly higher *per capita* health expenditure for the older segments of the German population (Statistisches Bundesamt, 2008).

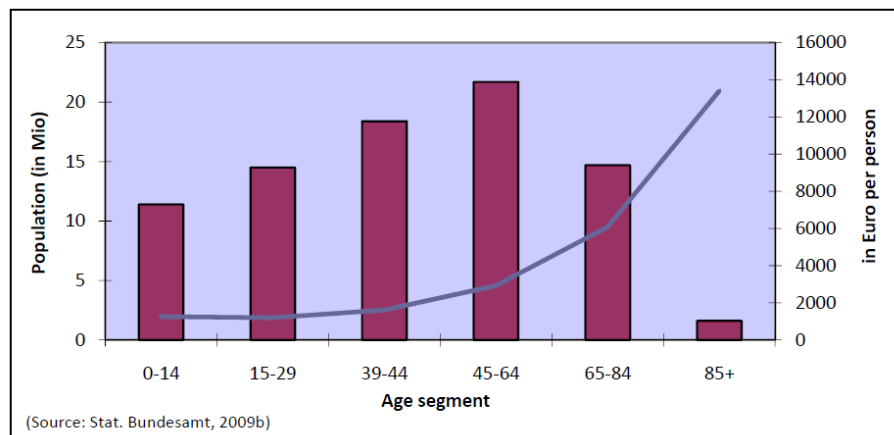


FIG.3: HEALTH RELATED EXPENDITURE (2006)

In combination with advancements in medicinal technology and rising costs for health care services, these demographic developments undermine the traditional German health insurance system. Between 1995 and 2008 health expenditure increased by 31.3% (Robert Koch-Institut, 2009; Statistisches Bundesamt, 2009b) and over the past twenty years between 10 and 11% of Germany's Gross Domestic Product have consistently been spent on health related expenses (Robert Koch-Institut, 2009). It has thus become obvious that Germany's health care system with its traditional funding approach and operations is no longer viable. In an attempt to ensure a fair and sustainable financing of the health care system within the parameters of cost capping and quality assurance a number of reforms were therefore introduced since the late 1980s. Initially, the obvious need for change was addressed by rising premiums but it became soon clear that in the long term this measure was not sufficient to resolve the system inherent problems. More radical change ultimately saw the German health care system departing from being an important column of the German welfare state and develop into a significant and dynamic factor for new economic and social growth (Fretschner et al., 2002).

In past economic and labour market discourse, Germany's health economy was considered mainly a burden on the country and its financing by employer and employee contributions was seen as a significant impediment on the country's international competitiveness. Since the mid-1990s, however, this negative perception has started to change (Fretschner et al., 2002). As a labour intensive sector, the health economy's positive contributions to Germany's employment figures and also its future growth potential are acknowledged in public debate and have helped to highlight the sector's increasing significance in the country's economic development (Fretschner et al., 2002). Today, it constitutes an important plank of Germany's economic activities, taking a share of almost 15% of the country's employment market (Hilbert & Kluska, 2010).

Germany's Second Health Care Market

These developments in Germany's health economy are, however, not only a result of demographic shifts but have also been driven by psychographic change since good health and wellbeing have developed into core values for all sectors of society (Forschungsgemeinschaft Urlaub und Reisen, 2008). Thus, the fundamental reforms in Germany's health care system that have placed much greater emphasis on higher individual co-contributions have gone hand in hand with a stronger preparedness amongst Germany's population to take greater personal responsibility for their own health and wellbeing. Ultimately, these trends have led to a marked expansion in what is known as the 'second health care market' which encompasses privately funded health related products and services such as wellness and fitness offerings, over-the-counter medication, alternative medical treatments, preventative health measures, healthy nutrition, spa treatments, health tourism and cosmetic surgery. With about 64 billion Euros in 2008, for example, this private health-related expenditure provided significant input into the German health economy (Karte & Neumann, 2008). On average Germans spend about 900 Euro annually on additional health related products and services, a figure that is predicted to grow even further in the future (Focus, 2007). It therefore comes as no surprise that until 2020 the second health care market in Germany is projected to grow annually by 6% (Statistisches Bundesamt, 2009b). It is particularly this growing second health care market that has ensured that the German health economy, despite the various reform agendas over the past thirty years or so and their declared objective to cap or even cut costs and decrease health related expenditure, remains a significant growth industry (Kliegel, 2007).

The complexity of Germany's health economy is captured in the multi-layered so-called 'onion model' (Fig.4) developed by the Institute for Work and Technology (Institute for Work and Technology, 2010). This cluster model is not focused on a traditional classification of health related products and services into either preventative, curative or rehabilitation measures. Rather, it adopts a 'value chain' perspective and illustrates how products and services on its periphery, for instances tourism, wellness or sport and leisure activities, benefit from cross-sectoral expansion into the health economy and ultimately lead to much more diverse products and services on offer (Fretschner et al., 2002). Hence, when taking this perspective, the health care industry adopts a more holistic view of health, incorporating products and services outside the traditional core primary health care sector. This reflects an understanding of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 2010).

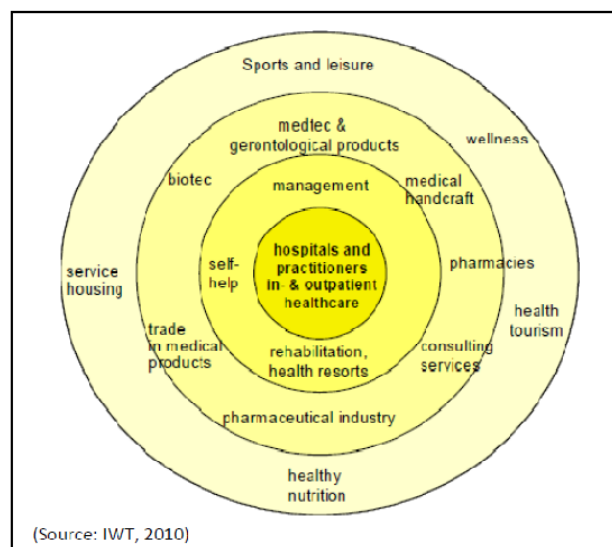


FIG.4: GERMANY'S HEALTH ECONOMY

Health Tourism in Germany

As is the case in any industry sector, increased demand, fuelled by a broader health policy shift in combination with psychographic change, has thus led to a marked expansion in the supply of a great variety of health related goods and services. The continuing growth in health awareness in industrial societies is evident in more emphasis on prevention, but also greater interest in complementary and alternative medicines. The desire for a healthy lifestyle has also created ample opportunities for new health services in a leisure setting as well as new products and services specifically geared towards the tourism market (Hall, 2003). This trend has created new prospects for the health and wellness tourism industry which has developed into an increasingly important constituent of Germany's health economy. In 2009, 'health' was, for instance, an important aspect during their holidays for 36% of the German population, which translated into 4 Mio health related holiday trips in that year. By 2020 this figure is estimated to almost double. A survey has confirmed the increasing importance of 'health' for the travel sector with 19% of the population considering taking a wellness holiday within the next three years and 9% planning holidays with a particular focus on fitness (Forschungsgemeinschaft Urlaub und Reisen, 2010). Referring to a recent study conducted on health tourism in Germany by the Institute for Leisure Economics, Dörpinghaus (2009) highlights that the interest in health tourism has between 2002 and 2007 risen by 31% with a further increase of 82% forecast until 2020.

The blending of health with tourism is, however, not a new phenomenon but can be traced back to the 18th century. In the context of coastal tourism, Wesley and Pforr (2009, p. 17), for instance, highlight that "at first, the seaside attracted visitors for the perceived medicinal properties of sea water and sea air". Lohman (2010) goes even further in stating that health tourism constitutes the roots of modern tourism. Today, the sector's popularity is thus only a recurrent trend but, as Bennett, King, and Milner (2003) predict, the health tourism market is likely to experience continued growth well into the future.

In the light of this rapidly expanding market, which is fuelled by a great range of different needs and expectations, it is obvious that health tourism does not constitute a homogenous market segment, but serves as an umbrella concept integrating different traditions. According to Rulle, Hoffmann, and Kraft (2010) these range from leisure activities that are geared towards mental and physical wellness and indulgence to preventative treatments and medical tourism for the purpose of essential or elective hospital treatments or surgery (Fig. 5). Consequently, the health tourism market is commonly considered a continuum ranging from medical tourism to wellness tourism spanning across spa treatments, spiritual retreats, sport holidays, medical wellness or 'Kur' visits. The latter is a particular nuance of health tourism which is very popular in Germany's more than 300 officially recognised spas and health resorts. The term 'Kur' refers to a specific medical prevention, convalescence and rehabilitation program or treatment for a particular chronic disease by highly qualified health professionals. About one third of all visitor nights in Germany are spent in its spas and health resorts (Deutscher Heilbäderverband, 2009) which highlights the importance of this particular health tourism segment for the country. In 2010 about 1 in 7 Germans planned a Kur treatment during the next three years (Forschungsgemeinschaft Urlaub und Reisen, 2010). At present, also almost half a million international tourists visit Germany 'as the land of spas and thermal baths' for health related holidays. Health tourism will also feature prominently in the German National Tourist Board's 2011 tourism campaign (www.germany-tourism.de), which will put the country's health tourism products and services under the spot light.

Kaspar (1996, in Mueller and Lanz-Kaufmann, 2001: p. 7) highlights the broadness of the concept 'health tourism' with the understanding that it is "the sum of all the relationships and phenomena resulting from a change of location and residence by people in order to promote, stabilise and, as appropriate, restore physical, mental and social wellbeing while using health services and for whom the place where they are staying is neither their principle nor permanent place of residence or work". Adapting this definition, Voigt (2008, in Voigt et al., 2010: p. 8) then considers wellness tourism to be "the sum of all the relationships resulting from a journey by people whose primary motive is to maintain or promote their health and well-being and who stay at least one night at a facility that is

specially designed to enable and enhance people’s physical, psychological, spiritual and / or social well-being”. In contrast to this, medical tourism is “the sum of all the relationships and phenomena resulting from a journey by people whose primary motive is to treat or cure a medical condition by taking advantage of medical intervention services away from their usual place of residence while typically combining this journey with the consumption of tourism products and services” (Voigt et al., 2010: p. 8). The motivation for this type of health tourism is often the outlook of cheaper medical treatments abroad, for instance for cosmetic and dental surgical procedures or for physiotherapy (Bushell& Sheldon, 2009).

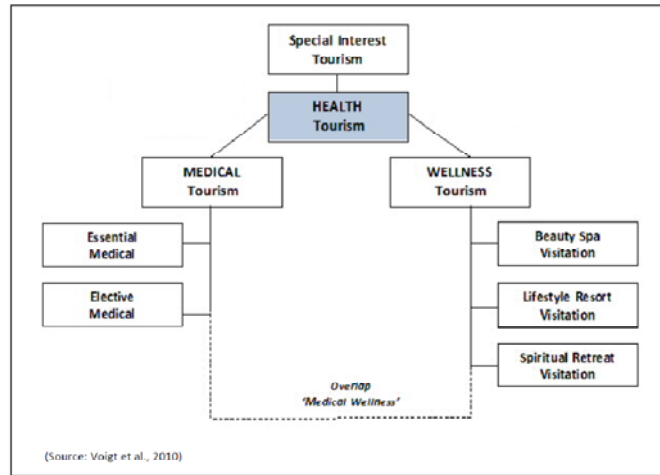


FIG.5: CLASSIFICATION OF HEALTH TOURISM

The Senior Market

What is common to all these nuances of health tourism is that the emphasis on the aspect of ‘health’ grows with the age of the traveller. With this in mind it is no surprise that in 2008, for instance, the 60+ age bracket constituted 35% of the wellness tourism market, a remarkable 75% increase since 1999 (Fig. 6)(Forschungsgemeinschaft Urlaub und Reisen, 2008).

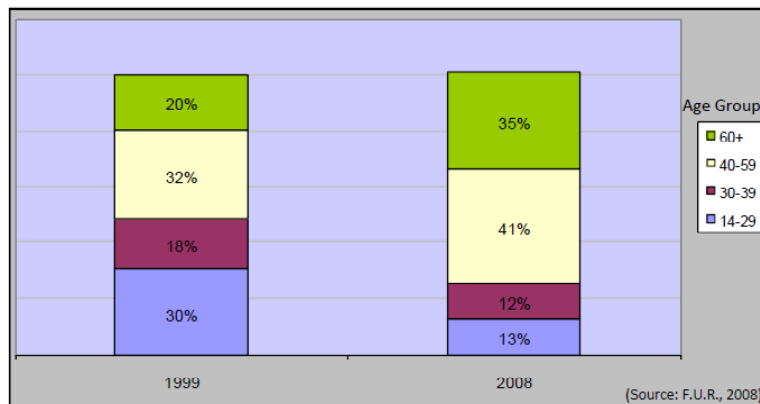


FIG.6: WELLNESS TRAVELLERS BY AGE GROUPS

Today, 75% of Germany's wellness tourists are 40 years or older, 62% of those participating in health tourism activities are in the 60+ age segment, amongst 'Kur' guests they take even 70% of the market share (Lohmann, 2010). Taking into account the earlier discussed demographic change and the significant shifts it creates in Germany's age pyramid, Opaschowski's assessment (2007) that health tourism will develop into a future 'mega market' does not seem to be too far stretched. Already it appears that over the past 30 years or so Germany's seniors have been a main driver of tourism demand. A 29% market share in 2007 illustrates this trend (Forschungsgemeinschaft Urlaub und Reisen, 2008) as does the increase in travel propensity of those in the 60-69 years age segment by 85% in the period 1972 to 2003. During the same time for those 70 years or older this figure was even higher, reaching 91% (Grimm, Lohmann, Heinsohn, Richter, & Metzler, 2009). A direct comparison of travel propensity across different age segments in the years 1990 and 2004 also highlights this remarkable trend in Germany's senior population (Fig. 7).

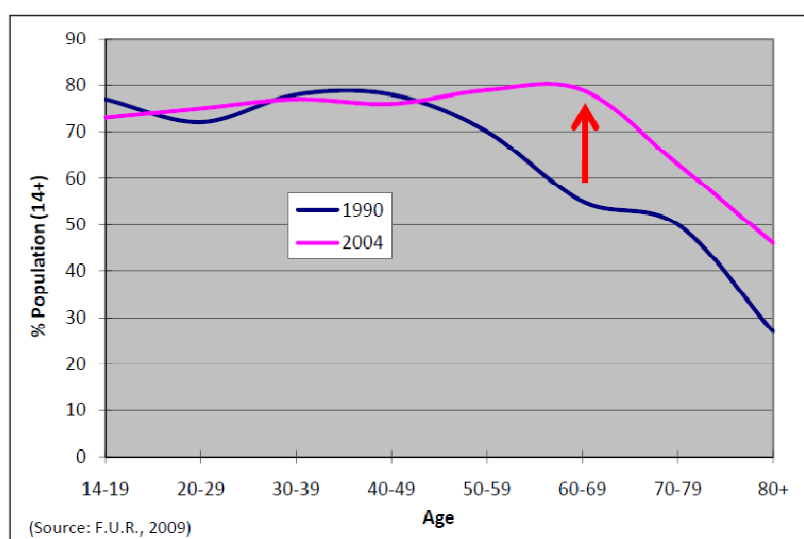


FIG.7: TRAVEL PROPENSITY 1990 AND 2004

The 'senior' market is, however, not a homogenous group but a diverse mix of people with rather different economic, social and health characteristics. This heterogeneity is also reflected in the wide range of age groups often covered by the term 'senior', ranging from 50+ to the 80+ age bracket. Most commonly, however, the term senior appears to be reserved for those 60 years or older (Petermann, Revermann, & Scherz, 2006). Due to substantial gains in post working life leisure time coupled with more disposable income and higher levels of education as well as improved and prolonged levels of physical and mental mobility, long term growth prospects in the senior travelers market segment can be expected (Petermann et al., 2006; Forschungsgemeinschaft Urlaub und Reisen, 2004). Already between 1993 and 2007 a 40% increase in the number of tourists within the 60+ age group and an even higher percentage increase in the number of holiday trips undertaken by this age segment was noted (Grimm et al., 2009). Demographic change certainly contributes to these growth figures since statistically an increasing number of people join the 60+ age category every year. However, they are also seen to reflect continued tourism habits as these seniors have been enjoying travel and related leisure activities for many years (Grimm et al., 2009).

The implications of demographic change for tourism have been frequently highlighted in academic debate (e.g. Arnaschus, 1996; Danielsson & Lohmann, 2003; Dann, 2001; Haehling von Lanzener & Klemm, 2007; Hensel, 1988; Javalgi, Thomas, & Rao, 1992; Lohmann & Danielsson, 2001) and it appears that high expectations on the quality of tourism products and services, price consciousness, experience and well informed decisions

characterise the senior tourism market (Grimm et al., 2009). This is certainly also true for the health tourism sector, where the demand for health and wellness related goods and services by the 60+ consumer generation when on holidays or even as a motivation for particular travel choices, is seen as an important driver for the sector's impressive growth over the past 20 to 30 years (Opaschowski, 2007; Fontanari & Partale, 2004). These seniors tend to value health and wellness particularly highly. Often referred to as 'best agers' they bring to their statistically increased life expectancy the desire to age well and, as much as possible, healthily.

Attracting a wide range of health conscious consumers, traditional 'Kur' destinations, spas, health resorts and hotels with a range of fitness and sport offerings, beauty care services, relaxation and meditation activities, healthy lifestyle and weight loss programs as well as other health and wellness related products will therefore constitute important columns of Germany's tourism sector in the years to come.

Conclusion and Future Outlook

As outlined in this paper, after decades of stringent reforms the German health sector is no longer necessarily perceived by many as a burden on the national economy but rather as an opportunity for future economic growth. This shift from a public health insurance system to a modern health economy is based on the country's emerging second health care market with its stronger focus on (privately funded) preventative measures complemented by greater health awareness across all sectors of society. These developments have led to growth opportunities for a range of health related products and services including those in the tourism sector. The industry has benefited from a more holistic understanding of health with a shift in focus away from the treatment of a patient towards accommodating the health related needs and expectations of a paying guest. These include, for instance, privately funded wellness and fitness offerings, spa treatments, healthy lifestyle programs and preventative health measures as part of a health tourism experience. One of the drivers of this extraordinary development is demographic change in form of an increasingly ageing society. As was highlighted in the paper, it is particularly the senior market that offers the greatest growth potentials for the health tourism sector. The needs and expectations of health tourists are, however, rather diverse and expressed in a range of different health-oriented tourism segments. These span from a strong emphasis on relaxation, wellness and pampering to curative or preventative medical services. At the same time excellent quality at a reasonable price is highly sought after so that in the future suppliers of health tourism related products and services not only need to be able to respond to increasing demand for highly individualised and specialised packages. Rather they will have to pay particular attention to the quality of their offerings to maintain a competitive edge in an expanding market. This could be done, for instance, with the introduction of particular quality labels, accreditation programs and associated quality control. In this context, a stronger local and regional collaboration amongst various health tourism providers will become a crucial prerequisite for the future development of the sector (Lohmann, 2010; Pforr, Pechlaner, Locher, & Jochmann, 2011).

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The Application of Leadership Styles and Organizational Behavior in the Hotel Sector in Indonesia

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ABSTRACT

The service industry particularly the hotel sector is known as an industry which has a perishable product as its main product and is based on the employees interaction with the guests. The research objective is to find out the impact between work value, employee autonomy and work setting to leadership styles and organisational citizenship behaviour. This arguably could drive the hotel comfort working condition to generate a great service quality. This research was done in a hotel in West Jakarta. Data was collected through interviews and questionnaire and analysed by statistic descriptive and structural equation modeling method using AMOS 16.0. Of 258 employees were given questionnaires and only 172 were returned. The questionnaire was adopted from Wright (2000). The findings indicate that work value and employee autonomy have significant effect on leadership. Furthermore, work setting has no effect on leaderships and leadership has no effect on organizational citizenship behaviours.

Keywords: work value, employee autonomy, work setting, leadership styles, organizational citizenship behaviour

Introduction

Hospitality organisations appears receive growing pressure to improve their performance, to anticipate change, and possibly develop new structures. One possible way of doing it by having an effective leadership to ensure that change leads to increased efficiency and profitability (Erkutlu & Chafra, 2006). Leadership skills can arguably be able to assist organisations to make use of the available of human resources more effectively and to deal with environmental pressure successfully.

Literature review

This section provides a brief outlines of the literature on which this study was grounded, beginning with the thought work value, employee autonomy, work setting, leadership styles, organizational citizenship behavior.

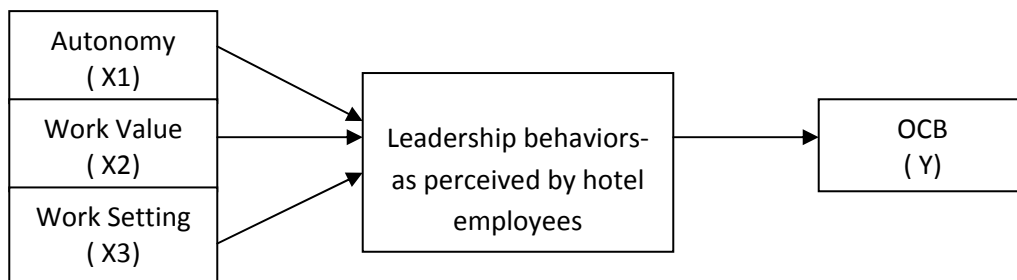
As stated ealier, the hospitality industry, particularly the hotel sector, tends to be labor intensive and has increasingly harsh environmental demands imposed upon it. Leadership skills may help organizations to utilize the available human resources more effectively and to deal successfully with environmental pressures. According to (Erkutlu & Chafra, 2006) leadership can be defined as a social influence process. Further, Erkutlu and Chafra say it involves determining the group or organization's objectives, encouraging behavior in pursuit of these objectives, and influencing group maintenance and culture. Effective leadership is therefore essential to ensure that change leads to increased efficiency and profitability (Erkutlu & Chafra, 2006). In line with this concept is stated by Yiing and Ahmad (2009) defined leadership as an influence relationship among leaders and followers who intend real changes and outcomes that reflect their shared purposes. Furthermore, a investigation in nursing research studies conducted by Murray (2002) emphasized that leaders must be willing and able to address the issues in organisations with proactive, innovative, yet realistic answers to complex problems such as job stress, workplace conflicts. The degree to which conflict is dysfunctional or functional correlates to the effectiveness of communication, willingness to resolve conflict issues, and intra-group relationships (Wright, 2000). Indeed, Wright (2000) says organisational leadership holds the key to creating a balance in the workplace between meeting the needs of the organization and meeting the needs of a changing and very diverse workforce and also to emphasized that leader awareness of generational differences in work values and respect for those differences are critical aspects of effective communication that addresses the needs reflected by those diversity. According to Dea (2009) work value is defined as a global aspects of work that are important to a person's satisfaction, including achievement, independence,

recognition, relationships, support and working condition. Moreover, such values related to “altruism of helping behaviors in organizations” (Arciniega & González, 2005: 128). It can be argued that any work values in organizations may increase to employees work autonomy. Dea (2009) describes employees work autonomy as a capacity to take charge of, or take responsibility for, or control over your own learning which consists of employees abilities and attitudes that people posses, and can develop to various degree in organisations. This perspective suggests that employees work autonomy could be shaped in desired directions through a careful design of the organisational work setting (Robertson, 1994). Organisation members are confronted with a variety of stimuli, generated by their work setting, that they take into account in decisions regarding how to act. Thus, their work behaviours and attitudes can be shaped fairly powerfully if one controls the appropriate stimuli and reinforcers (Robertson, 1994). According to Robertson (1994) work setting is a set of features that are often being a target of intervention activity-goals, managerial behavior, and job designs. All these factors is believed to influence organisational citizenship behaviour in the workplace. As indicated by Salamon and Deutsch (2006) organizational citizenship behaviors (OCBs) refer to discretionary behaviors that are not explicitly recognized by the formal organizational reward system and that, in aggregate, promote the effective functioning of the organization. Additionally, Wright (2000) states that many factors contribute to changes in OCB such as job satisfaction (related to opportunities for professional development and identification of positive patient outcomes), job stress (related to long work hours, lack of autonomy, or patient-nurse ratios), and management of intergenerational work values conflict. Several research studies examined the influence of leadership support and management of work-related conflict on employee actions that reflect OCB (Wright, 2000). Findings indicate that OCB is affected by job satisfaction, by employee perceptions of leadership support and encouragement of individual work (performance, potential, and aspirations), and by perceived fairness in the management of job conflict (see Wright, 2000; Stamper and Dyne, 2001; Salamon and Deutsch, 2006; Lester, Meligno and Korsgaard, 2008; Paille’, 2009).

The concept explored in this research is to find out the work autonomy, work value, work setting which influences leadership styles and how effective leadership styles are in influencing OCB. It can be said the work autonomy appears to have an influence on leadership styles and the same other variables are arguably to have an impact upon leadership styles which in turn create OCB in the hotel sector. As a result, the anticipation of this research is that:

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- H1 Autonomy will be related to Leadership
 - H2 Work Value will be related to Leadership
 - H3 Work Setting will be related to Leadership
 - H4 Leadership will be related to Organizational Behavior Citizenship (OCB)
-

The conceptual framework as follow:



Methodology

Samples and procedures

This research was undertaken from a study done by Wright (2008) consists of dependent variables and independent variables and taken place in Grand Tropic Hotel, Indonesia. The sample was drawn using Simple Random Sampling. The participants were operational employees and given a questionnaire. Of 172 questionnaire were returned. However, there were some difficulties in getting the data, for example, to distribute the questionnaire was done in a single visit that had impacted upon the employees time to fill out the questionnaire at the same time of their duty. Employees were gathered during work time in one room where a six page questionnaire was administered. Further, employees completed the questionnaires in different time on the day and were told that the study was designed to collect information on the work value, employee autonomy, work setting, leadership styles, organizational citizenship behaviour in the premises. Even more, employees were given confidentially assurances and told that participation was voluntary. The questionnaires were collected immediately. The sample comprised from 31 per cent who had an age of between 26 – 30 years. As for educational qualifications, 48 per cent were high school graduates who used to have done internship programme and 16 per cent were graduate diploma in hotel management school. The reason for having a great number of high school graduates was to minimize the salary. The tenure was in between 1 until 7 years.

Measures

Independent variables: all questionnaires are using a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha > 0.60 = constructs reliable (Sekaran, 2003)

- Work autonomy was measured by using Wright (2000). Sample items include "employees are assigned important responsibilities, employees have a great deal of freedom to do as they like" (Cronbach's alpha = 0.709).
- Work value was measured by using Wright (2000). Sample items include "there is generational diversity in my organization, diversity in the workplace represent a different set of work values and behaviors" (Cronbach's alpha = 0.623).
- Work setting was measured by using Wright (2000). Sample items include "there is constant pressure to keep working, nobody works too hard" (Cronbach's alpha = 0.712).

Intervening variables: the questionnaires are using a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha > 0.60 = constructs reliable (Sekaran, 2003)

- Leadership behavior measured by using Wright (2000). Sample items include "supervisors tend to talk down to employees, supervisors really stand up for their people" (Cronbach's alpha = 0.634).

Dependent variables: this study used a a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha > 0.60 = constructs reliable (Sekaran, 2003).

- OCB measured by using Wright (2000). Sample items include "I feel this organization provides a sense of meaning and belonging for me, I am willing to help orient new employees even if it is not required" (Cronbach's alpha = 0.866).

Content validity test was completed and shown the p -value = 0.000. Product movement correlation was applied to undertake the validity test and shown the score > 0.030 (Sekaran, 2003).

Analyses

The hypotheses were tested employing structural equation modeling (SEM). SEM was used to portray the causal relationship of latent constructs thus asserting the hypothesis (Hair, Anderson, Tatham and Black, 2006). AMOS ver 16.0 was used to analyse the data. Descriptive statistical analyses was employed to assess the demographic of the hotel employees of their age, educational background and tenure (length of working in the hotel).

Results and conclusion

Tabel 1
Descriptive Statistics

Variabel	N	Mean
Work Value	172	3.5186
Leadership	172	3.5497
Autonomy	172	3.2868
Work Setting	172	4.4864
OCB	172	3.4767

Table 1 summarize the descriptive statistics can be seen that work value, leadership and work autonomy, work setting and OCB shows the mean of above 3.5 meaning the employees agree with items in the questionnaire.

Tabel 2
Testing hypothesis

	Hypothesis		Std.Estimate	<i>p-value</i>	Result
H1	Work_Value	→ Leadership	.529	.034	H1 accepted
H2	Work_Setting	→ Leadership	.110	.483	H2 rejected
H3	Autonomy	→ Leadership	.262	.008	H3 accepted
H4	Leadership	→ OCB	.300	.281	H4 rejected

Table 2 shows work value is related to leadership styles behaviour which can be seen from the *p-value* is < 0.005. The result confirms the hypothesis 1 where work value is related to leadership styles behaviour. However, work setting is not related to leadership styles behaviour and the finding shows the *p-value* is > 0.005. Thus the research rejected the hypothesis 2. On the other hand, the result of work autonomy is 0.008 which is less than 0.005. Therefore work autonomy is related to leadership styles behaviour and supported hypothesis 3. It surprisingly to depict leadership styles behaviour is not related to OCB which can be seen from the *p-value* > 0.005. The testing hypothesis support Wright's study.

When there is a work value in Grand Tropic hotel, every employee appears to support such leadership behaviour style that is resulted of a diversity in the workplace (Wright, 2000). This diversity may lead to create innovation, increase quality enhancement and could lead to bestow good service quality. On the contrary, Front liners tend to disagree with pressure they have received in the workplace. This could hinder their creativity and produce job stress which might create conflict between employees and their employers. Consequently, the result has no effect on leadership behaviour style. Meanwhile, having autonomy in the workplace is imperative due to employees have a freedom of accomplishing tasks. It is no wonder the result support the leadership behaviour style. The finding is surprising where leadership behaviour style is not related to OCB. It could be employees do not receive support as they expected from their leader. The findings suggest that employees in Grand Tropic hotel tend to expect having work value and work autonomy to increase their level of service to its guests.

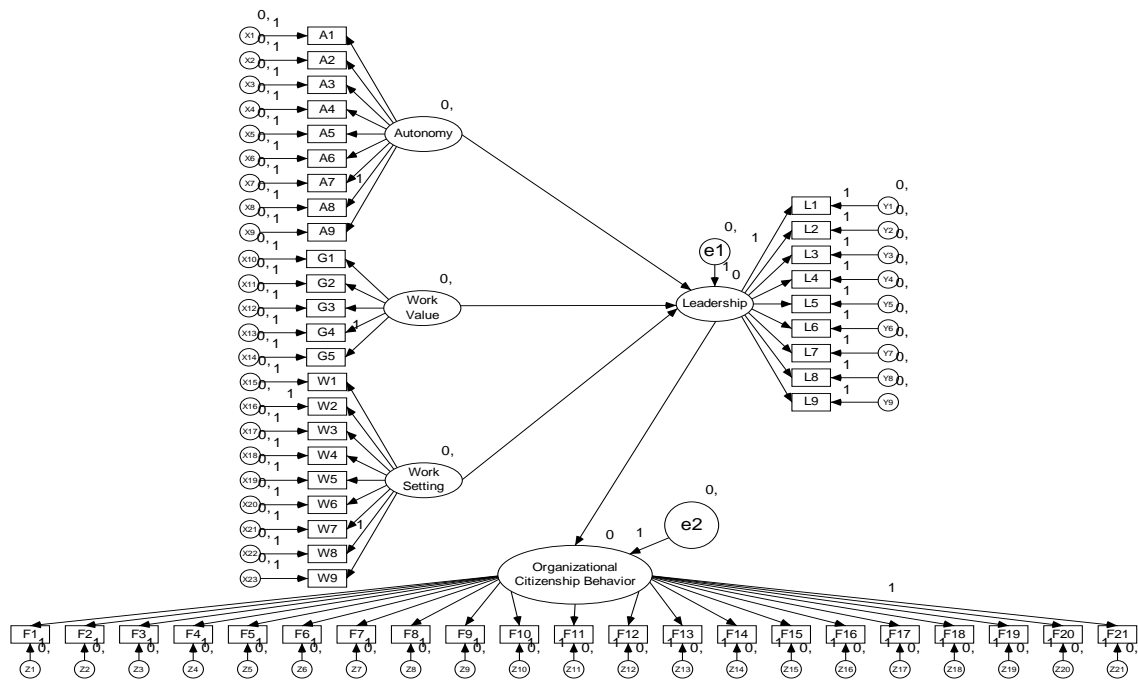
Future research should include work culture, employees commitment, employees job satisfaction and service quality in relation to OCB that take place in the work context which seems essential at Grand Tropic Hotel. It is hoping the subsequent research will spark further investigations into the mechanisms of adding new variables that influence OCB in different research settings.

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Appendix
SEM



Tabel 1
Descriptive Statistics

Variabel	N	Mean
Work Value	172	3.5186
Leadership	172	3.5497
Autonomy	172	3.2868
Work Setting	172	4.4864
OCB	172	3.4767

Table 2
Testing hypothesis

	Hypothesis		Std.Estimate	<i>p-value</i>	Result
H1	Work_Value	→ Leadership	.529	.034	H1 accepted
H2	Work_Setting	→ Leadership	.110	.483	H2 rejected
H3	Autonomy	→ Leadership	.262	.008	H3 accepted
H4	Leadership	→ OCB	.300	.281	H4 rejected

Validity Work Values

Correlations

		G1	G2	G3	G4	G5	Generational
G1	Pearson Correlation	1	.135*	.135*	-.110	.073	.414**
	Sig. (1-tailed)		.039	.039	.075	.172	.000
	N	172	172	172	172	172	172
G2	Pearson Correlation	.135*	1	.151*	.099	.105	.466**
	Sig. (1-tailed)	.039		.024	.098	.085	.000
	N	172	172	172	172	172	172
G3	Pearson Correlation	.135*	.151*	1	.122	.085	.651**
	Sig. (1-tailed)	.039	.024		.055	.135	.000
	N	172	172	172	172	172	172
G4	Pearson Correlation	-.110	.099	.122	1	.109	.468**
	Sig. (1-tailed)	.075	.098	.055		.078	.000
	N	172	172	172	172	172	172
G5	Pearson Correlation	.073	.105	.085	.109	1	.576**
	Sig. (1-tailed)	.172	.085	.135	.078		.000
	N	172	172	172	172	172	172
Generational	Pearson Correlation	.414**	.466**	.651**	.468**	.576**	1
	Sig. (1-tailed)	.000	.000	.000	.000	.000	
	N	172	172	172	172	172	172

*. Correlation is significant at the 0.05 level (1-tailed).

** . Correlation is significant at the 0.01 level (1-tailed).

Validity Leadership

Correlations

		L1	L2	L3	L4	L5	L6	L7	L8	L9	Leadership
L1	Pearson Correlation	1	.354**	.520**	.468**	.204**	.246**	-.070	.231**	.013	.571**
	Sig. (1-tailed)		.000	.000	.000	.004	.001	.179	.001	.435	.000
	N	172	172	172	172	172	172	172	172	172	172
L2	Pearson Correlation	.354**	1	.314**	.310**	.236**	.288**	.056	.075	.084	.554**
	Sig. (1-tailed)	.000		.000	.000	.001	.000	.232	.163	.136	.000
	N	172	172	172	172	172	172	172	172	172	172
L3	Pearson Correlation	.520**	.314**	1	.459**	.330**	.307**	-.044	.154*	.007	.575**
	Sig. (1-tailed)	.000	.000		.000	.000	.000	.283	.022	.464	.000
	N	172	172	172	172	172	172	172	172	172	172
L4	Pearson Correlation	.468**	.310**	.459**	1	.310**	.336**	-.001	.284**	.098	.644**
	Sig. (1-tailed)	.000	.000	.000		.000	.000	.493	.000	.100	.000
	N	172	172	172	172	172	172	172	172	172	172
L5	Pearson Correlation	.204**	.236**	.330**	.310**	1	.051	.128*	.130*	-.113	.401**
	Sig. (1-tailed)	.004	.001	.000	.000		.253	.047	.044	.069	.000
	N	172	172	172	172	172	172	172	172	172	172
L6	Pearson Correlation	.246**	.288**	.307**	.336**	.051	1	.143*	.352**	.260**	.630**
	Sig. (1-tailed)	.001	.000	.000	.000	.253		.031	.000	.000	.000
	N	172	172	172	172	172	172	172	172	172	172
L7	Pearson Correlation	-.070	.056	-.044	-.001	.128*	.143*	1	.319**	.046	.301**
	Sig. (1-tailed)	.179	.232	.283	.493	.047	.031		.000	.275	.000
	N	172	172	172	172	172	172	172	172	172	172
L8	Pearson Correlation	.231**	.075	.154*	.284**	.130*	.352**	.319**	1	.146*	.557**
	Sig. (1-tailed)	.001	.163	.022	.000	.044	.000	.000		.028	.000
	N	172	172	172	172	172	172	172	172	172	172
L9	Pearson Correlation	.013	.084	.007	.098	-.113	.260**	.046	.146*	1	.486**
	Sig. (1-tailed)	.435	.136	.464	.100	.069	.000	.275	.028		.000
	N	172	172	172	172	172	172	172	172	172	172
Leadership	Pearson Correlation	.571**	.554**	.575**	.644**	.401**	.630**	.301**	.557**	.486**	1
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	172	172	172	172	172	172	172	172	172	172

**Correlation is significant at the 0.01 level (1-tailed).

*Correlation is significant at the 0.05 level (1-tailed).

Validity Autonomy

Correlations

		A1	A2	A3	A4	A5	A6	A7	A8	A9	Autonom
A1	Pearson Correlation	1	.257*	.191*	.524*	.302*	.254*	.353*	.194*	.522*	.631*
	Sig. (1-tailed)		.000	.006	.000	.000	.000	.000	.005	.000	.000
	N	172	172	172	172	172	172	172	172	172	172
A2	Pearson Correlation	.257*	1	.199*	.051	.028	.315*	.180*	.281*	.207*	.639*
	Sig. (1-tailed)	.000		.005	.254	.358	.000	.009	.000	.003	.000
	N	172	172	172	172	172	172	172	172	172	172
A3	Pearson Correlation	.191*	.199*	1	.256*	.320*	.177*	.225*	.313*	.179*	.519*
	Sig. (1-tailed)	.006	.005		.000	.000	.010	.002	.000	.009	.000
	N	172	172	172	172	172	172	172	172	172	172
A4	Pearson Correlation	.524*	.051	.256*	1	.368*	.256*	.384*	.238*	.421*	.570*
	Sig. (1-tailed)	.000	.254	.000		.000	.000	.000	.001	.000	.000
	N	172	172	172	172	172	172	172	172	172	172
A5	Pearson Correlation	.302*	.028	.320*	.368*	1	.214*	.237*	.306*	.143*	.492*
	Sig. (1-tailed)	.000	.358	.000	.000		.002	.001	.000	.030	.000
	N	172	172	172	172	172	172	172	172	172	172
A6	Pearson Correlation	.254*	.315*	.177*	.256*	.214*	1	.238*	.184*	.282*	.570*
	Sig. (1-tailed)	.000	.000	.010	.000	.002		.001	.008	.000	.000
	N	172	172	172	172	172	172	172	172	172	172
A7	Pearson Correlation	.353*	.180*	.225*	.384*	.237*	.238*	1	.222*	.339*	.570*
	Sig. (1-tailed)	.000	.009	.002	.000	.001	.001		.002	.000	.000
	N	172	172	172	172	172	172	172	172	172	172
A8	Pearson Correlation	.194*	.281*	.313*	.238*	.306*	.184*	.222*	1	.260*	.581*
	Sig. (1-tailed)	.005	.000	.000	.001	.000	.008	.002		.000	.000
	N	172	172	172	172	172	172	172	172	172	172
A9	Pearson Correlation	.522*	.207*	.179*	.421*	.143*	.282*	.339*	.260*	1	.597*
	Sig. (1-tailed)	.000	.003	.009	.000	.030	.000	.000	.000		.000
	N	172	172	172	172	172	172	172	172	172	172
Autonom	Pearson Correlation	.631*	.639*	.519*	.570*	.492*	.570*	.570*	.581*	.597*	1
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	172	172	172	172	172	172	172	172	172	172

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Validity Work Setting

Correlations

	W1	W2	W3	W4	W5	W6	W7	W8	W9	WorkSet
W1 Pearson Corr	1	.470*	.196*	.307*	.134*	.224*	.070	.188*	.102	.394*
W1 Sig. (1-tailed)		.000	.005	.000	.040	.002	.182	.007	.091	.000
W1 N	172	172	172	172	172	172	172	172	172	172
W2 Pearson Corr	.470*	1	.340*	.342*	.297*	.205*	.263*	.239*	.099	.516*
W2 Sig. (1-tailed)	.000		.000	.000	.000	.004	.000	.001	.097	.000
W2 N	172	172	172	172	172	172	172	172	172	172
W3 Pearson Corr	.196*	.340*	1	.300*	.295*	.274*	.228*	.189*	.113	.524*
W3 Sig. (1-tailed)	.005	.000		.000	.000	.000	.001	.007	.069	.000
W3 N	172	172	172	172	172	172	172	172	172	172
W4 Pearson Corr	.307*	.342*	.300*	1	.620*	.261*	.347*	.075	-.031	.507*
W4 Sig. (1-tailed)	.000	.000	.000		.000	.000	.000	.164	.342	.000
W4 N	172	172	172	172	172	172	172	172	172	172
W5 Pearson Corr	.134*	.297*	.295*	.620*	1	.253*	.332*	.097	-.020	.520*
W5 Sig. (1-tailed)	.040	.000	.000	.000		.000	.000	.102	.399	.000
W5 N	172	172	172	172	172	172	172	172	172	172
W6 Pearson Corr	.224*	.205*	.274*	.261*	.253*	1	.129*	.068	.090	.440*
W6 Sig. (1-tailed)	.002	.004	.000	.000	.000		.045	.188	.121	.000
W6 N	172	172	172	172	172	172	172	172	172	172
W7 Pearson Corr	.070	.263*	.228*	.347*	.332*	.129*	1	.315*	.086	.439*
W7 Sig. (1-tailed)	.182	.000	.001	.000	.000	.045		.000	.132	.000
W7 N	172	172	172	172	172	172	172	172	172	172
W8 Pearson Corr	.188*	.239*	.189*	.075	.097	.068	.315*	1	.321*	.288*
W8 Sig. (1-tailed)	.007	.001	.007	.164	.102	.188	.000		.000	.000
W8 N	172	172	172	172	172	172	172	172	172	172
W9 Pearson Corr	.102	.099	.113	-.031	-.020	.090	.086	.321*	1	.186*
W9 Sig. (1-tailed)	.091	.097	.069	.342	.399	.121	.132	.000		.007
W9 N	172	172	172	172	172	172	172	172	172	172
WorkS Pearson Corr	.394*	.516*	.524*	.507*	.520*	.440*	.439*	.288*	.186*	1
WorkS Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.007	
WorkS N	172	172	172	172	172	172	172	172	172	172

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Reliability Work Value

Case Processing Summary

		N	%
Cases	Valid	172	100.0
	Excluded ^a	0	.0
	Total	172	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.623	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
G1	13.6686	5.533	.102	.663
G2	13.5930	5.436	.220	.681
G3	14.3081	3.992	.214	.534
G4	14.9535	5.226	.111	.693
G5	13.8488	4.527	.160	.745

Reliability Leadership

Case Processing Summary

		N	%
Cases	Valid	172	100.0
	Excluded ^a	0	.0
	Total	172	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.634	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
L1	27.9884	23.532	.423	.584
L2	28.6512	23.094	.374	.591
L3	28.0174	23.795	.439	.584
L4	27.9884	22.690	.511	.565
L5	28.1977	25.493	.237	.622
L6	28.1395	22.659	.487	.568
L7	29.4070	26.547	.133	.641
L8	29.0116	23.146	.382	.590
L9	28.1802	22.242	.126	.708

Reliability Autonomy

Case Processing Summary

		N	%
Cases	Valid	172	100.0
	Excluded ^a	0	.0
	Total	172	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.709	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A1	25.5349	39.338	.532	.667
A2	26.6105	30.999	.322	.748
A3	26.8372	40.242	.384	.685
A4	25.7326	40.408	.465	.677
A5	26.7267	40.457	.348	.690
A6	26.8140	38.456	.421	.677
A7	26.0465	38.992	.432	.676
A8	26.7965	38.093	.430	.675
A9	25.5523	38.834	.471	.671

Reliability Work Setting

Case Processing Summary

		N	%
Cases	Valid	172	100.0
	Excluded ^a	0	.0
	Total	172	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.712	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
W1	24.5523	28.448	.376	.689
W2	24.5988	25.844	.507	.662
W3	24.8721	28.709	.438	.681
W4	24.1919	25.653	.518	.659
W5	24.0291	26.063	.463	.671
W6	24.2326	28.390	.329	.697
W7	24.0000	27.076	.397	.684
W8	23.5116	29.234	.329	.696
W9	24.2442	30.244	.148	.732

Reliability OCB

Case Processing Summary

		N	%
Cases	Valid	172	100.0
	Excluded ^a	0	.0
	Total	172	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.886	21

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F1	69.0116	142.550	.625	.878
F2	69.7209	140.015	.470	.882
F3	70.3895	140.192	.459	.883
F4	69.2500	139.826	.603	.878
F5	69.0058	138.825	.710	.875
F6	69.7965	136.935	.559	.879
F7	69.4186	137.812	.622	.877
F8	69.2907	139.026	.620	.877
F9	69.2558	139.279	.621	.877
F10	69.3779	138.962	.556	.879
F11	69.2384	140.335	.598	.878
F12	69.3895	139.502	.534	.880
F13	70.5465	143.138	.604	.879
F14	70.4826	144.894	.579	.880
F15	69.1453	148.686	.246	.888
F16	68.8081	145.981	.467	.882
F17	70.6279	149.568	.288	.886
F18	68.6919	151.653	.219	.888
F19	68.8837	145.975	.464	.882
F20	69.2849	146.135	.311	.887
F21	70.6163	151.595	.201	.888

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Work Value	172	2.00	4.60	3.5186	.51402
Leadership	172	1.56	4.78	3.5497	.59494
Autonomy	172	.00	5.00	3.2868	.76112
Work Setting	172	.00	5.00	4.4864	.92196
OCB	172	1.00	4.67	3.4767	.59601
Valid N (listwise)	172				

Benefits and Barriers in Mining the Healthcare Industry Data

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Abstract

In this paper we will discuss how successful data mining and knowledge management can offer significant benefits to multiple aspects of the healthcare industry by both reducing costs and increasing customer relations. In particular we will be focusing on the importance of data mining in the health insurance industry as a whole, its relevance in detecting healthcare fraud and abuse, its applications and uses in clinical care, as well as its importance in maintaining a successful healthcare industry administration.

Keywords: Data mining; Healthcare; Clinical care; Patient profiling; Treatment Effectiveness; Fraud detection; Disease management

Introduction

The progress of data mining has been around for decades. Although data mining is an evolution of a field that can be traced back many years ago, the terminology itself has been only been introduced in the 1990's. By using pattern recognition technologies and statistical and mathematical techniques to sift through warehoused information, data mining helps analysts recognize significant facts, relationships, trends, patterns, exceptions and anomalies. The use of data mining can advance a company's position by creating a sustainable competitive advantage. Data mining is the science of managing and analyzing large datasets and discovering novel patterns (Ngai, Hu, Wong, Chen, & Sun, 2011; Davenport & Harris, 2007; Olafsson, 2006).

The workflow of healthcare organizations involves the generation and collection of various kinds of data relating to clinical practices, clinical trials, patient information, resource administration, policies and research. Traditionally, statistical techniques are used to derive some operational information from the data. Data mining provides the opportunity to derive, in an exploratory and interactive manner, valuable healthcare knowledge in terms of associations, sequential patterns, classifications, predictions and symbolic rules. Such inductively derived healthcare knowledge can provide strategic insights into the practice delivery of healthcare.

As the medical field expands, it is the duty of each physician to evaluate and protect each patient from diseases, side effects and medical mishaps. Armed with a scalpel, stethoscope and other accrements, physicians are now armed with data mining as a tool for expanding their knowledge base. Data mining is available to every aspect within the healthcare industry. It is multifaceted and used in areas like insurance to detect fraud, the pharmaceutical industry to evaluate side effects of drugs and even detection of certain diseases based on genetics.

Healthcare has a diagnosis for its ailments: inefficiency. But the cure is not so straightforward. While organizations are becoming information-rich, they remain knowledge-poor, without the tools to better integrate information across their clinical, operations, research and financial systems. But rather than focus on what is wrong with healthcare, it would be more productive to imagine how we might make a smarter healthcare system. Connecting doctors, patients and insurers to share information seamlessly and securely should be the ultimate goal. That means that providing a smarter healthcare system is optimized around the patient to increase efficiency, reduce errors, to achieve better quality of clinical care and ultimately save more lives. (Christensen & Oldenburg, 2009).

The growth in data mining and its advantages over the traditional methods of collecting data in the industry, both for reducing costs and providing patient care will be discussed. The bulk of the material focuses on various applications of data mining in the health care industry under three major areas. These areas include: data mining in health insurance plans; data mining in clinical care and data mining in health care administration. Also, emerging future trends in data mining in the health care industry will also be explored.

We will demonstrate the importance of data mining in the healthcare industry in the form of a secondary study of previous research and observations found in a variety of reputable sources. In particular, it focuses on the importance of data mining applications throughout the different aspects of the industry and the unique benefits that can be achieved through the interpretation of sector relevant data.

Data Mining In Clinical Care

Data mining provides the ability to correlate differences in treatment with significant impact on the clinical outcomes. These tools can automatically identify the sub-group within a population, and provide descriptive statistics regarding how each sub-group compares with the population as a whole or with other sub-groups. Data mining applications help significantly reduce medical errors, duplicate services, and unnecessary hospital admissions. The main strategy is to intensify physician to patient communication, better disease management, and to improve administrative workflow.

Disease Management

Data mining is used to analyze treatments for particular diseases in order to visualize its possibility for further clinical enhancement. One scenario where data mining techniques could be applied would be a study of the relationships between two ailments and finding the most effective treatment. For example, a given health care provider could set up a regional test to examine all occurrences of asthma and allergies, find the connections between these two diseases, and look for the most efficient and effective way to combat them. The data which would be collected, studied and compared could include types of over-the-counter (OTC) drugs or prescription medication such as antihistamines, as well as more holistic treatments such as taking a spoonful of honey daily, while carefully taking into consideration the placebo effect. In line with Borok (1997), monitoring environmental factors such as pollution, pollen count, and airborne microorganisms, to name a few, would also be crucial to the study since they are also causes of the specified ailments. A thorough examination of these factors and their relationships to the different treatment regimes (pattern recognition), data mining could render an accurate analysis of which courses of treatment prove to work best and are most cost-effective.

Data mining could also be used in preventing the spread of a contagious ailment and in forestalling the diffusion of an impending epidemic. According to the *Centers for Disease Control and Prevention*, the recurrence and resurgence of a disease which otherwise would have been completely eradicated stems from the tendency of patients to discontinue medication (even though the dosage hasn't been completed) the moment symptoms of the illness cease to exist (Srivastava and Singh, 2004). Through a rigorous analysis and careful monitoring, data collected from the study can be used to graphically represent the spread and progress of the disease. Hence, researchers would be able to discern patterns of the illness and take the necessary actions to address them.

Milley (2000) pointed out that along with the prevention of diseases, data mining can also be used to minimize the effect of many diseases before they progress further. For example, if there is a strong correlation between people with high blood sugar and blindness, doctors could require more frequent exams of those patients with high blood sugar level and check for blindness, then for those other patients who do not have high blood sugar level. This predictive model will keep doctors ahead of the disease and improve the overall quality of life for most patients.

Improving and Saving Patient Lives

The purpose of the advanced diagnostic tests is to detect the illness and identify potential health risk of the patient. Data from these tests are valuable information not only for the patient, but most of all for the clinicians. It is critical in patient care that physicians are able to analyze data from many resources and make informed judgment and decisions in treatment of the patient. Patients taking multiple medications, along with an aging population across the globe, represents challenges for the healthcare system. Scientists and mathematicians are using data mining to build systems that will help doctors to better understand the use and most of all the drug reaction in the patient care (Meiller, Bureau, Zhou, & Piramuthu, 2011). Veluswamy (2008) said, "As physicians, we know how challenging quality improvement in the acute care setting can be. Each year a staggering average of 71,000 people die in U.S. hospitals from medical error, making our \$2 trillion health care system one of the leading causes of death in this country" (p.49).

From experience to date, many hospitals and physicians do not have much knowledge what data mining is all about, how it can affect their work, uncover specific result, improve patient care and in many cases spot and predict situations that could save a patient's life (Michelman, 2009). The quality of patient care relies on value of information available at the point of care. The clinical data can directly improve the outcome of a patient visit. North Texas Specialty Physicians (NTSP) have invested 10 million into development of health information exchange system and transformed the patient care from paper based patient care into electronic model (Choudhry & Deas, 2010).

Infection Control

In 2009, *Association for Professionals in Infection Control and Epidemiology* collected information from 2000 members. The result showed that only 20 percent of U.S. hospitals currently use electronic surveillance and data mining to monitor the Healthcare Associated Infections (HAI). Data mining systems provide information without which hospitals must perform manual surveillance and look for device-related infections. Genotyping is one of the information technology methods that are very helpful for hospitals to better measure the infection control. Multi Care Health System which operates in four hospitals in Tacoma, Washington, uses mining system across the four hospitals and shares information from the departments as microbiology, admissions and finance. The hospitals are informed as patient test positive for bacteria in first 48 hours of admission, which indicates that patient most likely entered the hospital with the infection. The data can be used to improve the care in every unit and drastic reduce the infections (Page, 2010).

Using automated surveillance technologies in the healthcare industry is essential part of infection prevention. These systems are designed to collect infection data which leads to protection of patients by identifying and investigating of potential clusters of HAIs in real time. Automated surveillance technologies provide a larger amount of information, rapid identification of outbreaks, expanded and better defined infection prevention activities, improved response to public health issues and reduce the staff time spent on surveillance and clerical tasks (Anonymous, 2009). Certainly, as Veluswamy (2008) claims, "Data mining is an extension of statistics, but like statistics, it is not a business solution but a technology. It is what one does with the data collected from the mining effort that is important" (p.50).

Cancer Treatment

Cancer research has been clinical and biological in nature; however, in last couple of year's data -driven analytic studies have become common complement. The *Dana-Farber Cancer Institute* in Boston has gathered complex, scattered data to better treat the patient and work toward a cure of this disease. The physicians and researchers are working together on complex calculations to find connections between data from tumor biopsies and other clinical samples and spread all this information among three massive public-domain databases. The vital connections between patient samples and analytical data are proving that both are effective in patient treatment. The data the physicians needs are very complex and often divided into different subsets and groups. "A single gene may be represented by several different name sequences...To gather all of the information on any one particular gene, a researcher must look at many sources and different expressions for the gene" (McAdams, 2008, p.35).

People facing cancer are concerned about their lives, what the future holds, they want to know their prognosis. The research in the field of cancer detection and treatment helps to give an idea of the course and outcome of this disease. "Complementing these biological and clinical studies, data mining, as a powerful tool that can be used to discover patterns in medical data repositories, is finding its way into the analytics driven medical research arena" (Delen, 2009, p.102). Very popular data mining techniques like decision trees, artificial neural networks (ANNs) and support vector machine (SVMs) along with the most commonly used statistical analysis technique logistic regression were used in prostate cancer study to develop prediction models for survivability and variable explanation. The data used in this study come from the SEER (Surveillance, Epidemiology, and End Results) Program (2004), where SEER is one of the largest and most comprehensive sources of information on cancer incidence and survival in the USA. The final result indicated that SVM's are the best predictor with test data accuracy of 92.85%, followed by ANNs with and accuracy of 91.07%, followed by decision trees with an accuracy of 90.00% and logistic regression with an accuracy of 89.61%. American Cancer Society estimated that one man in six will be diagnosed with prostate cancer in his lifetime, but only 1 man in 32 will die of this disease. The data mining methods are able to extract patterns and relationships that are hidden deep in large data set; however, without the cooperation and feedback from the physicians, the result would be useless. The purpose of data mining is not to replace the professional physicians but complement their efforts and save more human lives (Delen, 2009).

Data Mining in Health Insurance Plans

The use of data mining and analysis offers many benefits to health insurance companies. These benefits include the enhanced diagnosis and repair of administrative errors, a better understanding of existing insurance plans, and insight into customer's needs, profitability and loyalty factors. Data mining is increasingly important for modern healthcare insurance companies to transform data into information advantage to improve profits, service, consumer's

satisfaction and discovery of new drugs. In healthcare industry every piece of information about current or potential customer information is crucial to a successful business plan for every insurance company on market. Health insurance plans, their costs, and service and innovations are strictly based on data mining therefore it is crucial for insurance companies to have the best interest of discovering every piece of valuable information.

Policy Holder Acquisition and Retention

Data mining currently is used very broadly to attract new consumers as well as keep current ones. Data mining can also be used to help identify potential new customers. By using historical data to predict future behavior, the marketing departments of insurance companies can determine potential policyholders whose behavior will be less risky than others. These high value, low risk potential policyholders can be approached with special packages developed for them in the hopes of attracting these customers from other companies.

In order to sustain desired revenues, programs desired to retain current members are vital to a medical insurance organizations. A significant threat to the insurance industry is a reduction in the number of policy holders. It's been recognized that retention of existing customers is about 5-10 times more cost effective than acquiring new ones (Haux, Elske, Werner, and Knaup, 2002). Therefore, it is considered wise for insurance companies to distinguish members who are at risk of switching their membership to another provider.

Consumer satisfaction is very vital because companies care for every single end user by lending a hand on their success currently and in the future. Every insurance company cares about the number of the policy holders and put all effort to gain new ones. Insurance companies take step forward and offer many extra services to consumers like discounts on gym memberships and healthy life tips to attract new consumers, because word of mouth is the best form of advertising. Data mining is also used to detect possible switch from one insurance provider to another that can be prevented by rapid reaction on the part of the insurance provider and with special offers to try and keep the customer. Databases possess valuable information like patterns, ages, gender, occupations, risks, and geographic areas which might be used to discover many criteria of current and potential consumers. New policy holders might be identified as less or more risky by expertise reading of historic data. Data mining in healthcare industry is very complicated, however at the same time very powerful, knowledgeable and requires well experienced analysis to discover useful data (MacSweeney, 2003).

Data mining can be used to identify the potential loss of clients switching to other companies. Historical data contains usage patterns and other important customer characteristics that when discovered can be used to identify satisfied or unhappy policyholders. These correlations between historical data values are very complex. Predicting policyholders who are at risk of changing their service to another provider with a high level of accuracy is extremely complicated, and it requires a lot of experience. These, nonetheless, are very powerful profiling techniques.

Understanding Insurance Plan Costs

One significant benefit of using data mining in the insurance sector of the healthcare industry is the development of a better understanding of existing health insurance plans and the costs associated with them. According to Kaplan (2007), data mining can be used by health plan trustees and plan administrators to better understand and control the true drivers of health plan costs. Health insurance companies can benefit greatly by better understanding and controlling the aspects of their policies that are directly influencing their costs. Data mining uses advanced computer programs to interpret raw data about insurance claims to uncover insightful information and relationships that benefit the understanding of their implementation and use. Once this understanding is formed, it can be used to make decisions that will increase plan attractiveness to potential policy buyers by increasing the effectiveness of the benefits they receive and maximize their health. The successful understanding of cost allocation and distribution requires a careful consideration of many factors associated with health insurance.

Specific preventable conditions that demand significant resources can also offer insight into proper adjustment of tactics and plans. Understanding which, if any, preventable illnesses are demanding an abnormally large portion of the resources allocated to the medical plan is important. Organizations would be able to determine which proactive communication efforts should be implemented in order to reduce the number of policy holders who contract this ailment. This serves two positive functions as it reduces costs and improves the overall health of the client. Plan reimbursement organization and implementation is a large factor in the overall profitability of a health insurance company. It is important to understand if the plan in effect encourages policy holders to make use of options that would both support their overall health and the lowest possible cost.

Overall, acquiring and analyzing relevant information through data mining can generate a plan to increase the efficiency of current healthcare plans. Use of data mining can save health insurance companies significant resources by eliminating waste, increasing effective consumption, and determining how policy holders can use cost-effective treatments to improving medical outcomes and client health (Kaplan, 2007).

Reduction of Rework

Globally there has been an increase of the costs associated with a health insurance organization. A large percentage of this increase can be attributed to the increase in the administrative costs of most insurance providers. According to estimates by an Accenture study, 11% of the administrative workforce is directly or indirectly related to rework processing. These statistics make the problem of rework prevention extremely important and valuable to the healthcare industry (Mohlt, Rayld, & Zhu-Song, 2005).

Traditional methods at reducing rework have been random audits on claims. These are not overly efficient as they do not focus solely on auditing works that definitely have errors. The work that is done on auditing correct claims is in itself a waste of work and therefore a waste of money. Rework prediction therefore would serve as an effective method in identifying and dealing with problem claims (Mohlt, Rayld, & Zhu-Song, 2005). Data mining can be useful in reducing health insurance waste associated with rework by developing a method that will help auditors minimize the number of correct claims audited and perhaps flagging questionable claims prior to payment. This can be done by developing a trend or pattern in past claims that required rework. Once a trend in misfiled claims is established, a computer system could be put into place that identifies them and takes preventative actions. Successfully implementing this system could stop payment on flagged claims, reducing the amount of mistakes prior to payment. This would reduce the amount of rework required by employees and also increase the effectiveness of the auditing process already in place. This result would reduce the amount of money wasted by insurance companies and would be a significant benefit to all parties involved.

Liability Profiling

Being able to predict the payout amounts that insurance companies would have to make is extremely important for both the long term financial health of the company, as well as being able to pay the company's current obligations. By predicting policyholder's behavior and risk, insurance companies can use these data mining models to construct the overall risk of a policyholder. Once the policyholder has a risk rating, the appropriate premium can be charged and the fee can be collected. Also, if the insurance company determines that the company, as a whole, will be paying out more than originally estimated, the company can adjust rates and assets to avoid any capital short fall.

Data mining is used to predict when the call center will experience an increase or a decrease in volume. This allows for better staffing and better allocation of resources. Data mining is also used for the planning of resources when certain scenarios occur. For example, after an earthquake or wild fire, the insurance company can increase the call center staff to handle the increase in the volume caused by the disaster (Silver, Sakata, Su, Herman, Dolins, O'Shea, 2001).

Once an insurance company has a profile on a customer, they often use the information to market other products that the insurance company provides, to the same customer. For example, once an insurance company provides health insurance for a customer, the company will often try to sell life insurance to the same customer. Data mining allows for greater predictability of the client's future needs.

Conclusion

Over the past couple of years, healthcare has improved greatly because of data mining. It helps improve patient care and more and more hospitals are realizing this. There is only so much a doctor can learn in medical school, but the real test is experience. When doctors' experiences are collaborated in a system they provide help for the future of proper surgeries and treatments and improving the efficiency of hospital care. "Not only are [data-mining] capabilities now both technically and financially feasible, but in a world that demands quality, patient safety, efficiency, productivity and service, healthcare organizations will soon realize the need to use data mining as an essential tool for meeting a multiplicity of needs" (Fickenscher, 2005).

Data mining plays an incredibly important role in today's healthcare industry. In health insurance plans it is used for fraud detection, retention of, and seeking new policy holders, liability profiling, customer service, and gross product marketing. In clinical care, it is used for epidemiology, patient profiling and disease management. Data mining is also used in health care administrations in managing its functions, such as staff recruiting and retention,

inventories and available beds. Despite its already broad array of applications within the industry, the future is promising.

Data mining has definitely made an impact in the healthcare profession. Through the many data mining techniques discovered, medical experts have been able to improve the quality of care and service they provide to their patients. Data mining has become so popular that it can be used on the business side of healthcare to help reduce costs as well as the theoretical side in finding hidden knowledge in medical records. Experts have identified future trends and what needs to be done in order for them to be realized.

With data mining, hospitals would be able to monitor the data in a more sophisticated and intelligent way so that they can look at events that are occurring and find things they might not have thought of before. This new way of tracking data is more advanced than traditional analysis because they can find patterns that indicate problems to come. Hospitals have the chance to stay one step ahead of problems. Moreover, if they can be proactive, hospitals can avoid bigger problems. After all, timely information and early intervention is the key for preventing diseases. Considering the vast progress data mining is already responsible for in the medical field, one can only be excited to wonder what other great benefits will come about because of it.

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Sustainable Development and Business Strategies: An International Higher Education Experience

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Abstract

This paper reports on development and facilitation of a unit (course) on 'Sustainable development and Business Strategies' (SDBS). SDBS was developed in Australia for delivery to international students originated from different countries gathered in Europe. SDBS allowed students to cultivate a new perspective towards change, outlining a new strategy through innovation in an ever changing, uncertain and contemporary 'risk society' (Beck, 2002). The topic of sustainable development and business strategies has gained momentum at governments, international organizations, business and higher education levels. To understand the multidisciplinary nature of this vast topic, which, in part, touched on ethical issues, sustainability and strategic development in contemporary business; SDBS was designed to allow students the engagement in class discussions, arguments and debates, sharing their unique international experiences, throughout which transformation and modification in their mindsets was witnessed. This was measured through class discussions and assessments that were designed in consultation with the European partners. This paper starts with literature review on the concepts under study, an insight into SDBS's development and concludes with analysis of some of the quantitative and qualitative data collected from 51 students over two periods. This is coupled with facilitator's personal reflection. Though this paper has its limitations, yet it is a small step forward towards developing an international perspective for teaching these rather importance issues to business and management students.

Introduction

Daly (1990) established a comparison between two terms 'sustainable development' and 'sustainable growth' which were considered vague. He adopted the dictionary distinction between 'growth' and 'development'. To grow means 'to increase naturally in size by the addition of material through assimilation or accretion'. To develop means 'to expand or realize the potentialities of; bring gradually to a fuller, greater, or better state' (Daly, 1990 p. 1). In short, growth is quantitative increase in physical scale, while development is qualitative improvement or unfolding of potentialities. Thus, an economy can grow without developing, or develop without growing, or do both or neither. Since the human economy is a subsystem of a finite global ecosystem which does not grow, even though it does develop, it is clear that growth of the economy cannot be sustainable over long periods of time. Concluding, Daly contended that the term 'sustainable development' is much more apt, with Ekins (1993) advocating a strategy for sustainability that principally involves differentiating between North and South of the globe and forging new economic relations between them.

Cannon and Sheth (1994) argued that criticism of relevance and process of business school education and research continues to mount, simultaneously, academics and practitioners have become increasingly dissatisfied with traditional theories and practice. Thus, an understanding of the importance of more holistic models and theories that would expand to include relationships between businesses and their stakeholders would be more appropriate, especially in this time that is considered uncertain ambiguous and risky as in 'risk society' as famously identified by (Beck, 1992). An understanding of how to transform contemporary businesses to be more sustainable, not only by scholars, academics and theoreticians but by practitioners, is deemed essential. Indeed, such understanding might assist in the transformation of individuals to develop and ultimately modify their mindsets, transforming these mindsets into ethical. This understanding would generate higher impact if it is planted within higher education curriculum, rather than postponing such understanding to the time those students have become corporate leaders and employees. In this respect, Nijhof and Rietdijk (1999) contended that increasingly and progressively companies are now taking an active interest in the encouragement of ethical behaviour and discouragement of unethical behaviour among their employees including the enhancement of their understanding of the need to being more ethical and more sustainable to face the uncertainties of this world.

Undeniably, having an ethical behaviour in an organization or a company would simply mean being able to look on how to sustain this business for the long run through the development and implementation of sustainable development strategy. Sneddon, Howarth and Norgaard (2006) argue that the concept and practice of sustainable development as guiding institutional principle, as concrete policy goal, and as focus of political struggle—remains salient in confronting the multiple challenges of this new global order. Werhane (2008) concludes that in today's

expanding global economy, there is a need to revisit individuals' mindsets to incorporate what will be new kinds of free enterprise that are at the centre of change in the corporate world. With regards to change, Werhane (2008) argues that in a global world where companies are exploring as well as exploiting new markets, such globalization requires new ways of thinking, which she describes as systems thinking. Werhane contends that the use of moral imagination helps individuals. Imagination has also been regarded by Bruch and Ghoshal (2004) as one of the two keys that will assist in transforming businesses into becoming more immersed in values, system thinking and moral imagination bringing change that might assist in the sustainability of the limited sources of the planet earth. Neu (2008) concludes that certain types of business and management education are demanded; however, it is education that is practical, concrete, delivered at the worksite, and scheduled around the constraints of production. While changes have been witnessed in higher education towards the increased emphasis on internships, critical thinking and business ethics that might lead to transformation into becoming more sustainable (e.g. Brady, 1999; Cameron, Bright, & Caza, 2004; Cowton & Cummins, 2003); the role of educational institutions in fostering sustainable development, through a framework based on the integration of the economic, social, and environmental dimensions (Vargas, 2000), moral imagination and beyond materialism (e.g. Hood, 2006) sustainability (e.g. Stubbs & Cocklin, 2007), values and capitalism (Cavanagh, 2010), yet there continues to be a need for further enhancement of these efforts and on global basis to really witness a change and transformation in the minds of students that would have its effect extended to reach the corporate world locally and globally.

Literature Review

Sustainability, ethics and global business

Bradbury (2003) argues that sustainability issues are not just 'out there' in the external environment. Discussing the issue of the incorporation of sustainability in curriculum Bradbury states students benefit from questioning what is it that sustains their own lives, the lives of those they care about, and the organizations in which they work. If encouraged to do this, students become better systems thinkers as they link their external and internal worlds, thus increasing their knowledge and appreciation of their surroundings, reflecting and applying their critical thinking, ethical lens, and moral imagination. Such an exercise would allow them to develop strategies that will assist in enhancing the sustainability of their businesses.

Teaching sustainable business development and strategies would be incomplete if such curriculum did not include a reference to ethics and ethical theories, and their application to business. White and Taft (2004) argue that whether teaching organizational behavior, business and society, business ethics, human resources management, or general management, educating management and for that matter business students involves providing frameworks to approach ethical issues and dilemmas. White and Taft provide a summary of ethical theories which they divide in two main categories teleological (Consequentialist) which includes utilitarianism, egoism, and care, and deontological (categorical imperative or non-consequentialist); whereas rights, justice (distributive, retributive, compensatory), truth-telling, virtue and ethics of care, all are deontological forms of ethical reasoning. These would be considered the western approaches, yet there are the eastern approaches such as Confucianism and Buddhism, with the strong return of the Native American ethical perspectives (Newton, 2003; White & Taft, 2004). These seem to be very comprehensive, yet worth to be re-introduced to our global and contemporary society. This Native American perspective, for example, covers issues such as moral virtues: generosity, kindness, caring, compassion, understanding, restraint, honesty, mindfulness, non-harming, equanimity, forgiveness, concern for continuity of relationships and strength of community, preference for harmony over truth, peace over justice, and justice through cooperation, connection and interdependence with all living things; consequences to self, others, and community. (White & Taft, 2004 p., 471).

Nonetheless, with the global nature of the contemporary business world, and as highlighted by White and Taft (2004) and Fisher and Lovell (2009) there is a need for more guidelines. These guidelines were always in the form of voluntary codes, such as the United Nations Declaration of Human Rights, The Coalition for Environmentally Responsible Economies (CERES) principles, The Caux Round Table, known as the CAUX principles, the global Sullivan Principles, amongst others including the corporate codes of ethics. Yet, and despite all these theories, guidelines and principles, we still witness transgressions by businesses that in many instance ill-treat and exploit the resources that are at hand, yet borrowed from the future generations.

In this regard, Jones, Caton, DeWitt, Stubbs, and Conner (2007) posit that sustainability has become a key issue for organizations in the twenty-first century as they increasingly acknowledge that their policies and practices have social and/or environmental consequences. Accordingly, many companies are implementing elements of sustainability into their business practices. In step with this trend is the increasing recognition that sustainability-related subjects need to be included in the curricula of business courses, particularly at the postgraduate level.

Reflection and critical reflective thinking

Mahin (1998) argues that business communication uses causal analysis, classification, process analysis, evaluation - as other forms of composition and that the very act of communicating in the social context of a business culture implies an ethical basis, a respect for persons. More recently, business students were urged to think in a critical and reflective manner. Rogers (2001) argues that despite the widespread adoption of reflective practices across many fields of study, a critical analysis of the concept of reflection and its application within higher education has been lacking. While Tranter and Warn (2003) is of the opinion that generic competencies, including critical reflective thinking are currently widely recognised as being essential for an individual's integration into a rapidly changing workplace. In order to respond proactively to change, one needs to be able to critically consider one's own worldview and its relationship to the world views of others. Higher education endeavours to develop such competencies required for successful adaptation of graduates to the workforce. In management and business education, it seems that these competencies are in demand, and the development of such competencies is given higher priority.

Reflective activities, including critical reflective thinking play a major role in adult learning, yet it is considered one of the most challenging exercises (Thorpe, 2000). While the development of generic skills might prepare students to their next phase in life (i.e. career), yet these students continue to face more challenges as they go into the workforce. Watson (2006) states there would be three things that are deemed necessary for effective management and effective business as a whole: (1) the general intellectual skills produced by a good liberal higher education, (2) technical knowledge about organizations and the environment in which they have to function, and, (3) the specific skills of managing. These can be enhanced through the enhancement of the critical reflective thinking amongst students. This was part of the assessments designed for this unit that was developed in Australia for delivery and facilitation to students from different parts of the world who gathered in Europe.

Methodology and discussions

Denscombe (2008) argues that the mixed-method approach has emerged as a 'third paradigm' for social research. It has developed a platform of ideas and practices that are credible and distinctive and that mark the approach out as a viable alternative to quantitative and qualitative paradigms. This paper adopts this approach by using a combination of qualitative and quantitative techniques.

Teaching methods, recommended reading sample and discussions

SDBS was designed with emphasis on extensive participation from students. As the assessments were all on individual basis, the design took into account the inclusion of group work. Discussions became alive, as students became aware of the latest issues in the market. Therefore, the more informed of the current issues and challenges that face businesses that are exerting every effort the more students become active in their discussions, arguments and debates in the class. Students were exposed to different peer-reviewed journal articles, books chapters and extracts, videos, DVDs, and case studies.

SDBS had no text book, but instead, and in the syllabus that became available to students one month prior to start, students were urged to search the online databases for some articles that would discuss the latest in relation to sustainable business development, talent management, leaving a legacy and strategy in the corporate world. The students were warned that the topic is so broad, and the readings will be of diverse types and from different disciplines. Nonetheless, the students were provided with key areas to search for and topics that would be addressed in this SDBS. From these topics and issues, stewardship, living, environmental ethics as virtues, the responsible person, building competitive advantage through integrated talent management, responsibility for the self, community and nature, strategic thinking, formation, change, and content, sustainable business development, innovation and management thinking, enterprise thinking and the strategic logic of strategic business development, and being responsible for all (community, nature – thinking about the triple bottom line).

This data was collected from fifty one international master students over a period of two years 2010-2011. This data was collected through records provided by the European School and the administration of ice-breaker questionnaire, daily reflections, final reflections and evaluations of the teaching and the course itself. The ice-breaker contained fifteen questions, of which eight questions related to sustainability and the sustainable business development course. While the remaining questions were merely simple questions to generate discussions in the groups. For example, 'name three ways to learn things'.

While the daily and final reflection requested those students to reflect on what they learned. Students were specifically warned not to outline what they have learned but rather to reflect on what they have learned. Table 1 provides some pointers as to where students were originated.

Table 1: Students numbers and the countries originated from

Country	# and percentage of students			
	Year 1		Year 2	
France	11	52.38	4	13.33
Taiwan	1	4.76	0	
Italy	1	4.76	1	3.33
Morocco	3	14.29	1	3.33
India	2	9.52	14	46.67
Korea	1	4.76	1	3.33
Canada	1	4.76	2	6.67
Australia	1	4.76	0	
Argentina	0		2	6.67
Poland	0		2	6.67
Brazil	0		1	3.33
Thailand	0		2	6.67
	21	100	30	100

SDBS development and discussions

Predan, Azapagic and Clift (2000), involved in teaching sustainable development to engineering students in the UK, consider that sustainable development is a complex concept which concerns a wide range of social, technological and environmental issues. Without addressing all these dimensions, teaching of sustainable development would not be complete. This is one of the challenges. Another challenge was location of unit developer/facilitator and the school (Australia and Europe), which added to the complexity. However, technology, which once was described as one of the major risks of our society (Beck, 1992; Beck, 1999, 2002), yet in the development of SDBS played a positive role. It was through e-mails that communications were established with the European school and their personnel; also it was possible to liaise with the students prior to meeting them face to face, which assisted in breaking the ice. In addition, Predan, Azapagic and Clift (2000) highlighted the importance of tackling the teaching of such unit (course) through the application of multidisciplinary approach, and this what was considered when developing this unit (course).

Syllabus for the unit was prepared in consultation with the European school identifying the outcomes. Upon completion of this unit would have achieved the following outcomes: (1) demonstrate awareness and sensitivity to the importance of sustainable development, talent management and business strategies in such a crucial time for us as humans worrying about the next generations and our environment. To try to understand how we in 'business people and leaders' can assist, (2) apply conceptual tools and frameworks for the critical analysis of business decision-making practices and policies, (3) apply the frameworks, perspectives and skills of critical analysis to contemporary business issues tackling holistic issues rather than concentrating on economics and finance, And, (4) translate the theories, concepts and analytical techniques learned into practice. These outcomes have been achieved. This is supported by comments from the students on their anonymous evaluation:

'I felt this unit really enhanced my knowledge with respect to the non-economic issues at hand for any business.' (Anonymous Evaluation_Student 1).

'I feel that [lecturer] has helped me to understand the more grave issues for a business in today's world and really opened my eyes to the sensitivity of the situation.' (Anonymous Evaluation_Student 2)

In addition to the outcomes, it is evident that it is not only the resources provided, or the discussions facilitated, but rather the knowledge and passion of the lecturer that counts in delivering such a complex and holistic topic as sustainable business development and business strategies.

'The [lecturer] was very passionate about teaching... communication [developed] and fruitful discussions followed.' (Anonymous Evaluation_Student 3).

'[lecturer] well organized and involves the class in the subject through games and debates as well as extensive case discussions. Learning this subject under [lecturer] effective teaching was a great experience.' (Anonymous Evaluation_Student 4).

Thus, it is not only the material, the design, the assessments design, but rather the lecturer's passion towards the concepts that were under study.

SDBS Delivery mode and discussions

SDBS was delivered over a period of five days. Six hours of seminars per day, with the exception of Thursday, when it was only three hours, providing students time to work on their 'vision and mission assessment'. The delivery was in the form of seminars. In these seminars the lecturer played the role of facilitator. SDBS started with the introduction of issues and challenges that currently face the business world and the global world as a whole, then moved to introducing issues and case studies, which were derived from the latest literature from books and peer-reviewed journal articles.

The first run of SDBS in 2010 covered issues derived from specific articles and books (e.g. Demuijnck, 2009; Lopez-Gamero, Claver-Cortes, & Molina-Azorin, 2008; Teece, 2009; Tyler Miller & Spoolman, 2009; Woodbine, 2008). Through facilitation and group discussions, looked at 'setting up the scene: growth, strategy, values and value systems, environmental ethics: business sustainable development, world risk society, terrorist threat, reflexive modernization, ethics and sustainability, dynamic strategies and strategic management, strategy tools, sustainable development business success, and corporate governance and ethics – impact on strategy. These topics were mainly discussed through brief presentations followed by readings by groups, and case studies analysis, which sometimes were debriefed through debates or further arguments.

The second run in 2011 expanded on these sources and included some more of the latest sources including some of the latest publications of the European Foundation of Management Development. In addition to the sources mentioned above others were introduced (e.g. De Wit & Meyer, 2004; Duane Ireland, Hoskisson, & Hitt, 2008; Galavan, Murray, & Markides, 2008; Jacobides, 2010; Newton, 2003; Rainey, 2006; Silzer & Dowell, 2010). Based on these sources and others, especially with the first day of the course in 2011 coinciding 'Valentine Day' it was felt prudent to relate 'love to business', thus the first session following the ice-breakers and introductions including the examination of the European Foundation of Management Development 'EFMD' publication on issues facing the responsible manager in the twenty first century, moved into 'Love, does it apply to business and global business'. Students appreciated this gesture:

The way people interpreted love and tried to connect it to organizations was quite interesting too. It was a really light, yet important topic which kept us involved even at the fag-end of the day.' (Reflection_Student 1)

Thereafter, and through the facilitation of group discussions, group work, debates and arguments covered the other topics which were conveyed under the titles: (a) making the case for sustainable business, (2) is our society risky - What a Question?, (3) reflexive Modernization - influence on sustainable business development, (4) strategic thinking and ethics - What a match?, (5) business processes and global market collapse, (6) strategy Tools for Shifting Landscape, Values? (7) would they make a difference when it comes to Strategy?, (8) strategy and Society - Why the change of heart?, (9) sustainable development and business success, (10) strategic Thinking - Corporate Governance - a relationship?, (11) current Status - where are we heading? What is needed?, (12) thinking sustainably - does it need ethics?, (13) so... What is the solution? (14) an example from the IT Industry, Strategy? (15) but how - introducing tools and frameworks. In addition, the lecturer shared with students a presentation on 'Australia - Figures and Numbers' highlighting to them what sort of data would be important to make a decision to expand globally. This was very well received by the students:

'Finally, the closing presentation on Australia and the way you tried to sell the country was not only informative but also very interesting.' (Reflection_Student 2).

Though extensive material was provided to allow the overall coverage of the different topics, students appreciated this fact:

'The learning experience of this unit was good, the resources were extensive and induced further thinking and overall I enjoyed this course.' (Anonymous Evaluation_Student 5).

'... it was good to move on from just theory to the application...' (Anonymous Evaluation_Student 6)

Assessments and discussions

Assessments of students teaching and learning were in three fold: (1) class participation – face-to-face – including a daily reflection (with very strict guidelines) to be submitted electronically to the lecturer, (2) students' vision and mission to a non-governmental organization (NGO), which forms the base for their final report, and (3) final report and presentation on the strategy as how they wish to implement this vision (if they wish to be innovative and creative they might record a video selling their idea to the board of directors of the organization of their choice). As for the first assignment, and to initiate students' participation, they were required to complete an 'ice-breaker' sheet that contained fifteen questions; eight of these questions were to identify the level of students' knowledge in sustainable developments and business strategies. Looking at the students responses it became apparent that the unit (course) was an elective course for the majority (i.e. 95%), and they had minimal understanding of strategy. This exercise took longer than anticipated, yet students were full of praise of the way this opening activity was administered, as they reflected on saying:

'Today the class started with an ice breaker session wherein we had to answer a questionnaire. After answering these questions when we discussed them in groups, we found that we had common answers for many general questions. Thus despite our cultural differences we had many things in common. I found this exercise very interesting.' (Reflection_Student 3)

Further, in a way to expand students' participation in discussions and problem solving deriving from the literature (e.g. Jaworski, 2008; Weber, Radu;, Mueller, Powell, & Maher, 2010) students were asked, and at the beginning of each class to select either a green, orange or red sheet of paper indicating their preparedness for discussions. The first day no sheets were selected, yet this has improved, when students selected the 'orange' sheets indicating that they were somehow prepared to engage in discussions, arguments and debate, however, it was noticed that students did not select the 'green' sheets throughout the unit (course). This might be attributed to the fact that they were over-whelmed with the vastness of topics covered in this unit (course). Despite this, and as students were given the chance to read in their group meetings, they were able to participate in class discussions, arguments and debates. As for the daily reflection students were urged to indicate to the lecturer what they learned each day – what did they see good, bad and fascinating or interesting. Some of the comments:

'... as the class progressed we discussed the Alfabem of a responsible manager.' (Reflection_Student 4)

'This is the first time I'm studying sustainable development although I have acquired some knowledge about this topic through interaction with people in the industry. The major gains as far as I was concerned were a few concepts in the ABC manual to sustainable development [alfabem]. I did not really know that concepts such as Article 13 and Agenda 21 existed. I gained a better knowledge about few other terms such as labels and negative growth too.' (Reflection_Student 5)

'As I said in the class that I have studied mostly ethics here thus far. So, today's session provided [me] with an idea of how to implement your ethical philosophy towards building a sustainable business. It also opened my eyes to the notion that we all know but care little about ,i.e., while making profits in the short-run, one also has to keep a tab at the sustainability of the business logic and ideals that you are following.' (Reflection_Student 6)

Whilst the following extract from students' reflection is rather descriptive, yet it provides an overall coverage of what was covered in the first two seminars of this unit (course), especially the final part where the student would argue shareholder and customer value maximization:

Some words were quite interesting and new like global security, paradigm, agenda 21 while some concepts although previously known had new definitions which provided a new learning experience from the

sustainable development point of view. ...Then we did two case studies. An argument mentioned in that article is that the two goals of shareholder value maximization and customer value maximization cannot be achieved together, though I disagree with it since shareholder value maximization can very well be a by-product of customer value maximization. (Reflection_Student 7)

SDBS Facilitator found the class setting inappropriate and might discourage group interactions, thus requested students to join in changing the set up. This had attracted positive comments from students:

Another interesting [thing] was the sitting arrangement. It's always to have a freedom of choice to sit the way you want to and feel relaxed in the classroom. (Reflection_Student 8)

Having six hours of seminars, and active workshops had its toll on students. One of the comments in the daily reflection highlighted this:

I guess the students were looking exhausted and tired because the previous subject was comparatively lighter. But I have no complaints towards that personally. To sum it up, I quite enjoyed the experience today and look forward to tomorrow's session. (Reflection_Student 9)

While other students took the chance of the first reflection to provide the lecturer with their expectations which was a great idea:

Since today was the very first lecture I really can't comment or say much. But I would just like to share what my expectations are there from the course. Firstly as an exchange student I would really like to see the approach that is there in formulating strategies in India and globally (as I am here for an international exposure). Understand the very meaning of sustainability apart from the textual meaning. Secondly, I expect to see a lot of real time examples of strategies with the frameworks that are taught. (Reflection_Student 10)

While for the final reflection shared the same first question another question was added: You might recall at the beginning of the week you were asked (in the ice-breaker document) whether you were required to provide data or get involved in coming up with a strategy for your workplace (or might be with family)? And which frameworks you used for your strategy before (if you have done one) Now, following this unit (course) how would you improve on the choices that you have taken and reported on earlier, and what sorts of frameworks you would be using. From their comments:

'The week of sustainable development class was very enlightening.' (Reflection_Student 11)

'Teaching process was really interesting as it was always two ways in the form of presentations or debates or group work. It was a place where I learnt a lot in a short period of time.' (Reflection_Student 12)

'Something that is quite remarkable is that I actually now realize the importance of being sustainable in one's approach and not only that but it can actually increase the profits of a company in the long term. I thank our [lecturer] for 5 enlightening days and the class will truly miss you' (Reflection_Student 13)

'In an overall view, I feel that I have improved myself during this week. As on Monday, I just had some vague ideas on sustainable development and CSR, relating those concepts mostly to green business, I am finishing this class with a quite bigger picture of the topic.' (Reflection_Student 14)

The above comments reveal the students' transformation, indeed, using the expression 'enlightenment' reveals how vast the change was.

As for the second assessment, this was an assignment for them to form a vision and mission to an organization, their assignment would be based on (1) to identify an industry of your interest, (2) identify a major challenge that you feel is affecting this industry, (3) to identify a company (preferably global 'NGO') within that industry that might be faced with this major challenge, and (4) come up with a mission statement and a vision that they wish to see implemented for this organization. While their final report would allow them to develop and provide a 'sustainable business development strategy including talent management' that would allow this NGO to survive and serve the 'Seventh Generation' a phrase invented by Newton (2003). At the start students were over-whelmed with the nature of the assignments, yet as the time went by, students and in their reflections were able to see the bigger picture and were able to imagine their assignments including the final report:

Today, I have got some idea about sustainability development in real company. This help me to doing the assignment more easier. (Reflection_Student 15)

Facilitator's personal reflection

The development and facilitation of SDBS had its challenges. The course was prepared in Australia, yet delivered to students from different parts of the world and in Europe, which added to the complexity of the material to be covered. The diverse landscape (European School, Australia and students from different parts of the world) has provided a complex road map for SDBS development and facilitation. Nonetheless, through technology it became much easier to liaise and communicate.

In this respect, international networks are important, especially with the international fabric of the students who were originated from different parts of the world, seeking education in some other parts of the world. In case of Australia, Curtin University is considered a melting pot of different nationalities from different parts of the world that are keen to expand their knowledge, even well away from their homeland. This also what was witnessed when visiting and teaching in the European School of Management. Indeed, both share the same aim of developing students from different parts of the world displaying their global citizenship.

Reflecting on this exercise, it has definitely enhanced the SDBS developer's knowledge, simultaneously having the honour to share knowledge including the latest ideas and research in relation to sustainable business development and strategies with students from different parts of the world, who had and through their reflections displayed appreciation of being exposed to such knowledge.

'... So far, I mean, before listening [to] this class, I thought that sustainability related to business is just "green". But, now I know what sustainable business is and what corporate social responsibility is. That is not only just about green and environment problem but also business in the community. I learned that the responsible manager consider all stakeholders- employees, customers, government, suppliers, local communities, shareholders, international organizations, non government organizations, etc.'

(Reflection_Student 16)

'... this sustainable business development course has awakened me to protect the environment in my personal life as well as business. I am impressed with current status of our society. The presentation about current risk and 2011 Harvard business agenda is meaningful for me. Those alerted me that sustainability is needed.'

(Reflection_Student 14)

Limitations and Implications

Despite its limitations, the small sample size, this paper has provided evidence that teaching sustainable business development to students would transform and shift their mindsets towards becoming more aware of the dangers of being fixated only on profit rather than looking at the big picture first, then profit can be a by-product, especially when businesses aim at the long-term rather than the short term. This paper provides an example of co-operation through an international network in higher education between Australia and Europe, which might have its shortcomings, yet with patience and eagerness to help and assist students in their endeavours have become easier.

It is worthwhile to note here deriving from the students comments in their daily, and final reflections and evaluations that students were looking at analyzing the lecturer's level of knowledge, way of teaching and dealing with students, strongly agreeing to the items in the evaluation of SDBS that the facilitator appeared knowledgeable in the subject area and enthusiastic in teaching such a unit being an effective lecturer. This is a key area, whereas those who are keen to teach across borders and across disciplines need to be aware of the developments in their disciplines and the countries they are involved in. Though, this is not an easy topic yet, when developed properly and through co-operation between all parties involved it will be for the benefit of students, academics and practitioners in the long run. Simply, such an investment, though huge, is worth the work exerted.

Further, through the daily reflections, it became evident that in the future students need to be asked of their expectations from the unit; this might be done in co-operation with the European School. In addition, the lecture room set-up is changed to accommodate group work in a better fashion.

Conclusion

In conclusion, this paper, though has its limitations, had provided an Australian-European perspective on international networking and co-operation in higher education. Through examination of students' reflections throughout the time SDBS was run, it became evident that theoretical reflection, when employed, and executed properly by students, is an important instrument that allows students through their reflection to make a better sense of the vast and multidisciplinary material given in a short period of time (i.e. five days). The data collected provided evidence that teaching such comprehensive, multidiscipline units would transform the students mindsets, indeed, it enlightens these mindsets. This can only be possible provided the lecturer/facilitator has the necessary knowledge and enthusiasm to develop and facilitate such a complex multidimensional unit (course). This paper highlighted the importance of such international and academic network of like-minded academics. It is the strength of such networks that allowed the author to liaise with a European School of Management, develop a unit and facilitate this unit for the second year to students who are originated from different parts of the world. This paper provided a step forward in the road-map to having such a unit (course) become a core rather than elective unit for the business and management students. Further research is anticipated when SDBS is run again, whereas further developments would deem necessary bearing in mind the ongoing changes in strategy, policy, and any other issues relating to sustainability and business development.

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Managing Internationalisation In Tertiary Education: A South-African – Swaziland Comparison

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Abstract

The increasing competitive and internationalised tertiary education environment has over recent years introduced a commercial focus to the sector. Although this allows universities to tap into an increasingly larger and potentially more lucrative market, it simultaneously ups the ante in respect of course quality and addressing student preferences. Overall tertiary institutions do not have a clear picture of what attracts students, particularly international students. Although there is consensus that ‘internationalisation’ adds to the marketability in the education environment more clarity is needed on the nuances of the concept and indeed the value these carry amongst students in terms of decision making. This paper considers responses of four hundred and six students in South-Africa and Swaziland in relation to the importance of academic and non-academic aspects of internationalisation of the institution. Overall, students are influenced in their choice decision by reasonable class fees, and courses offered of an international standard.

Introduction

International education has developed over time in a commodity that can be purchased by students as ‘consumers’ that subsequently demand quality standards. More often than not, students enrolling in education, and more particularly international education, are financially privileged which further contributes to the exclusive and competitive character of the industry (Stephenson, 2006). Ongoing budget cuts in domestic markets around the world have driven universities to consider ‘exporting’ their educational programs, primarily to secure additional revenue.

Meares (2003) argues that universities often consider internationalisation as a strategy that enables expansion and a solution for the increased financial pressures experienced due to limited government funding. Apart from raising additional and often lucrative income, an international presence simultaneously facilitates an expanded profile. The position that ‘internationalisation’ and international students are predominantly seen as income generating entities by universities is enhanced by financial cutbacks to higher education and a global commercialisation of the education industry. International education involvement is predominantly driven by commercial drivers leading to initiatives to getting larger, more lucrative and more competitive all the time (Stephenson, 2006). From this perspective it is important for education providers to manage the internationalisation while understanding what students’ value and understand this to be. This paper is attempting to throw light on aspects of internationalisation that is regarded as important by South African and Swaziland students to play or to fulfil a role in the international market.

Internationalisation in higher education – global perspective

Universities have emerged as key players in the new global knowledge-based economy as growing segments of the workforce require the advanced education offered in post-secondary institutions. The key drivers of the academic revolution have been identified as the rise of the knowledge economy and globalization, massification of tertiary systems everywhere, and the impacts of information and communications technology (Altbach et al., 2009).

While the idea of massification of higher education has been promoted since the first half of the 20th century, its realization on a global basis is a recent phenomenon. And although some developing countries still

have relatively low rate of the post-school age group in higher education, almost all countries have dramatically increased their enrolment rates (Glakas, 2003). Furthermore, the application of new information and communication technologies has altered our very perception of how the education product is delivered and has contributed to the massification of higher education.

While initially higher education systems struggled just to cope with demand, in the past decade they have begun to struggle with the implications of massification. Major changes to funding have emerged in most countries where higher education has traditionally been considered a state responsibility that benefits the individual but also society through enhanced productivity among other things. Financial pressures from massification have resulted in a need for re-allocation of the funding responsibilities and shaped the view of higher education as a 'private good' thereby contributing to the rise of private higher education worldwide and to the privatisation of public universities (Glakas, 2003).

Consequently, traditional universities across the world have started losing their monopoly over the production and dissemination of knowledge through teaching and research. They have to compete with multiple stakeholders and providers of higher education, including the corporate and non-state sector. Although public universities still dominate in the North America, European Union, Africa and South Asia, in Latin America and East Asia private sector accounts for the major enrolment into higher education and professional training. Hence, a new kind of institution of higher learning has emerged, which cater directly to the market and expands as demand for its services increases. This is very different behavior from that of the traditional university, which responds to increases in demand by becoming more selective.

In addition to the financial pressures exerted by the massification of higher education, the growing impact of globalization and the evolution of the knowledge-based economy have generated pressures for nation states to improve their competitiveness in the sector. Schools and universities in different parts of the globe have been under tremendous pressures from government and the general public to restructure and reinvent themselves in order to adapt to the changing socio-economic and socio-political environment. Education reforms have been common agendas in the advanced industrialized countries since the 1980s (OECD, 1997, 1998, 1999, 2001), driven by growing expectations and demands of different stakeholders in society.

The changing character and function of education in most countries around the world have significantly affected educational governance. Higher education institutions have been increasingly following the example of business by adopting policies of decentralization and marketization, corporate decision-making and planning strategies, as well as using economic measures of productivity (Mok & Welch, 2002). The major shift from elite to mass education systems has challenged higher education institutions to re-evaluate both the quality and the market value of their courses and programs in a customer-oriented and market-driven environment.

Hence, in the context of increasing global competition and ever more forceful financial pressures, educational institutions now recognise that they must equip themselves with the necessary marketing intelligence and information that would enable them to face the challenges imposed by this new environment (Binsardi & Ekwulugo, 2003). Yet, despite the rapid development of the higher education international market and the existence of substantial literature on the marketisation of higher education, evidence of the marketing strategies implemented by higher education institutions remain limited. Much of the interest in research in marketing of higher education has been stimulated by increasing competition for overseas students.

However, while the transformation of student population into a more international crowd has been identified as a key demographic trend, higher education remains essentially a national phenomenon with institutions still functioning within national boundaries and serving local, regional and national interests. Indeed, while a truly global market for students exists today and private higher education is growing worldwide, it has been reported that the curricular change displays major variations at the socio-cultural and national levels. Moreover, following the global economic crisis, fears of economic competition have intensified resistance to immigration and inhibited ease of movement across national boundaries.

In other words, while the higher education sector should not be commoditised, domesticating our approach to higher education marketing and focusing on the curriculum, institutional positioning, internationalization, pricing, reputation management, and enrolment management, is the first step to nurturing the development of relevant and meaningful marketing practice for higher education.

CHALLENGES IN THE HIGHER EDUCATION SECTOR IN AFRICA

African countries face major challenges that promote and hinder the development of the students, institutions, the respective countries and their ability to compete regionally and globally. In view of the challenges, there is need for re-strategising to help counteract potential problems of poor service delivery, declining standards, offering of irrelevant or outdated programmes; and marketability of the institutions' products and their students because of deficiencies experienced in various programmes' offerings. The strategic process entails overhauling the institutional environment to embrace all the critical major influences on the institutional and student's development. In Tisdell's (1995: 7) view, creations of an enabling inclusive learning environment should:

“ reflect the diversity of those present in the learning activity itself in the curriculum and pedagogical/ andragogical style; attend to the wider and immediate institutional contexts in which the participants work and live; and in some way reflect the changing needs of an increasingly diverse society (De Jager & Joubert, 2007).

This view emphasises the need for various institutions to ensure that the programmes offered and the institutional context reflect the values of the learners and that of the end-users of the universities products. A similar view was expressed by other researchers (Brown et al., 1988; Wilson, 1993; Anderson et al., 1996) who noted how institutions should realize the link between knowledge, its by-products and context. The by-products refers to the translation of knowledge and skills to socio-economic and other developmental goals. Nkomo (2006) indicated how they are translated to the enhancement of the various communities quality of life and their standards of living. In these roles, higher education promote national development, foster national unity and minimize the potential for conflict as a result of varied cultures, enhance individual talents and enhance opportunities for people's meaningful participation in their socio-economic goals, foster positive attitudes among each other and hence promote social justice and morality (Emenyonu, 2006; Mungai 2002). Kargbo (2002) acknowledges how African universities are a major element in development; at the apex of the educational system is a place for the pursuit and dissemination of knowledge and playing a pivotal role in the onward struggle for national development. To effectively pursue this vital role, universities have to be provided with essential resources for improvement and upgrading of their infrastructure and to also enable them to attract highly skilled personnel for the purpose (De Jager & Joubert, 2007).

Over the past few years, higher education institutions in South Africa have experienced dramatic changes, in their structuring, funding and student numbers. The Tertiary education sector faces many new challenges, including more recently various mergers and the transformation of technikons into universities of technology. This transformation has not only brought about a change of status in these institutions, but also the mergers of intrinsically different institutions. The broadening of access to higher education in South Africa under the present government policy has seen a growth in the number of applications to tertiary institutions (Bunting & Cloete, 2004). The transformation of higher education institutions in South Africa is one of the concerted efforts to provide fertile ground for the empowerment of previously disadvantaged groups. This process is one of the numerous efforts geared towards ensuring that higher education institutions respond toward national imperatives for redress, in areas of employment equity and skills development (Diale, 2006). According to Cooper and Subotzky (2001), South Africa has experienced a “revolution” regarding the increase in proportion of African student enrolments in tertiary education thus they have constituted the majority since the middle 1990's. This consequently calls for re-assessment of the needs of current students in higher education.

Similar to South Africa, Swaziland is transforming its education system in institutions of higher education in response to developments regionally and globally. It regularly reviews its programs to meet the demands of contemporary society but its efforts are hampered by shrinking funding as more funds are diverted to the funding of orphans and vulnerable children as well as addressing the socio-economic development issues of HIV/AIDS, shrinking inward investments and the associated high unemployment and poverty issues (Joubert et al., 2006). De Jager and du Plooy (2006) noted how the downward trend in the economic situation and the resultant decline in public finances since the 1980's onwards led in governments' inability to continue to meet the financial needs of higher education whereas a growing demand for access continued. The resultant constraints for higher education institutions manifest themselves in political upheavals that involve students, brain drain of the limited country's think tanks and eventually the quality of education will be hampered and hence, hindering the country development. Drastic measures are thus needed to circumvent the effects; that is

partly why this study is being undertaken. A key solution to these problems is addressing the quality and national relevance issues through extensive consultation with key stakeholders and implementation of response action programmes. Proponents of the social-action approach argue for getting solutions from those directly affected by the problem (Burrell & Morgan, 1985; Hammersley & Atkinson, 1983; Goldthorpe et al., 1968). Other researchers have also highlighted that learning institutions cannot be separated from the world of action but exist in robust, complex social economic environments made up of actors, actions, and situations (Wilson, 1993; Anderson et al., 1996; De Jager & Joubert, 2007).

PROBLEM STATEMENT

Higher education is facing increasingly more challenges on the global arena. As institutions of higher education compete for human and financial capital it is equally important to understand and address the demands of students and industry. This is even more so as universities increasingly develop an international presence and seek to attract international students. Overall the problem is a lack of information to enable institutions of higher education to identify and adhere to students needs in order to attract them from the global market.

OBJECTIVE OF THE STUDY

The primary objective of the study is to identify the most important service quality variables related to selection of a university in South-Africa and Swaziland. A secondary objective is to determine whether there are significant differences between South-African and Swaziland students when deciding on an educational service provider.

RESEARCH METHODOLOGY

Conceptualising the purpose of the investigation

In order to achieve the primary objective of the research the service quality variables related to internationalisation were grouped into academic, non academic issues.

The following secondary objectives were formulated:

- To evaluate the expressed levels of importance of South-African and Swazi students with regard to these internationalisation variables;
- To determine the existence of significant differences between the South-African students and Swazi students with regard to their expressed levels of importance with the internationalisation variables.

Research hypotheses

With regards to the objectives the researchers formulated the following hypotheses:

- Ho: There exist no significant differences with regard to the importance of the service variables related to the internationalisation variables between the South-African and the Swazi sample.
- Ha: There exist significant differences with regard to the importance of the internationalisation related service variables between the South-African and Swazi students.

The sample framework

A sample of 407 students at the management faculties at two universities in South-Africa and a university in Swaziland were chosen at random. Two hundred and thirty two of the respondents were students from a large South-African University while one hundred and seventy four of the respondents were student from a University in Swaziland. The sample comprised of 49.6% male and 50.4% female students. The attitudes of the two student samples were tested regarding the importance of pre-identified service quality issues related to internationalisation issues when selecting a specific tertiary institution. The list of variables was based on an

extensive literature research and the findings of focus groups consisting of students and lecturers. The questionnaires were distributed to randomly selected students in pre-determined classes.

The measuring instrument and reliability measures

A structured questionnaire was developed to measure the preferences of students when deciding on a specific institution of higher education. For the purpose of this paper only the variables related to internationalisation issues were included in the study. The questionnaire addressed the following issues.

- (1) Section A: Biographical information of the students including their location
- (2) Section B: Seventeen service quality variables to determine the level of importance on internationalisation aspects of a higher educational institution. This section included:
 - Academic Internationalisation
 - Non-academic Internationalisation

Section A utilised nominal scales whilst a five-point Likert-type scale was used for Section B to measure the levels of importance with regards to these internationalisation variables at two institutions of higher education in South-Africa and Swaziland. The scales were categorised as 1=very important, 2=important, 3=not important nor unimportant, 4=not important and 5=not important at all. The inputs for section B was gathered through an intensive literature study on the topic as well as focus group discussions with students enrolled at institutions of higher education. In addition the perceived performance of these two institutions were also measured on a five point Likert scale similar to the measurement of the importance of these variables.

Data collection and analysis

The data was gathered and captured by trained field workers over a period of six months during the second semester of 2008. The SPSS version 17.0 statistical package was utilised to analyse the data. For this analysis the Kolmogorov-Smirnov Test was employed based on the assumption that if the significant values exceeded 0.5, normality could not be assumed and the researchers had to rely on employing non-parametric analysis techniques. As normality could not be assumed after applying the Kolmogorov-Smirnov Test the researchers employed the Kruskal Wallis test to test the null hypothesis and the alternative hypothesis that there exists no significant difference between the levels of importance between the two groups and there exists significant differences between the groups (South-African & Swaziland students).

An item analysis was carried out to test the validity and the reliability of the questionnaire and an overall Cronbach's alpha of a 0,915 was obtained.

FINDINGS

Table 1: Respondent profile

		No	%
Age	16 -17 years	3	0.5
	18 -19 years	79	19.5
	20 - years	92	22.5
	21-22 years	112	27.5
	22+	118	29
Gender	Male	199	49.6
	Female	204	50.4
University	South Africa	232	57
	Swaziland	174	43
Total		406	100

Selected demographics summarized in Table 1 indicate a different student composition in the South-African and Swaziland sample, particularly in terms of age, gender and respondents per university. While motivation for studying is in both groups driven by better job prospects the influence of friends studying forms a significant notion of the decision making activity.

Table 2: Level of importance – Non-academic Internationalization

Inter-nationalization		SWAZI		SA		Total		Results of hypothesis test
Item	Item wording	Mn	SD	Mn	SD	Mn	SD	
86*	Hostel accommodation on campus	1.64 1	1.003	1.95 4	1.273	1.82 2	1.173	sig. = 0.05 df = 1 p-value = 0.029 Conclusions: Ho rejected
87*	Private accommodation near institution	1.87 3	1.000	2.18 5	1.204	2.05 5	1.131	sig. = 0.05 df = 1 p-value = 0.012 Conclusions: Ho rejected
100*	Reasonable class fees	1.73 2	0.995	1.59 1	1.021	1.65 1	1.010	sig. = 0.05 df = 1 p-value = 0.019 Conclusions: Ho rejected
119*	Effective induction program	1.95 5	1.057	1.87 2	0.895	1.90 3	0.965	sig. = 0.05 df = 1 p-value = 0.889 Conclusions: Ho accepted
125*	Has international student culture	2.29 6	1.146	2.20 6	1.164	2.24 6	1.156	sig. = 0.05 df = 1 p-value = 0.375 Conclusions: Ho accepted
127*	Participates in student and staff exchanges	1.90 4	1.020	1.89 3	0.894	1.90 3	0.948	sig. = 0.05 df = 1 p-value = 0.447 Conclusions: Ho accepted

According to table 2 reasonable class fees is overall regarded as the most important variable in the non academic Internationalisation category. It was also rated first by the South African sample and second by the Swazi sample. Significant differences were measured between the two groups with South African sample rated it significantly more important. Hostel accommodation was overall rated second most important variable. The Swazi sample rated this most important while the South African samples rated it in fourth place.

Significant differences are measured between the two groups with the Swazi sample rated it significantly more important than the South African sample. The overall third most important variable is participation in student and staff exchanges. The South Africa sample rated it third while rated by the Swazi sample in fourth place. Although no significant differences between the two groups were measured, the South African sample rated it slightly better compared to the Swazi sample.

The overall least important variable in the non academic Internationalisation category is private accommodation on campus. Although no significant differences were measured between the samples, the South African sample rated it slightly more important.

Table 3 indicates the level of perceived performance of the non academic internationalisation variables. The overall best perceived variable in this construct is an effective induction program. Although it was rated first by both samples, significant differences were measured between both samples. Reasonable class fees were overall rated second. It was rated second by the Swazi sample but fourth by the South African sample. Statistical significant differences were measured between the two samples. The overall third best perceived variable in this construct is private accommodation near the institution. Although it was rated in third position by the Swazi sample and fifth by the South African, no statistical significant differences were measured between the two sample groups.

The variable that was perceived worst in this construct was the international culture of the institution. Although the South African sample rated it as the worst perceived variable, the Swazi sample rated it in fourth position. In terms of the means the sample rated it significantly lower in terms of perceived performance.

Table 3: Level of perceived performance – Non-academic Internationalization

Inter-nationalization		SWAZI		SA		Total		Results of hypothesis test
Item	Item wording	Mn	SD	Mn	SD	Mn	SD	
138*	Hostel accommodation on campus	3.49 6	1.264	2.80 3	1.166	3.10 5	1.257	sig. = 0.05 df = 1 p-value = 0.000 Conclusions: Ho rejected
139*	Private accommodation near institution	2.98 3	1.351	2.85 5	1.137	2.91 3	1.234	sig. = 0.05 df = 1 p-value 0.450 Conclusions: Ho accepted
152*	Reasonable class fees	2.93 2	1.209	2.83 4	1.159	2.87 2	1.183	sig. = 0.05 df = 1 p-value = 0.365 Conclusions: Ho accepted
171*	Effective induction program	2.90 1	1.067	2.68 1	0.976	2.77 1	1.023	sig. = 0.05 df = 1 p-value = 0.012 Conclusions: Ho rejected
177*	Has international student culture	3.41 4	1.165	2.96 6	1.124	3.16 6	1.164	sig. = 0.05 df = 1 p-value = 0.000 Conclusions: Ho rejected
179*	Participates in student and staff exchanges	3.41 4	1.264	2.76 2	1.069	3.04 4	1.200	sig. = 0.05 df = 1 p-value = 0.000 Conclusions: Ho rejected

Table 4 indicated the level of importance regarding academic internationalization issues. The overall most important variable is that the institution should offer courses that is of international standard. This variable was rated most important by the Swazi sample and second by the South African sample. However, statistical significant differences were measured between the two sample groups. The overall second most important variable is that the qualification should be internationally accepted. Although no statistical significant differences were measured between the two sample groups, it was rated it was rated first by the South African sample and third by the Swazi sample. The overall third most important variable is the admission requirements of a university. Significant differences were measured between the two sample groups.

The least important variable in this construct is that the university has internationally acclaimed staff or a faculty. Although no significant differences were measured between the two groups, the South African sample rated it less important compared to the Swazi sample.

Table 4: Level of importance – Academic Internationalisation

Inter-nationalization		SWAZI		SA		Total		
Item	Item wording	Mn	SD	Mn	SD	Mn	SD	Results of Hypothesis test
101 **	Admission requirements	1.50 2	0.754	1.69 3	0.913	1.61 3	0.853	sig. = 0.05 df = 1 p-value = 0.039 Conclusions: Ho rejected
122 **	Offers courses of international standard	1.39 1	0.815	1.61 2	0.902	1.51 1	0.871	sig. = 0.05 df = 1 p-value = 0.001 Conclusions: Ho rejected
124 **	Has international acclaimed faculty/staff	1.84 5	1.121	2.00 5	1.108	1.93 5	1.114	sig. = 0.05 df = 1 p-value = 0.058 Conclusions: Ho accepted
126 **	International accepted qualifications	1.54 3	0.924	1.57 1	0.892	1.55 2	0.905	sig. = 0.05 df = 1 p-value = 0.358 Conclusions: Ho accepted
129 **	International competitive research outputs	1.81 4	0.958	1.84 4	0.892	1.84 4	0.925	sig. = 0.05 df = 1 p-value = 0.554 Conclusions: Ho accepted

Table 5 indicated the perceived performance of the universities. The best perceived variable in the academic internationalization construct is admission requirements. Although no statistical significant differences were measured between the two groups, it was perceived slightly better by the Swazi sample. The second best perceived variable in this construct is international accepted qualifications. Statistical significant differences were measured between the two samples. The Swazi sample rated this variable second while it was rated third best perceived by the South African sample. The third best perceived variable in this construct is courses of international standard. Statistical significant differences were measured between the two sample groups with the South African sample rated it significantly better compared to the Swazi sample. The overall least best perceived variable in the academic internationalization construct is international competitive research outputs. The Swazi sample rated this variable statistical significantly lower in terms of perceived performance compared to the South African sample.

Table 5 Level of perceived performance – Academic Internationalisation

Inter-nationalization		SWAZI		SA		Total		Results of Hypothesis test
Item	Item wording	Mn	SD	Mn	SD	Mn	SD	
153 **	Admission requirements	2.37 1	1.138	2.48 1	1.021	2.44 1	1.078	sig. = 0.05 df = 1 p-value = 0.235 Conclusions: Ho accepted
174 **	Offers courses of international standard	3.16 4	1.286	2.51 2	1.116	2.80 3	1.237	sig. = 0.05 df = 1 p-value = 0.000 Conclusions: Ho rejected
176 **	Has international acclaimed faculty/staff	3.02 3	1.130	2.83 5	1.136	2.92 4	1.139	sig. = 0.05 df = 1 p-value = 0.086 Conclusions: Ho accepted
178 **	International accepted qualifications	2.89 2	1.276	2.64 3	1.082	2.76 2	1.179	sig. = 0.05 df = 1 p-value = 0.031 Conclusions: Ho rejected
181 **	International competitive research outputs	3.59 5	1.014	2.67 4	1.021	3.08 5	1.117	sig. = 0.05 df = 1 p-value = 0.000 Conclusions: Ho rejected

CONCLUSION AND RECOMMENDATIONS

Institutions of higher education are currently under considerable pressure to recruit the most promising students in order to increase retention and throughput rates. While overall the student market is homogeneous, institutions of higher education should satisfy the needs of a diversified group, both local and from abroad.

Students on the other hand have to cope with a large variety of inputs before making a final decision with regard to a particular institution of higher education. Despite this complexity the researchers have focused on aspects related to internationalization of higher education in South-Africa and Swaziland. Two components of internationalisation were identified and investigated in terms of importance when already enrolled at a institution of higher education. These components are academic internationalisation and non-academic internationalisation.

In the **non academic internationalisation** category reasonable class fees and hostel accommodation on campus were overall identified as most important and second most important issues respectively although significant statistical differences amongst the two groups exist. Regarding the most important variable, the South African sample regarded it more important while the latter was regarded more important by the Swazi sample. On the performance of the institutions, an effective induction program was overall best perceived by both samples as well as individually. Reasonable class fees were overall and by the Swazi sample perceived second best but fourth by the South African sample. Private accommodation was overall and by the Swazi sample perceived third best and fifth by the South African group. It was noted that significant differences were measured between the importance of all the variables and the perceived performance thereof which resulted in dissatisfaction.

In the **academic internationalisation** category, courses of international standard was overall and by the Swazi sample rated most important variable in this construct. The South African sample rated it second while statistical significant differences were also measured between the two sample groups. Overall this variable was rated third in terms of perceived performance of the universities. While the South African sample rated second in terms of perceived performance, it was rated fourth by the Swazi sample. Significant differences were measured between the importance and perceived performance of this variable tested. The overall second most important variable is international accepted qualifications. It was however rated most important by the South African sample and third by the Swazi sample. No significant differences between the groups were measured. This variable was also overall rated second in terms of perceived performance. However, significant differences were measured between importance and perceived performance which resulted in dissatisfaction.

The findings of this study reinforce the importance of measuring service quality offered at an institution of higher education. Various challenges arise from this study that should be addressed by management in order to ensure that these findings are dealt with. Educational administrators should note that all the identified attributes in the study are considered fairly important and should be taken into consideration when targeting and promoting services to students from other countries but also to local students in order to establish and maintain a competitive position in the international higher educational arena. From a practical point of view however it has to be taken into consideration that students should be subjected to a selection process before being accepted by the institution.

LIMITATIONS OF THE RESEARCH.

The study was conducted in one institution of higher education in each country and thus cannot be regarded as representative of institutions in South-Africa and Swaziland.

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Section 8

Abstracts

SME Development Based on Financial Strategies and Their Internationalization

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ABSTRACT

The paper examines strategies that are likely to increase yield and development of SMEs. The paper considers financial strategies such as liquidity and good accounting, as well as the internationalization as strategies that can help the development of the SME's and strengthen their sustainability in the market. Since most SMEs fail to overcome the barrier of two years, examines the longevity of SMEs based on an empirical study of a sample of SMEs using statistical models like linear regression and ANOVAs and examined the relationship between financial aspects such as liquidity and leverage and internationalization.

The Singular Dimensions of Social Entrepreneurship: Toward a Conceptual Model

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Abstract

Background

The recent times has seen an increasing interest in social entrepreneurship. Social entrepreneurship is a much newer concept than traditional commercial entrepreneurship and this sub-discipline has been defined in various ways. While definitions have varied, the domain of social entrepreneurship feature the following unique dimensions (Brooks, 2009):

- Social entrepreneurship addresses social problems or needs that are unmet by private markets or governments
- Social entrepreneurship is motivated primarily by social benefit
- Social entrepreneurship generally works with – not against – market forces.

Being a subset of traditional commercial entrepreneurship, social entrepreneurship starts with opportunity identification and proceeds with coming up with ways to exploit the opportunity. However, as Neck, Brush, and Allen (2009) point out, social entrepreneurship is different from traditional commercial entrepreneurship on three fronts: the nature of the opportunity, the importance of stakeholder relationships, and the uniqueness of the performance measures used.

Objectives

The objective of this study is to examine the above mentioned three salient distinctions of social entrepreneurship. The goal is to provide a more fine grained perspective (than what is currently in the literature) on the three factors with examples of ventures that exhibit these features. The outcome of this process will be a conceptual model of social entrepreneurship that will help drive future research in this area.

Significance of the Study

It is clear that governments and traditional business enterprises alone cannot address all of society's pressing needs. Given the increasing interest in entrepreneurial activity around the world, social entrepreneurs can find solutions to a number of unmet problems. However, to do that, the field of social entrepreneurship has to advance in the theoretical perspective. The current study seeks to fill this important gap. By developing a unifying model, the current study hopes to stimulate further activity in this field.

Creative Accounting: How Lehman Brothers Used Repo 105 to Manipulate Their Financial Statements

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Abstract

During the Bankruptcy Trial of Lehman Brothers in April 2010, Mr. Dick S. Fuld, Jr., the former chief executive officer was questioned about the accounting technique that helped Lehman Brothers mask billions of dollars of troubled assets on its books. It allowed Lehman to temporarily appear less leveraged and healthier in the eyes of investors, creditors and other interested parties. This technique was known within Lehman as “Repo 105.” Essentially, Repo 105 was an aggressive accounting off-balance sheet device which was used to temporarily remove troubled securities from Lehman’s balance sheet, usually for a period of seven to ten days to create a materially misleading picture of the firm’s financial condition. These transactions were booked as sales. Hence, on the financial reporting date, Lehman would show less risky assets, less debt and possibly more cash. This resulted in the appearance of healthy financial statements and the related healthy leverage ratios. Armed with this favorable financial picture, Lehman would then go into the open market and secure loans. A few days after the reporting period, the proceeds would then be used to repurchase the assets (securities) at 105 percent of their value. Additionally, these were material transactions and had the ability to affect the decision of a prudent person. Nevertheless, Lehman failed to disclose these transactions in the notes to their financial statements or in their filings to the Securities & Exchange Commission.

These Repo 105 transactions raise a host of questions. The primary questions are: 1) Should Lehman’s transactions have been recorded as sales or were these transactions simply financing arrangements? 2) If they were financing arrangements, then should they have been recorded as loans and shown on Lehman’s balance sheet? This paper attempts to answer these questions by using an examination of the GAAP rules. In addition, an examination of Lehman’s responsibilities to its investors, creditors and the general public will be undertaken and a determination made as to whether these responsibilities were met. Additionally, Lehman’s CEO denied any knowledge of these material transactions, yet he signed off on Lehman’s financial statements. Hence, an examination of the responsibility of the CEO in relation to the Sarbanes Oxley Act of 2002 will be undertaken. Further, Lehman’s behavior in relation to the standards prescribed by the Institute of Management Accountants (IMA) will be examined and a determination made of whether Lehman manipulated their financial statements and behaved unethically by using Repo 105.

Financial Crisis Impact and the Regulation:India's scenario

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Abstract

The global recession caused increased rate of unemployment, downturn of business and shrinking government revenues. The financial crisis in global context hit South Asia at a time when it had barely recovered from severe terms of trade shock resulting from the global food and fuel price crisis. The food and fuel price shocks had badly affected South Asia, with cumulative income loss ranging from 34 percent of 2002 GDP for Maldives to 8 percent for Bangladesh. Current account and fiscal balances worsened sharply and inflation surged to unprecedented levels. The current financial crisis has spread around the world and no business sector has stayed untouched. While companies in some sectors have been forced to close down or lay off employees, companies in the food retail sector mainly have to adapt to their customers' preferences, which according to Ang, Leong & Kotler (2000) change in times of financial crisis. Almost all the developing countries are taking enough measures to recover from the crisis by introducing financial Sector rescue packages, such as the American Recovery and Reinvestment Act of 2009 (P.L. 111-5). The purpose of this study is to highlight the hit on Indian market during financial crisis. The present study is qualitative in nature. The effort has been taken to study the different sector of the consumer durables, FMCG and automobile sectors. The findings show that the sectoral impact and process to make necessary changes in the financial system to reduce recession risk and prevent future crises. There is a need to undertake certain changes in policy, regulations, oversight, and enforcement. The study concludes with policies and measures which are planned during the course of time to reduce the risk of financial crisis and to strengthen the present and future financial system.

Green Global Supply Chain: A Stakeholder Analysis

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ABSTRACT

Excellence in supply chain management is increasingly being recognized as a strategic competitive differentiator among firms. Globalization of supply and demand, centralization of supply chain structures, compression of product life cycles and recognition of long-term shareholder value are among the factors driving the strategic shift to competing on supply chain excellence (Kerr 2008). As a sustainable development mode for modern enterprises, Green Supply Chain Management (GSCM) is drawing increased attention with several major enterprises such introducing key initiatives. The green principles that have been linked with efficiency include using environmental friendly raw material, reducing the usage of petroleum power, and using the recycle papers for packaging. The green principles have been expanded to many departments within organization, including the supply chain. This is a meta-analysis in attempting to understand the effects of sustainability to supply chain management of organizations.

Riding the Wave of Sustainability

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Abstract

Sustainability, together with other megatrends such as demographic change, urbanization and globalization, are not only influencing the way we live today, but their impact will increase substantially in the decades to come. By identifying such market specific forward-looking trends and drawing the strategic consequences, a company will be able to bundle its business activities into areas which can demonstrate high potential of business growth and offer attractive investment opportunity for local and foreign investors.

Yet, despite a clear understanding of the multiple challenges that sustainable development could pose to the competitiveness and viability of an enterprise, there are many sustainability measures implemented by management which are falling short of strategic planning and long-term goals. To many, sustainable development is still a journey through the uncharted territory, one without a clear roadmap to navigate.

The Singapore Business Federation (SBF) has initiated the Singapore Sustainability Awards (SSA Awards) to honour and give recognition to Singapore enterprises with outstanding sustainable business practices. In partnership with KPMG, the awards knowledge partner, SBF has developed a strategic framework that will help guide our Singapore enterprises navigate the route towards an outstanding sustainable business enterprise, which will be highlighted at this presentation.

WELL ADJUSTED EXPATRIATE:

Guidelines for an Expatriate doing business in Israel

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Abstract

Going global and entering international business markets has become a trend of this economic and political world. We are driven by money. We are beyond just buying and selling resources with foreign nations. Now, we make direct investments into complex operations that include both goods and services. Reasons to engage in this expansion include the want to increase markets, to diversify, to obtain raw materials, to research technology, to master productive efficiency, to be politically friendly, and to reduce the cost of labor and overall generate a larger profit. Although, the globalization wave has taken over the business world, cultural context is still well defined. Small or multinational corporation have been forced to explore the real world context in order to correctly approach each customer. This report will provide a guide of Israeli culture and etiquette.

The Role of Sustainability and Inclusive Growth in SMEs' International Performance and Competitiveness. Evidence from the Timber Sector in the Democratic Republic of Congo

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Abstract

This paper investigates on the role of sustainability and inclusive growth issues on firms' international performance and competitiveness.

The role of the environment as an important factor of the firm performance, both at domestic or local and international level is well known. The environment of the firm refers to institutional, political, economic, financial, social, cultural and natural issues.

Over the last twenty years, sustainability and inclusive growth are becoming key determinants of firms' competitiveness since climate change awareness is considered a major issue receiving growing recognition at the international, national and local level.

To compete both at national and international level, firms are facing more and more sustainability and inclusive growth problems. Managers have then to integrate environmental and social responsibility issues in organizational and strategic plans.

The forest sector is poised to contribute positively to mitigating climate change and sequestration of carbon in forests and wood and paper products. Environmental awareness and the need to halt deforestation and illegal wood trade have a decisive impact on the competitiveness of the timber sector worldwide. In this respect, firms operating in the timber sector have to fulfil forest certification criteria. Main aspects of certification criteria are: low environmental impact on the forest, social helpfulness for communities and economical viability (Villazon, 2009).

The present paper focuses on the importance of the forest sustainable management as a key determinant of the competitiveness of the timber sector in the Democratic Republic of Congo (DRC).

Accounting for Inventories: The FASB/IASB Convergence Project and the Future of LIFO Method

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Abstract

The Securities and Exchange Commission (SEC) has proposed to allow U.S. public companies sometime after 2015 to use International Financial Reporting Standards (IFRS) as an acceptable alternative to U.S. generally accepted accounting principles (GAAPs) for financial reporting purposes. The Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) are working on a convergence project to minimize the differences in U.S and International GAAPs. One issue that has not yet been put in the agenda of the convergence project is the LIFO method of accounting for inventories which is permissible under U.S. GAAPs but not under IFRS. In this paper, we explore the impact elimination of the LIFO method will have on U.S. companies' financial position using Sears Corporation as an example.

Achieving Excellence in Sustainability: A Case Study of Grand Valley State University

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Abstract

Today, GVSU is nationally and internationally recognized as a leader in the area of sustainability. Their unique grass-roots approach to sustainability over the past decade has earned those laurels and top rankings. In this paper, by means of an extensive case analysis, we will demonstrate how sustainability became valued at GVSU and how it is now engrained in the University's culture. In our analysis, by means of an integrated diagram, we will address all the major areas, accomplishments, and savings that GVSU has achieved through the application of sustainability principles in the areas of campus operations, educational curriculum, student involvement, and community engagement. We will clearly illustrate how our faculty and students are engaged with the community through sustainability projects organized through the Sustainability Community Development Initiative. We hope that the systems, processes, and tools that we discuss in our paper will benefit other educational institutions that are planning to or are currently in the process of embarking on sustainability. In order to help other institutions, we will present a road map that clearly depicts processes, milestones, and challenges that need to be addressed for success.

Secondary Education, Entrepreneurial Science: Meaningful learning through cross-cultural experiences

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Abstract

Though they come from incredibly different cultures, high school students from the Bergen County Academies in Hackensack, NJ and River Valley High School in Singapore have come together to collaborate in developing ideas and learning about science from an entrepreneurial standpoint. Both schools had established ideas- Coagula, a drug targeting hemophilia by Bergen Country Academies, and a hand sanitizer that is able to more effectively kill bacteria as compared to a major commercial brand by River Valley High School- and sought ways to effectively market them. The two schools manage their own companies and products, but come together to offer advice and critique each other's ideas. The partnership started in an effort to offer students a new global perspective on business and science.

Many high schools have curriculum that introduce the concepts of the global economy and workforce. What makes this high school program so unique is that it focuses on real world opportunity in the here and now, while simultaneously giving students the opportunity to gain business experience and international collaboration. Students have learned how the worlds of business and science come together and how a real company works. By establishing International partnerships and creating cross-cultural connections, the students come away with valuable communication and cooperation skills: both cornerstones of a successful partnership. This curriculum model is real world exposure for high school students who will eventually live, learn and lead in a global community.

Presentation Points:

- **Needs/Reasons**
 - Science and Entrepreneurship
- **Aims of the Program**
 - Allow students to gain an understanding of how the business and science worlds come together, and allow students to gain confidence in what they are doing
 - Schools in the US currently teach towards a typical career in the job market, whereas Entrepreneurial Science aims to give students a taste of developing a concept into reality
- **Challenges**
 - Cultural Differences
- **Learning Aspects**
- **Promotion of Program**
 - Promote program through government?
 - Have the government help back the program and spread it through different school systems (willing and able to participate in the project)